MERCED WILD AND SCENIC RIVER

COMPREHENSIVE MANAGEMENT PLAN

February 2001

NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

YOSEMITE NATIONAL PARK
CALIFORNIA

United States Department of the Interior

NATIONAL PARK SERVICE
Yosemite National Park
P.O. Box 577
Yosemite, CA 95389

Dear Park Employees and Friends:

What you have open before you today is a document that will help us safeguard the future of one of Yosemite's greatest natural features. From the slopes of Mt. Lyell, through untouched wilderness reaches, over waterfalls, and spilling into glorious valleys, the Merced River and its South Fork are the defining threads that knit together almost everything that is special about Yosemite.

The Merced Wild and Scenic River Comprehensive Management Plan lays out the policy direction by which the National Park Service will manage the 81 miles of river corridor under its jurisdiction. As stewards of Yosemite, we expect you to keep this plan at the ready and use it as the guiding policy document when you turn an idea into a project and move that project to fruition.

In 1983, Congress recognized that, although the Merced River was protected as part of Yosemite National Park, it was worthy of special protection. The mandates of the Wild and Scenic Rivers Act guided our creation of this plan, which gives further instruction as to how we should conduct our activities in the wild and scenic river corridor. First and foremost, it is a plan that directs us how best to protect and enhance the Merced River's unique and treasured values.

And to the public who voiced their concerns as part of this planning process, I feel it is important to share with you the management direction to Yosemite National Park staff. This plan outlines how we will care for the Merced River in its context with this national park. I can assure you that it will not sit on a shelf but will become book-marked and dog-earred. This plan does not signify the end of the process but a beginning of greater protection of the Merced Wild and Scenic River well into the future.

Sincerely,

David A. Mihalic
Superintendent

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Lawrence Ormsby

The illustrations in this document were drawn in pencil and pen and ink by Lawrence Ormsby, partner in Ormsby and Thickstun Interpretive Design. For more than two decades, Ormsby has worked with National Park Service interpreters and historians to prepare illustrations for interpretive publications and exhibits. In 2000 he received the National Park Service Director's Award for his illustration and cartography work in *A Land in Motion: California's San Andreas Fault.* He currently lives in Cave Creek, Arizona.

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BACKGROUND

Introduction

The Merced Wild and Scenic River is as central to Yosemite National Park's identity as Half Dome or El Capitan. From its origins high in the Sierra Nevada, the river cuts a breathtaking course through glacial peaks, mountain lakes, alpine and subalpine meadows, waterfalls, and gorges and supports rich and diverse riparian habitat. Early visitors to Yosemite – from writers, artists, and photographers to environmental champions – all heralded the magnificence of the Merced River and its glorious surroundings:

> *Many a joyful stream is born in the Sierras, but no one can sing like the Merced. In childhood, high on the mountains, her silver thread is a moving melody; of sublime Yosemite she is the voice...*
>
> John Muir, 1872

Born in the highest reaches of Yosemite National Park, the headwaters of the main stem and South Fork of the Merced River emerge from Mt. Lyell, Triple Peak, Merced Peak, and Red Peak and descend through the park. These pristine upper reaches represent a watercourse that has shaped the region for eons, either as an incising rush of water or a scouring river of ice. Scientists have long recognized the Merced River as a constant presence through years of geologic change in the Yosemite region.

Half Dome and the Merced River Painting by Gunnar Widforss, c. 1920 Courtesy of Yosemite Concession Services Corporation

Today, the upper watershed of the Merced River exists largely as it has for thousands of years. In most areas of Yosemite, it remains a river wild, flowing freely while supporting a diversity of plant and animal species largely unparalleled in the Sierra Nevada. Due to the protection afforded it in a national park, much of the Merced River is free from the direct effects of municipal use, power production, and agriculture. As a result, the Merced River is proving to be a valuable learning ground for scientific research, presenting opportunities for a first-hand education about unique ecological and hydrological river processes.

For thousands of years, people have been drawn to the Merced River. American Indian residents of Yosemite Valley – the Yosemite Miwok – called the river *Wah-kal'-mut-tah*. Spanish explorers in the early 1800s gave it the name *El Rio de Nuesta Señora de la Merced*. Early Yosemite settlers established villages and businesses near the river. Today, visitors from around the world are drawn to the Merced not only to take in its startling beauty, but to engage in a spectrum of river-related activities. From the river's quiet respite for nature study or photography or picnicking, to favorite sandy beaches and swimming spots, river-related recreational opportunities remain an important part of the Yosemite experience.

However, despite the fact that the Merced River in Yosemite National Park appears to be in a natural condition, it has been altered by humans over time. Its banks have been stabilized to protect roads and other development; bridges span the river, restricting its ability to meander through the Yosemite Valley; and some adjacent wet meadows were once drained or filled for mosquito abatement and to make Yosemite Valley more suitable for grazing, farming, and camping. While there are no major dams on the Merced River in Yosemite National Park, diversions remain, such as an old hydropower diversion dam on the main stem and an impoundment in Wawona for the community's water supply. There are also several dams downstream from the Wild and Scenic portion of the river.

In 1907, Galen Clark, one of Yosemite's first non-Indian settlers, recognized the important role of the river to Yosemite Valley:

> *Of paramount importance in the care and preservation of Yosemite Valley is the protection of the banks of the Merced River as it runs its winding, crooked course through the length of the valley.*

Protection and restoration of the Merced River will help ensure that generations to come can learn from its dynamic natural processes, contributing to a more valuable Yosemite National Park experience well into the future.

Galen Clark and the Merced River
Photo by George Fiske, c. 1900
Courtesy of Yosemite Museum

What is a Wild and Scenic River?

In the 1960s, the United States came to recognize that many of the nation's rivers were being dredged, dammed, diverted, and degraded at an alarming rate. In response, Congress established the Wild and Scenic Rivers Act in October 1968, which pronounced,

> *It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes.*

A Wild and Scenic River is one that has been identified as having distinctively unique or "outstandingly remarkable values" that set it apart from all other rivers, making it worthy of special protection. The goal of designating a river as Wild and Scenic is to preserve its free-flowing character and unique qualities.

While a Wild and Scenic designation increases protection for a river, it does not necessarily disallow use or development. Some Wild and Scenic River areas, like the American River in Sacramento, flow through towns or major cities. Uses compatible with the management goals of a particular river are allowed. Development not damaging to the outstanding resources of a designated river, or curtailing its free flow, are usually allowed. In order to outline the permitted levels of use and development, the river manager must prepare a comprehensive management plan. The purpose of a comprehensive management plan, such as the *Merced River Plan*, is to specify the levels of management for protecting and enhancing the river and its immediate environment.

Today, over 11,000 miles of rivers and creeks are protected in the United States under the Wild and Scenic Rivers System. Managing agencies include state governments, the National Park Service, the U.S. Forest Service, Bureau of Land Management, the U.S. Army Corps of Engineers, and the U.S. Fish and Wildlife Service. From the Kern and the Klamath in California to the newest additions at Wildhorse and Kiger Creeks in Oregon, the Wild and Scenic Rivers Act protects not only the waterway itself, but part of the nation's heritage. Yosemite National Park contains two Wild and Scenic Rivers: the Merced, designated in 1987, and the Tuolumne, designated in 1993.

Wild and Scenic River Designation

In 1987, the U.S. Congress designated the Merced a Wild and Scenic River to protect the river's free-flowing condition and to protect and enhance its unique values for the benefit and enjoyment of present and future generations (16 USC 1271). This designation gives the Merced River special protection under the Wild and Scenic Rivers Act and requires the managing agencies to prepare a comprehensive management plan for the river and its immediate environment.

The passage of Public Law 100-149 on November 2, 1987 and Public Law 102-432 on October 23, 1992 placed 122 miles of the main stem and South Fork of the Merced River, including the forks of Red Peak, Merced Peak, Triple Peak, and Lyell, into the Wild and Scenic Rivers System. The National Park Service manages 81 miles of the Merced River, encompassing both the main stem and the South Fork in Yosemite National Park and the El Portal Administrative Site. The U.S. Forest Service and the Bureau of Land Management administer the remaining 41 miles of the designated river.

Wild and Scenic Rivers Act

Under the Wild and Scenic Rivers Act, designated rivers "shall be preserved in free-flowing condition, and . . . their immediate environments shall be protected for the benefit and enjoyment of present and future generations" (16 USC 1271). The following text describes the sections of the Wild and Scenic Rivers Act most pertinent to the *Merced River Plan*. (Chapter I of the *Merced River Plan/Final Environmental Impact*

Statement provides a summary of all sections of the Wild and Scenic Rivers Act. The appendices to the *Merced River Plan/FEIS* include the full text of the Wild and Scenic Rivers Act as it applies to the Merced River, and a legislative history of bills associated with the designation and management of the Merced River.)

Section 1: Congressional declaration of policy and purpose

Section 1 of the Wild and Scenic Rivers Act includes the congressional declaration of policy and purpose, which explains the intent of the Wild and Scenic Rivers Act. This section states that, "It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations" (16 USC 1271).

Section 2: Classification

Section 2 of the Wild and Scenic Rivers Act requires that the river be classified and administered as Wild, Scenic, or Recreational river segments, based on the condition of the river corridor at the time of boundary designation. The classification of a river segment indicates the level of development on the shorelines, the level of development in the watershed, and the accessibility by road or trail. Classifications are defined in the act as follows:

Wild river areas: Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted.

Scenic river areas: Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

Recreational river areas: Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

The National Park Service developed interim classifications for the Merced Wild and Scenic River in 1989 based on the 1986 eligibility study of the river. These classifications were refined and published in the 1996 *Draft Yosemite Valley Housing Plan*, and once more with the *Merced River Plan/FEIS*.

Section 3: Congressionally designated components, establishment of boundaries, classifications, and management plans

Section 3 of the Wild and Scenic Rivers Act lists the rivers congressionally designated as components of the National Wild and Scenic Rivers System and requires the administrating agency to identify river corridor boundaries and prepare a comprehensive management plan. The Merced Wild and Scenic River is designated under Section 3(a)(62). Boundaries and classifications are delineated through appropriate revisions to the *General Management Plan*. This section details the span of the river to be administered by the Secretary of the Interior and the Secretary of Agriculture and withdraws mining claims to federal lands within one-quarter mile of the riverbank.[1]

Section 3(b) requires the agency charged with administration of the Wild and Scenic River to establish boundaries and classifications for the river within one year from the date of designation. Boundaries shall include an average of not more than 320 acres of land per river mile, measured from the ordinary high water mark on both sides of the river.

Section 3 further requires that the federal agency charged with the administration of a Wild and Scenic River component prepare a comprehensive management plan to "provide for the protection of the river values." It also requires that "the plan shall address resource protection, development of lands and facilities, user capacities, and other management practices necessary or desirable to achieve the purposes of this act."

[1] For more information on mining claims, see Section 9 of the Wild and Scenic Rivers Act (summarized in Chapter I, page 14 of the *Merced River Plan/FEIS*).

Section 7: Restrictions on hydro and water resources development projects

Section 7 is one of the most vital components of the Wild and Scenic Rivers Act. This provision directs federal agencies to protect the values of designated rivers from the adverse effects of "water resources projects" within the bed and banks of the river.

Section 7 of the Wild and Scenic Rivers Act (16 USC 1278) requires a rigorous process to ensure that proposed water resources projects, implemented or assisted by federal agencies within the bed and banks of designated rivers, do not have a "direct and adverse effect" on the values for which the river was designated. Water resources projects include non-Federal Energy Regulation Commission-licensed projects such as dams, water diversions, fisheries habitat and watershed restoration, bridges and other roadway construction/reconstruction, bank stabilization, channelization, levees, boat ramps, and fishing piers that occur within the bed and banks of a designated Wild and Scenic River (IWSRCC 1999) and that affect the river's free-flowing characteristics. These projects include the types of actions along the Merced Wild and Scenic River that could come up for decision, including those projects for which the purposes are to improve the free-flowing condition of the river.

The agency designated as river manager must complete a Section 7 determination to assess whether the project proposed, assisted, or permitted by a federal agency would directly and adversely affect the values for which the river was designated. Water resources projects that have a direct and adverse effect on the values of a designated river must either be redesigned and resubmitted for a subsequent Section 7 determination, abandoned, or reported to the Secretary of Interior and the United States Congress, in accordance with the act.

Emergency projects (such as repairing a broken sewer line in or near the river) may temporarily proceed without a Section 7 determination. However, a Section 7 determination must be completed in a timely manner upon completion of the project. Emergency water resources projects that are later determined to have a direct and adverse effect on the river values shall be mitigated based on the findings of the Section 7 determination.

Section 10: Management direction

Section 10 sets forth the management direction for designated river segments and includes the following:

1. The Wild and Scenic Rivers Act shall be administered to protect and enhance Outstandingly Remarkable Values. Uses that are consistent with this and do not substantially interfere with public enjoyment and use of these values should not be limited (16 USC 1281[a]).
2. In administration of a Wild and Scenic River, "primary emphasis shall be given to protecting its aesthetic, scenic, historic, archeologic, and scientific features. Management plans may establish varying degrees of intensity for its protection and development, based on the special attributes of the area" (16 USC 1281[a]).
3. The act states that Wild and Scenic River segments in the National Wilderness Preservation System are subject to both the Wild and Scenic Rivers Act and the Wilderness Act. Where the two conflict, the more restrictive regulation will apply (16 USC 1281[b]).
4. Any component of the Wild and Scenic Rivers System that is administered by the National Park Service shall become part of the National Park System. The lands involved shall be subject to the provisions of the Wild and Scenic Rivers Act and the acts under which the National Park System is administered. In the case of conflict between such acts, the more restrictive provisions will apply (16 USC 1281[c]).
5. Section 10(e) of the Wild and Scenic Rivers Act enables administering federal agencies to enter into cooperative agreements with state and local governments to allow them to participate in the planning and administration of components of the Wild and Scenic Rivers System that include or adjoin state- or county-owned lands.

Section 12: Management policies

The National Park Service shall take management actions on lands under its jurisdiction adjacent to the designated river corridor that may be necessary to protect the river according to the purposes of the Wild and Scenic Rivers Act. The National Park Service shall also work with states, other federal agencies, and entities with jurisdictions adjacent to the Wild and Scenic River corridor to ensure compliance with purposes under the act, particularly in regard to activities, such as timber harvesting and road construction, which may occur outside of the corridor but affect the Outstandingly Remarkable Values of the Merced Wild and Scenic River.

The majority of lands adjacent to the Merced Wild and Scenic River corridor are under the jurisdiction of the National Park Service. Some segments abut lands under the jurisdiction of the U.S. Forest Service or Bureau of Land Management. The National Park Service is working cooperatively with both agencies to ensure the protection of the Outstandingly Remarkable Values of the Merced Wild and Scenic River.

Significant Events

In January 1997, a major flood caused extensive damage to human-made structures along the main stem of the Merced River. Many facilities in Yosemite Valley were flooded, including Lower River, Upper River, Lower Pines, North Pines, and Group Camp-grounds; motel and cabin units at Yosemite Lodge; numerous trail and road bridges; and employee housing areas (NPS 1997b).

NPS Photo by Steve Thompson

HIGH WATER

Four times in the last century the Merced River has risen above its banks to an extent similar to that of January 1997.

The El Portal Road and the main sewer line (under the road) connecting Yosemite Valley to the El Portal Wastewater Treatment Plant also sustained significant damage and required repair and rebuilding. Sections of the road collapsed as the river undercut rock slopes below the road; other segments were completely washed out (NPS 1997c). The National Park Service took this rebuilding process as an opportunity to upgrade and widen the road, which was historically unsafe for travel, and particularly dangerous for bus travel.

A lawsuit was brought against the National Park Service over the adequacy of the environmental assessment for the reconstruction of the El Portal Road. At the time of the road reconstruction, a comprehensive management plan for the National Park Service segment of the Merced Wild and Scenic River had been initiated, but not completed. The U.S. District Court determined that the absence of a river management plan hindered the National Park Service's ability to ensure that projects in the river corridor adequately protect the Merced Wild and Scenic River. The legal decision for the lawsuit required the National Park Service to complete a comprehensive management plan for the Merced Wild and Scenic River with August 2000 as the target date for completion.

About this Document

This *Merced Wild and Scenic River Comprehensive Management Plan* (referred to hereafter as the *Merced River Plan)* presents the plan for the river as adopted by the National Park Service following the release of the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement* and the Revised Record of Decision. The intent of this document is to outline how the Merced Wild and Scenic River corridor will be managed, provide a streamlined reference for park management, staff, and outside agencies to determine when proposed projects must consider Wild and Scenic River issues, and how these issues should be addressed. While it does not repeat the environmental analyses of the *Merced River Plan/FEIS,* this document provides the full management plan adopted by the Record of Decision in August 2000, and as revised in November 2000 (see Appendix A of this document).

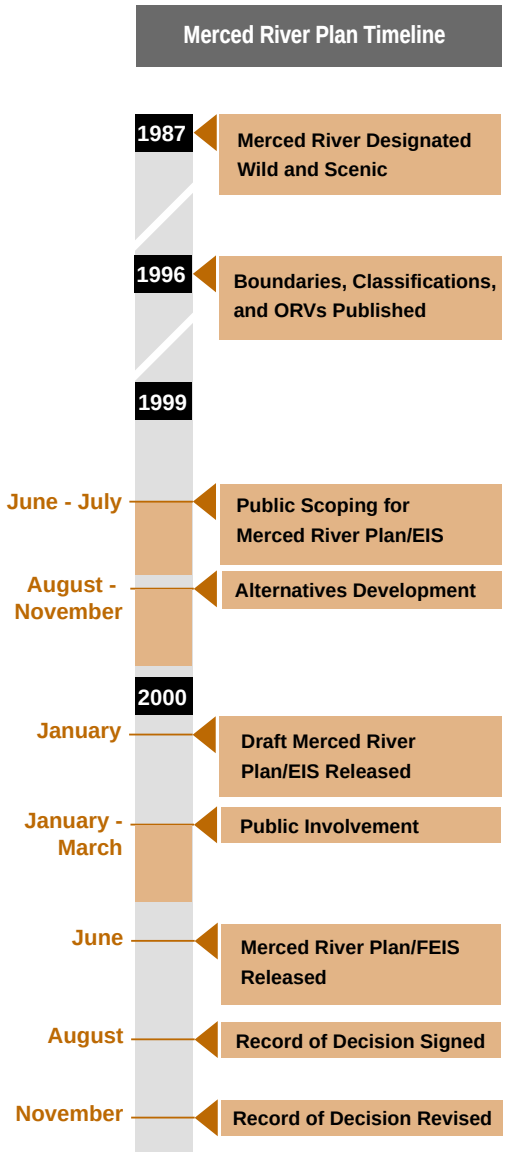
The *Merced River Plan/FEIS* includes consideration of a range of five alternatives, environmental impact analyses for each of the alternatives, and extensive public involvement. The full, three-volume document provides information on the existing conditions of the Merced River and surroundings, including natural resources, cultural resources, visitor experience, and social resources.

The *Merced River Plan* was developed using the best data available at the time the plan was drafted, including nearly 100 years of study and observation of river processes. The National Park Service's vision for the *Merced River Plan* is that of a living document,

allowing for the continued incorporation of new data. The management elements of the plan have been crafted to allow for this incorporation of new information, such as that relating to floodplains, ordinary high water mark river channel dynamics, or visitor use data. This will enable National Park Service managers to maintain appropriate protection of river-related resources and to allow for appropriate visitor uses within and near the river corridor.

Planning Process

Over 100 years of research and observation have gone into the creation of this *Merced River Plan*. However, an especially concentrated body of work has been ongoing since the Merced was designated as a Wild and Scenic River in 1987, including the ground-work and preparation for this document. All of these efforts – combined with extensive public involvement – make for a comprehensive management plan that is in accordance with the Wild and Scenic Rivers Act.



Congress designated 122 miles of the Merced River as a Wild and Scenic River in 1987 (Public Law 100-149). In 1989, the National Park Service adopted interim Wild and Scenic River boundaries and classifications for the 81 miles of river within its jurisdiction. In 1993, 1995, and 1996, the National Park Service conducted three internal river management planning workshops to study the Merced's Wild and Scenic River boundaries, classifications, and Outstandingly Remarkable Values, and to develop Merced River management and restoration strategies. These workshops were conducted in association with general land-use planning for the 1996 *Draft Yosemite Valley Housing Plan/ Supplemental Environmental Impact Statement Addendum*. Subsequent to public scoping and public comment, boundaries, classifications, and Outstandingly Remarkable Values for the Merced Wild and Scenic River within Yosemite National Park were published in the 1996 *Draft Yosemite Valley Housing Plan*.

American Dipper or Water Ouzel
Ciclus mexicanus

The most wonderful singer of all the birds is the water-ouzel that dives into foaming rapids and feeds at the bottom, holding on in a wonderful way, living a charmed life.

John Muir, 1912
from his book The Yosemite

In early 1999, the National Park Service initiated efforts to prepare a comprehensive management plan for the National Park Service segment of the Merced Wild and Scenic River corridor, building from those boundaries, classifications, and Outstandingly Remarkable Values developed in 1996. An interdisciplinary team was assembled, consisting of park staff with experience in park planning as well as expertise in technical areas addressed by the plan (including natural and cultural resources, facilities management, interpretation, visitor protection, and concessions management).

Public scoping was held between June 11 and July 30, 1999 to solicit comments on issues to be addressed in the *Merced River Plan*. The scoping process was conducted in consultation with affected federal agencies, state and local governments, tribal groups, and interested organizations and individuals. All comments received during the scoping process were duly considered and part of the administrative record. For example, the National Park Service updated and refined the boundaries, classifications, and Outstanding Remarkable Values based on these public scoping comments and new information. In July 1999, the decision resulting from a lawsuit over the reconstruction of the El Portal Road directed the National Park Service to complete a comprehensive management plan by August 2000.

In August 1999, the National Park Service published a notice of intent to prepare an environmental impact statement in the *Federal Register*. The *Draft Merced River Plan/Environmental Impact Statement* was prepared by the National Park Service pursuant to the requirements of the Wild and Scenic Rivers Act and the National Environmental Policy Act, and was released in January 2000.

The final plan and environmental impact statement was developed after analysis and consideration of over 2,500 comments submitted during the public involvement period from January 14 to March 24, 2000. The National Park Service received a range of valuable comments from individuals throughout the nation, local residents, long-time Yosemite visitors, government agencies, and interested organizations.

The Merced River planning team reviewed and incorporated comments into the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement*, which was released in June 2000. A Record of Decision on the final plan was signed by the National Park Service Pacific West Regional Director on August 9, 2000 and revised in November 2000.

Purpose of and Need for the Project

Purpose of the Merced River Plan

The 1968 Wild and Scenic Rivers Act establishes that a comprehensive management plan must be developed to protect and enhance the Outstandingly Remarkable Values for those rivers that have been designated as wild and scenic (16 USC 1274[d]). The Wild and Scenic Rivers Act specifies the issues to be addressed by a comprehensive management plan, including resource protection, development of lands and facilities, and user capacities. The *Merced River Plan* provides direction on these issues for the 81 miles of the Merced Wild and Scenic River under the jurisdiction of the National Park Service.

The 1987 federal legislation that designated the Merced River as a Wild and Scenic River states that a management plan "shall assure that no development or use of park lands shall be undertaken that is inconsistent with the designation of such river segments" (16 USC 1274[a]). Furthermore, the 1968 Wild and Scenic Rivers Act states, "Management plans for any such component may establish varying degrees of intensity for its protection and development, based on the special attributes of the area" (16 USC 1281[a]). The segments of the river managed by the National Park Service include designated Wilderness and the El Portal Administrative Site. The *Merced River Plan* is designed to address the special characteristics of these areas within the overall context of the Wild and Scenic Rivers Act.

The specific purpose of the *Merced River Plan* is to provide direction and guidance on how best to manage visitor use, development of lands and facilities, and resource protection within the river corridor. The National Park Service developed a series of planning goals to guide management decision-making in these areas (see page 25). The *Merced River Plan* is a template against which project implementation plans will be judged to determine whether such projects will protect and enhance the values for which the Merced River was designated Wild and Scenic. As a result, the *Merced River Plan* provides general direction and guidance for future management decisions; it does not address the specific details of future projects.

Photo by Jack Gyer

WHY IS FREE FLOW IMPORTANT TO A RIVER SYSTEM?

- *Free-flowing rivers disperse valuable nutrients in adjacent meadows and stream habitats during flood events.*
- *Aquatic species require varied habitat created by a dynamic river system.*
- *Constriction and hardening of river channels, as caused by levees, riprap, and bridges, can alter the river's energy and natural course, causing it to erode its banks and damage valuable habitat, particularly during flood events.*

Need for the Merced River Plan

By designating the Merced a Wild and Scenic River, Congress directed the National Park Service, as well as the U.S. Forest Service and the Bureau of Land Management, to develop comprehensive management plans for the river segments under their jurisdictions. The U.S. Forest Service and the Bureau of Land Management have completed plans for their river segments. The National Park Service fulfilled its requirement to prepare a comprehensive management plan for the Merced River corridor when the Record of Decision on the final plan was signed by the National Park Service Pacific West Regional Director on August 9, 2000, and revised in November 2000.

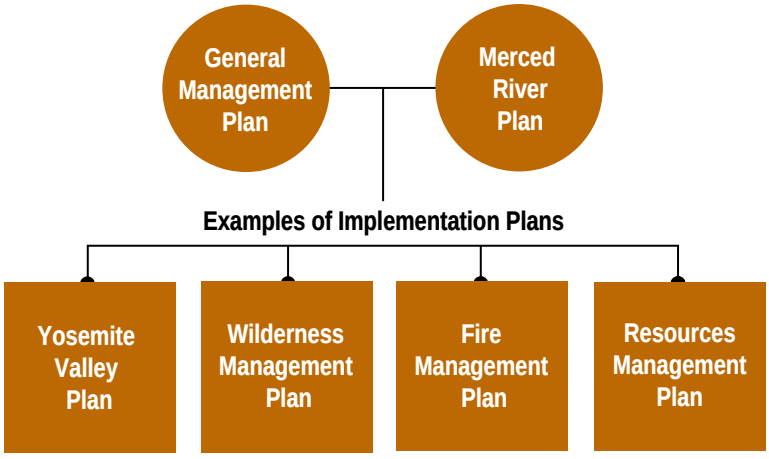
The alternative selected by the National Park Service in the revised Record of Decision meets important resource protection goals while also allowing for appropriate levels and types of visitor use within the river corridor. In reaching its decision on the final *Merced River Plan*, the National Park Service considered the multiple laws and policies that apply to lands within the river corridor, such as the Wild and Scenic Rivers Act, the National Park Service Organic Act, the Wilderness Act, the legislation establishing the El Portal Administrative Site, and the park's *General Management Plan*. The National Park Service also carefully considered the substantial body of public comments received during the planning process.

Planning Context

The *Merced River Plan* guides the long-term management of the Merced Wild and Scenic River within the boundaries of Yosemite National Park and the El Portal Administrative Site. However, the plan does not exist in a vacuum–it is one of many documents that together form a management framework for Yosemite National Park and adjacent lands. This section describes the role of the *Merced River Plan* within the existing parkwide and regional planning framework and its relationship to other plans and legislation.

Relationship to Yosemite National Park Plans

Planning in Yosemite National Park takes two different forms: general management planning and implementation planning. General management plans are required for national parks by the National Park and Recreation Act of 1978.



The purpose of a general management plan is to set a "clearly defined direction for resource preservation and visitor use" (NPS 1998). The plan provides general direction and policies to guide all planning and management in the park. The 1980 *General Management Plan* is the overall guiding document for planning in Yosemite National Park.

Implementation plans, which tier off of the *General Management Plan*, focus on "how to implement an activity or project needed to achieve a long-term goal" (NPS 1998). Implementation plans may direct specific projects as well as ongoing management activities or programs, and provide a high level of detail and analysis. Examples of

implementation plans include the *Yosemite Valley Plan*, *Wilderness Management Plan*, *Fire Management Plan*, and *Resources Management Plan*.

The *Merced River Plan* derives its authority from the 1968 Wild and Scenic Rivers Act, as amended, and therefore does not tier directly off the *General Management Plan* as do implementation plans. According to the Wild and Scenic Rivers Act, the river management plan "shall be coordinated with and may be incorporated into resource management planning for affected adjacent Federal lands" (16 USC 1274). In designating the Merced as a Wild and Scenic River, Congress authorized the National Park Service to prepare its management plan for the river by making appropriate revisions to the park's 1980 *General Management Plan* (16 USC 1274[a][62]). The management elements of the *Merced River Plan* (see page 29) result in some revisions to the *General Management Plan*. For example, the *Merced River Plan's* management zoning, River Protection Overlay, river corridor boundaries and classifications, and the Outstandingly Remarkable Values would amend the *General Management Plan* by establishing additional land-use designations that would be considered in future site-specific planning. The *Merced River Plan's* Section 7 determination process and Visitor Experience and Resource Protection program are tools that would augment the goals of the *General Management Plan*. Although the *Merced River Plan* amends the *General Management Plan* in certain respects, other aspects, including its five broad goals (see pages 23-24), remain unaffected. Implementation plans and actions affecting the Merced Wild and Scenic River will need to be consistent with these goals and the management elements contained in the *Merced River Plan*.

Relationship to Other Plans

The National Park Service's *Merced River Plan* is one of three plans that manage the designated 122 miles of the Merced Wild and Scenic River. The U.S. Forest Service and the Bureau of Land Management administer 41 miles of the main stem and South Fork of the Merced River as it travels through their jurisdictions downstream of the National Park Service segments. The Bureau of Land Management segments are managed under the 1991 *Merced Wild and Scenic River Management Plan* and the U.S. Forest Service segments are managed under the *South Fork and Merced Wild and Scenic River Implementation Plan*, also completed in 1991. While the National Park Service, U.S.

Forest Service, and Bureau of Land Management plans address different geographic areas, they all must protect and enhance the Outstandingly Remarkable Values of each segment of the Merced River corridor under the requirements of the Wild and Scenic Rivers Act.

The 1991 *Wawona Town Planning Area Specific Plan* guides land uses in the town of Wawona, including a segment of the South Fork of the Merced River. This plan is jointly approved by the National Park Service and Mariposa County and is a component of the *Mariposa County General Plan*. It is administered by the Mariposa County Board of Supervisors. The *Merced River Plan* does not prescribe management activities for privately held lands (which occupy approximately one-third of Section 35 in Wawona), and the National Park Service does not exercise direct land-use authority over private lands. It is the intent of the National Park Service to work cooperatively with Mariposa County and with private property owners to ensure that the Outstandingly Remarkable Values of the river segment are protected and enhanced. The National Park Service will also continue in a collaborative planning process for the community of Wawona with the Wawona Town Planning Advisory Committee, the Mariposa County Planning Commission, and the Mariposa County Board of Supervisors. The *Wawona Town Plan* is generally consistent with the Wild and Scenic Rivers Act. For example, the *Wawona Town Plan* prohibits new development within the Floodplain District Zone.

As new planning efforts are undertaken by Mariposa County or other agencies, the National Park Service will continue to work cooperatively with these agencies to protect and enhance the Outstandingly Remarkable Values of the river.

Legal Framework

The *Merced River Plan* operates within a complex legal framework. The plan must not only comply with requirements of the Wild and Scenic Rivers Act, it must do so within the parameters of other legislation that govern land use within the river corridor.[2]

National Park Service Organic Act

In 1916, the National Park Service Organic Act established the National Park Service in order to "promote and regulate the use of parks..." and defined the purpose of the national parks as "to conserve the scenery and natural and historic objects and wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." This law provides overall guidance for the management of Yosemite National Park.

Yosemite National Park Enabling Legislation

Three separate legislative acts form the enabling statutes for the current Yosemite National Park. On June 30, 1864, Congress granted to the State of California the Yosemite Valley and Mariposa Grove of Big Trees to "be held for public use, resort, and recreation." On October 1, 1890, Congress set aside Yosemite National Park as a "forest reservation" to preserve the "curiosities" and "wonders" in their natural condition. In 1906, the State of California granted the Mariposa Grove of Big Trees and Yosemite Valley back to the federal government.

Wilderness Act

A large segment of the Merced Wild and Scenic River flows through designated Wilderness areas. The Wilderness Act of 1964 and the California Wilderness Act of 1984 provide guidance for management within designated Wilderness. The purpose of the Wilderness Act of 1964 is to secure the benefits of an enduring resource of wilderness for present and future generations. Wilderness is defined in the act as an area managed to preserve its natural conditions, which is affected primarily by the forces of nature, and which has outstanding opportunities for solitude and an unconfined type of recreation

[2] Appendix A of the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement* (*Merced River Plan/FEIS*) includes excerpts from the National Park Service Organic Act, California Wilderness Act of 1984, El Portal Administrative Site Authorization Act, and the El Portal Administrative Land Exchange Authorization.

(Public Law 88-577). These goals complement the intent of the Wild and Scenic Rivers Act as it applies to the areas of the Merced River corridor classified as Wild. The California Wilderness Act established 704,624 acres of designated Wilderness and 927 acres of potential Wilderness additions within Yosemite National Park (NPS 1989). Most of the Merced River in Yosemite National Park flows through designated Wilderness areas, which are managed under the 1989 Wilderness Management Plan. The *Merced River Plan's* management approach to Wilderness is consistent with the *Wilderness Management Plan*.

El Portal Administrative Site Enabling Legislation

El Portal is a community located outside Yosemite National Park along the park's western boundary. In 1958, Congress passed legislation for the Secretary of the Interior to provide an administrative site for Yosemite National Park in the El Portal area (16 USC 47-1). This land is under National Park Service jurisdiction but is not included as part of Yosemite National Park, and thus is not managed under the Organic Act or the General Authorities Act (72 Stat. 1772). The purpose of this act is to:

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

The Merced Wild and Scenic River runs through the El Portal Administrative Site. The *Merced River Plan* provides a management framework for the Recreational classified river segment in El Portal that will allow for the protection and enhancement of the Outstandingly Remarkable Values of this segment of the river while allowing for varying degrees of continued administrative use in El Portal.

Management Goals

Goals identify long-range direction for the management of the river corridor. This management must carefully balance multiple goals, especially in a park as large, diverse, and complex as Yosemite National Park. The five defining goals of the *General Management Plan* and the five goals of the *Merced River Plan* are intertwined, and no one goal can be emphasized to the complete exclusion of the others. The following section presents the goals from Yosemite's *General Management Plan* and a summary statement for each goal as applied to the *Merced River Plan*. This is followed by a set of goals specifically developed for the *Merced River Plan*.

General Management Plan Goals

The 1980 *General Management Plan* for Yosemite National Park established five broad goals to guide management of the park as a whole and to perpetuate Yosemite's natural splendor. Although the *General Management Plan* is over 20 years old, its goals are still valid today and apply to the management of the Merced River corridor under the *Merced River Plan*.

NPS Photo

VALLEY VIEW

The goals of the General Management Plan provide the foundation for decisions relating to all of Yosemite National Park.

Reclaim priceless natural beauty

The Merced Wild and Scenic River is a vital component of Yosemite National Park, a park recognized worldwide for its unique, scenic grandeur. The main stem of the river connects the wilderness to Yosemite Valley, where the river meanders through meadows and woodlands, and continues on a canyon-carving descent through El Portal. The South Fork flows from mountainous wilderness areas through the historic town of Wawona, into foothill canyons, to its confluence with the main stem. The

priceless natural beauty of the river corridor shall be protected and enhanced for today's visitors and future generations.

Allow natural processes to prevail

The natural processes of the Merced River corridor sustain many biological communities, such as meadows, riparian areas, and aquatic habitats. Some processes, such as hydrology, have been altered by historic and current land-use patterns. The Merced River shall be protected and further restored to its free-flowing condition, allowing the natural processes that have shaped the Valley to continue.

Promote visitor understanding and enjoyment

Interpretation and education programs are valuable in enhancing visitor enjoyment and increasing understanding of the natural processes and events that have shaped the park. Interpretive programs also help instill a sense of respect and responsibility for the natural and cultural environment in the park and beyond. Visitors should be encouraged to engage in the resource-based recreational and educational opportunities available along the river.

Markedly reduce traffic congestion

Traffic congestion that occurs in the Merced River corridor can affect some of its Outstandingly Remarkable Values, such as enjoyment of the natural river environment. Providing visitor access to the river while protecting and enhancing the condition of the corridor's natural and cultural resources requires careful planning and design of circulation and transportation facilities. Where applicable, the *Merced River Plan* contributes to reducing traffic congestion by guiding subsequent plans that address road locations and facilities, parking areas, turnouts, and other related issues.

Reduce crowding

The popularity of national parks such as Yosemite continues to grow. During peak visitation periods, crowding can diminish visitors' experiences and may contribute to degradation of resources along the river. Where applicable, the *Merced River Plan* contributes to subsequent planning that will manage crowding through careful design, relocation, or removal of specific facilities, and the *Merced River Plan* will implement the Visitor Experience Resource Protection framework (see page 103) which may set use limits, disperse visitor impacts, and establish other measures to protect both the diversity of visitor experiences and the resources of the river corridor.

Merced River Plan Goals

While the *Merced River Plan* works in concert with the goals set forth in the *General Management Plan*, it also outlines an additional set of specific goals for management of the Merced Wild and Scenic River. The *Merced River Plan's* five goals were developed to further the policy established by the Wild and Scenic Rivers Act, namely to preserve designated rivers in their free-flowing condition, and protect and enhance the river's Outstandingly Remarkable Values.

NPS photo by Bruce Fincham

VALLEY VIEW REFLECTION

The Merced River Plan goals reflect those outlined in the General Management Plan, but are also driven by the Wild and Scenic Rivers Act.

Protect and enhance river-related natural resources

The Merced River contains diverse biological communities that have experienced varying levels of human disturbance. The natural function of riparian areas, wetlands, and floodplains of the Merced River shall be maintained and restored. Restoration activities shall strive to return habitat to natural levels of complexity and diversity. Water quality shall be maintained at the highest possible levels.

Protect and restore natural hydrological and geomorphic processes

The Wild and Scenic Rivers Act is intended to preserve the free-flowing condition of designated rivers such as the Merced. The hydrologic processes of the Merced River, including natural flood cycles, channel dynamics, and interconnection of ground and surface water systems, have been altered by historic and current land-use patterns. Restoration and management activities shall redirect visitor use and facilities that are causing unacceptable impacts to the river system.

Protect and enhance river-related cultural resources

The Merced River corridor has been inhabited for thousands of years, and evidence of this history, including historical and archeological sites, remains today. These cultural resources shall be cherished and maintained as important links to the human history of

the Merced River. Archeological, historic, and cultural sites and landscapes are also part of the living tradition of resource stewardship for culturally associated American Indian people.

Provide diverse river-related recreational and educational experiences

The Merced River is a valuable recreational and educational resource for visitors from around the country and the world. The river should provide opportunities for enjoyable and educational experiences within the river's natural and cultural landscapes. People with diverse interests and expectations shall be able to find a broad spectrum of opportunities, from options for solitude and quiet to group activities. Appropriate access to the river shall be provided; recreational facilities shall be designed and sited to ensure protection of the Outstandingly Remarkable Values and to preserve the free-flowing condition of the Merced Wild and Scenic River.

Provide appropriate land uses

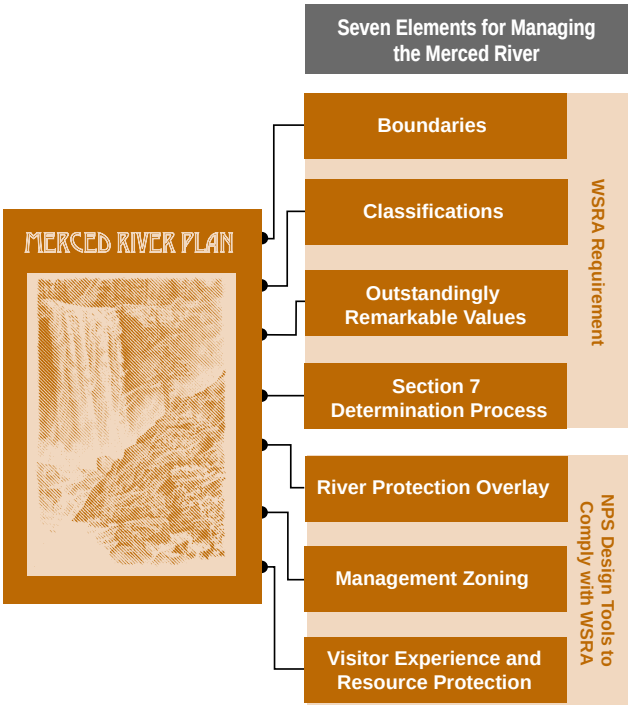
To enable the many visitors to the park each year to enjoy and learn about the Merced River's Outstandingly Remarkable Values requires efficient, safe, and appropriate land uses, including both visitor service and administrative facilities. These facilities shall be sited in locations able to withstand high levels of visitor use. Existing and future roads shall be constructed and maintained for safety, while protecting the free flow of the river and its Outstandingly Remarkable Values.

MANAGEMENT PLAN

MANAGEMENT PLAN

Management Elements

The Wild and Scenic Rivers Act calls for the development of a comprehensive management plan to preserve the free-flowing condition of the river and to protect and enhance the unique values for which the river was designated Wild and Scenic. The *Merced Wild and Scenic River Comprehensive Management Plan* (*Merced River Plan*) does not specify detailed actions, but provides broad guidance for future approved actions that affect the river corridor. It applies seven management elements to prescribe desired future conditions, typical visitor activities and experiences, and park facilities and management activities allowed in the river corridor. The management elements are detailed in this section of the plan and include the following:



Nevada Fall
Painting by
Thomas Hill, 1889
Courtesy of
Yosemite Museum

- Boundaries define the areas to be managed under the comprehensive management plan.
- Classifications (Wild, Scenic, or Recreational) are applied to each segment of the river corridor and are based on the existing conditions in that portion of the corridor.
- Outstandingly Remarkable Values are the river-related values that make the river segment unique and worthy of special protection. They form the basis for the river's designation as a Wild and Scenic River.
- The Wild and Scenic Rivers Act Section 7 determination process is a procedure to ensure that projects in the bed and banks of the river do not directly and adversely impact the values for which the river was designated Wild and Scenic.
- The River Protection Overlay is a buffer area within and adjacent to the river that allows for the protection and restoration of natural and aquatic ecosystem processes.
- Management zoning seeks to protect and enhance the Outstandingly Remarkable Values of the Merced River while allowing visitor access to the river corridor. The various zones are applied to each segment of the river corridor to allow for desired future uses and resource conditions.
- The Visitor Experience and Resource Protection (VERP) framework guides research and monitoring activities to identify indicators and set standards for assessing appropriate levels of visitor use and facilities in each zone within the corridor.

In addition, a set of mitigation measures must be applied to future actions and projects guided by this plan (see Appendix B, Requirements for Project Implementation). These requirements ensure the protection of natural and cultural resources, Outstandingly Remarkable Values, and the free-flowing condition of the Merced River as projects are implemented.

The *Merced River Plan* meets important resource protection goals while also allowing for appropriate levels and types of visitor use within the river corridor. The intent of the *Merced River Plan* is to protect and enhance all Outstandingly Remarkable Values with a focus on integrating the *Merced River Plan* goal to "protect and enhance natural resources" with the goal to "provide diverse recreational and educational experiences."

Given its combination of management zoning, boundaries, classifications, and River Protection Overlay, the *Merced River Plan* enables the National Park Service to protect resources within the river corridor while also ensuring appropriate levels and types of

visitor use. This in turn enables the National Park Service to fulfill the mandate of the Wild and Scenic Rivers Act without compromising the National Park Service's ability to manage the park and the El Portal Administrative Site in accordance with other applicable laws and policies.

With regard to the specific factors contained in Section 1274(d) of the Wild and Scenic Rivers Act, the adoption of the *Merced River Plan* satisfies the act's requirements for a comprehensive management plan. Future development of lands and facilities would be guided by all seven of the management elements, as would resource protection. User capacity would be addressed through the elements of river classification, the River Protection Overlay, management zoning, and the VERP process. Resource protection, development of lands and facilities, and user capacity also would be managed pursuant to existing National Park Service authorities in the Code of Federal Regulations (Title 36) and the Superintendent's Compendium, as well as under general National Park Service policies, such as those pertaining to wilderness and fire management. The combination of these elements and the ability to incorporate the best-available data will enable the National Park Service to administer the river in a manner that protects and enhances each of the Outstandingly Remarkable Values while allowing for appropriate levels of use and development.

Criteria and Considerations

In order to guide future decisions regarding specific actions in the Merced River corridor, the National Park Service will use the management elements as a set of decision-making criteria with which to evaluate projects in terms of visitor use, facility siting and design, and other potential actions (e.g., habitat restoration, maintenance activities). For actions that meet these mandatory criteria, the National Park Service then will apply additional considerations to further evaluate the actions. All proposed actions will be evaluated against these criteria and considerations. Also, existing facilities in the Merced River corridor will be evaluated when major reconstruction is needed, a facility is no longer of use, or a management initiative occurs (such as those based on planning efforts or new information). In addition, the National Park Service will follow the requirements of other regulatory processes, such as the National Environmental Policy Act and the National Historic Preservation Act.

Criteria

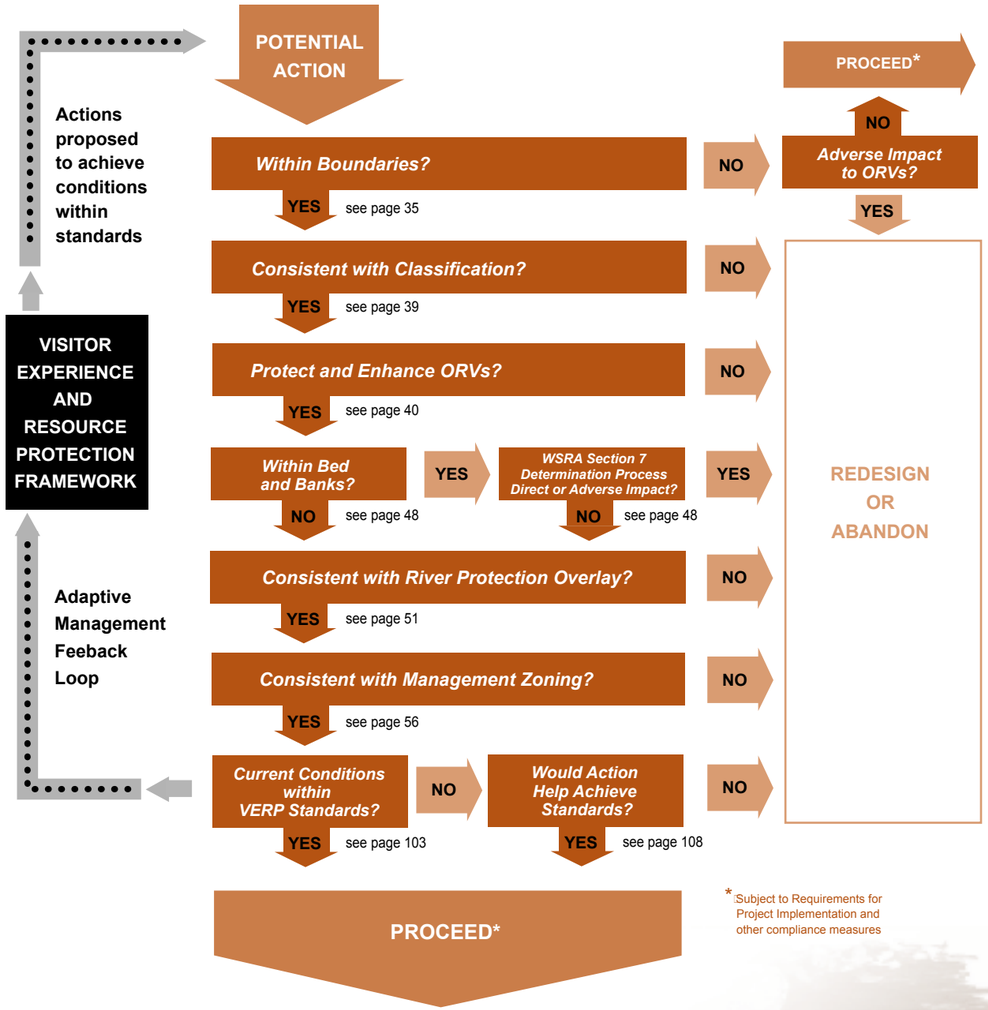
The following criteria, which integrate the management elements of the *Merced River Plan*, must be met:

- Actions within the boundaries of the river corridor must protect and enhance the Outstandingly Remarkable Values.
- Actions must be consistent with the classification of that river segment.
- Actions must protect all Outstandingly Remarkable Values, regardless of where they are located. When Outstandingly Remarkable Values lie within the boundary of the Wild and Scenic River, the value must be protected and enhanced. When values are in conflict with each other, the net effect to Outstandingly Remarkable Values must be beneficial.
- Actions that are considered water resources projects under Section 7 of the Wild and Scenic Rivers Act (i.e., occurring within the bed or banks of the Merced River and affecting free flow) must follow a Section 7 determination process to determine if they have a direct and adverse impact on the values for which the river was designated Wild and Scenic. Proposed actions outside the river corridor in the Merced River tributaries will also undergo Section 7 determinations to determine if they affect the values for which the river was designated Wild and Scenic.
- Actions within the River Protection Overlay must comply with its established conditions.
- Actions must be compatible with the appropriate management zone.
- Actions must be compatible with desired visitor experience and resource conditions under the VERP framework.

Considerations

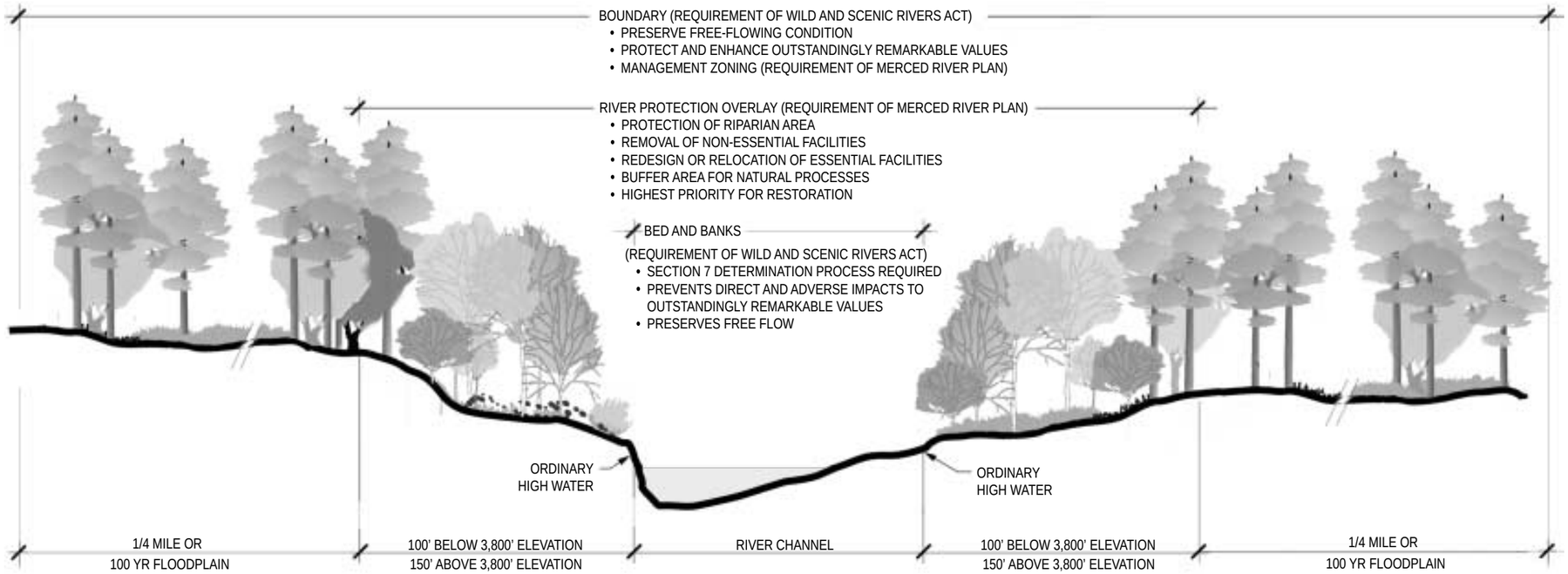
If a proposed action meets the above criteria, the National Park Service will apply additional considerations to (1) minimize an impact by locating facilities outside the river corridor if there is a feasible alternative; (2) designing facilities or actions to minimize or mitigate impacts to the river; and (3) avoiding, minimizing, or otherwise mitigating negative impacts to visitor experience.

The Management Decision-Making Process on page 33 illustrates the general decision-making framework proposed under the *Merced River Plan*. The physical extent to which the management elements and requirements of the Wild and Scenic Rivers Act apply are illustrated in the Merced Wild and Scenic River Cross-Section on the inside fold of page 33. Each management element and its application is further detailed in the following sections.



Management Decision-Making Process

Merced Wild and Scenic River Cross-Section



Merced River Plan Requirements Checklist

The direction offered by the Merced River Plan depends on a project s location. Management protection under the plan becomes more rigorous with proximity to the river. For example, certain management elements (such as the Wild and Scenic Rivers Act Section 7 determination and the River Protection Overlay) are specifically applicable to projects within the bed and banks of the Merced River or the River Protection Overlay, but are not necessarily applicable to projects within or outside the Wild and Scenic River boundaries (not including the area within or outside the River Protection Overlay). The following checklist outlines the requirements of the Merced River Plan for projects occurring in various locations and can be used as a guide to determine which elements of this plan apply to a specific project.

Projects within the bed and banks of the Merced River must adhere to the following elements:

- ❑ Wild and Scenic Rivers Act Section 7 determination, if free-flow could be affected
- ❑ Consistent with River Protection Overlay
- ❑ Consistent with management zoning and classifications
- ❑ Protects and enhances the values for which the river was designated Wild and Scenic
- ❑ Consistent with the VERP framework
- ❑ Complies with Requirements for Project Implementation, where applicable (see Appendix B)

Projects within the River Protection Overlay (within 100 feet of ordinary high water below 3,800-foot elevation; within 150 feet of ordinary high water above 3,800-foot elevation) must adhere to the following elements:

- ❑ Consistent with River Protection Overlay
- ❑ Consistent with management zoning and classifications
- ❑ Protects and enhances the values for which the river was designated Wild and Scenic
- ❑ Consistent with the VERP framework
- ❑ Complies with Requirements for Project Implementation, where applicable (see Appendix B)

Projects within the Wild and Scenic River boundaries (within the 100-year floodplain in El Portal, and within one-quarter mile of the river for the rest of the corridor) must adhere to the following elements:

- ❑ Consistent with management zoning and classifications
- ❑ Protects and enhances the values for which the river was designated Wild and Scenic
- ❑ Consistent with the VERP framework
- ❑ Complies with Requirements for Project Implementation, where applicable (see Appendix B)

Projects outside the Wild and Scenic River boundaries (outside the 100-year floodplain in El Portal, and further than one-quarter mile from the river for the rest of the corridor) must adhere to the following elements:

- ❑ Does not degrade the values for which the river was designated Wild and Scenic
- ❑ Complies with Requirements for Project Implementation, where applicable (see Appendix B)
- ❑ Wild and Scenic Rivers Act Section 7 determination for water resources projects within the bed and banks of tributaries of the Merced River

Boundaries

Section 3 of the Wild and Scenic Rivers Act calls for the establishment of boundaries within a river corridor to define the area to be protected. The act allows for river corridor boundaries that average no more than 320 acres of land per river mile, measured from the ordinary high water mark on both sides of the river. Boundaries, however, do not limit the protection of Outstandingly Remarkable Values, which must be protected regardless of whether they are inside or outside the corridor boundaries.

The Merced Wild and Scenic River boundaries are illustrated in figure 1. With the exception of the El Portal Administrative Site, the boundary is defined as one-quarter mile from ordinary high water (as defined by the U.S. Army Corps of Engineers in 33 CFR Section 328.3; see Glossary, Appendix C) for the length of the Merced River within Yosemite National Park. In El Portal, the boundary is defined by the 100-year floodplain or the extent of the River Protection Overlay, whichever is greater, plus adjacent wetlands and meadows.

The river corridor boundaries established in the *Merced River Plan* are based on the existing river channel. Although the river is a dynamic natural system, boundaries depicted in the *Merced River Plan's* maps will not be changed to account for every future fluctuation in the river channel. However, in the interests of allowing natural processes to prevail, the National Park Service will consider changing the delineation of river corridor boundaries if there is a major shift in the river channel. Boundaries may also

be redrawn if significant new information regarding the river channel becomes available and the National Park Service's ability to protect and enhance the Outstandingly Remarkable Values is inhibited. If changes are deemed necessary, an environmental compliance process will be initiated (including future opportunities for public involvement) and the *Merced River Plan* will be amended or updated as appropriate.

For more detail regarding the determination of boundaries, refer to Appendix E of the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS*, and the Revised Record of Decision dated November 2000 (see Appendix A).

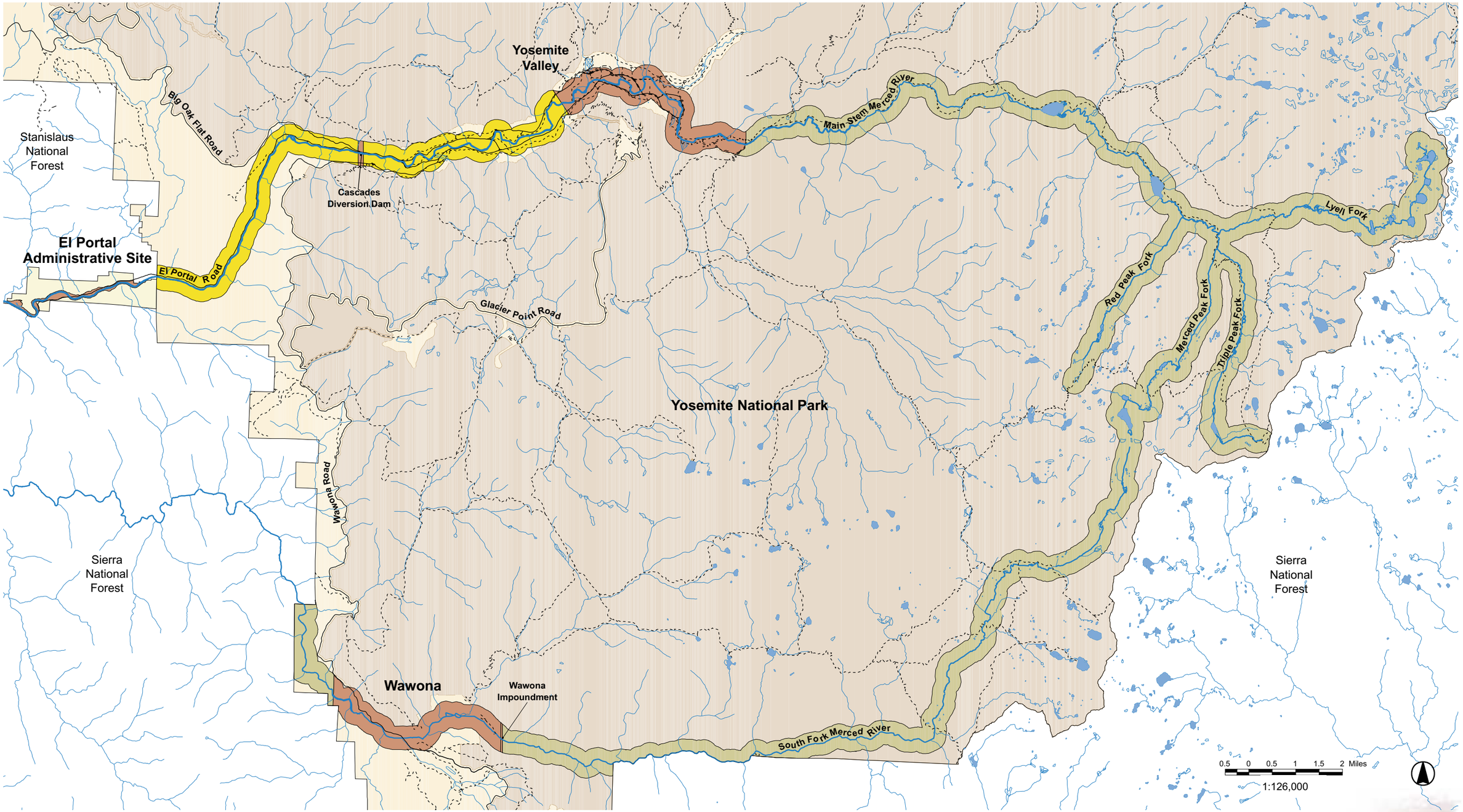


Figure 1
Boundaries and Classifications

TABLE 1

Merced Wild and Scenic River Classifications

Segment	Location Within Yosemite National Park	Classification
Main Stem		
Wilderness	Headwaters (including the forks of Red Peak, Merced Peak, Triple Peak, and Lyell) to Wilderness boundary above Nevada Fall	Wild
East Valley	Wilderness boundary above Nevada Fall to Sentinel Beach	Recreational
West Valley	Sentinel Beach to top of pool at Cascades Diversion Dam	Scenic
Impoundment	Top of pool at Cascades Diversion Dam to 200 feet below dam	Recreational*
Gorge	200 feet below Cascades Diversion Dam to western park boundary at Parkline	Scenic
El Portal	Parkline to El Portal Administrative Site boundary	Recreational
South Fork		
Wilderness	Headwaters to top of pool at Wawona Impoundment	Wild
Impoundment	Top of pool at Wawona Impoundment to 200 feet below dam	Recreational*
Wawona	200 feet below Wawona Impoundment to Squirrel Creek	Recreational
Below Wawona	Squirrel Creek to western park boundary	Wild

* This plan allows for the removal of the Cascades Diversion Dam and the Wawona Impoundment. If either of these structures were removed, the classifications of the segments would be changed to reflect surrounding classifications (i.e., change from Recreational to Scenic).

Classifications

The Wild and Scenic Rivers Act requires that river segments be classified and administered as Wild, Scenic, or Recreational, based on the condition of the river corridor at the time of boundary designation. The classification of a river segment indicates the level of development on the shorelines, the level of development in the watershed, and the degree of accessibility by road or trail. Classifications are defined in the act as follows:

> Wild river areas: Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted.
>
> Scenic river areas: Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
>
> Recreational river areas: Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

The river classifications established by the *Merced River Plan* are as follows. Wilderness areas, which account for approximately 51 miles of the Merced Wild and Scenic River within Yosemite National Park, are classified Wild. Areas with moderate development within the corridor (west Valley and gorge) are classified Scenic, accounting for approximately 13 miles of the Merced River within the park. The east Valley, Wawona, the El Portal Administrative Site, and the impoundments are classified as Recreational, reflecting the higher level of development in these areas. Recreational areas account for approximately 17 miles of the Merced River within the park. The Cascades Diversion Dam and the Wawona Impoundment would change to a Scenic classification if and when the impoundments were removed. The classifications for the segments of the Merced River administered by the National Park Service are listed in table 1 and depicted in figure 1.

Appendix E of the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS* contains a history of the determination of classifications.

Outstandingly Remarkable Values

Before a river can be designated Wild and Scenic, it must meet certain requirements for eligibility. One of the primary bases for determining eligibility is the identification of the river's Outstandingly Remarkable Values. The Wild and Scenic Rivers Act defines these values as those characteristics that make the river worthy of special protection. Outstandingly Remarkable Values can include scenery, recreation, fish and wildlife, geology, history, culture, and other similar values.

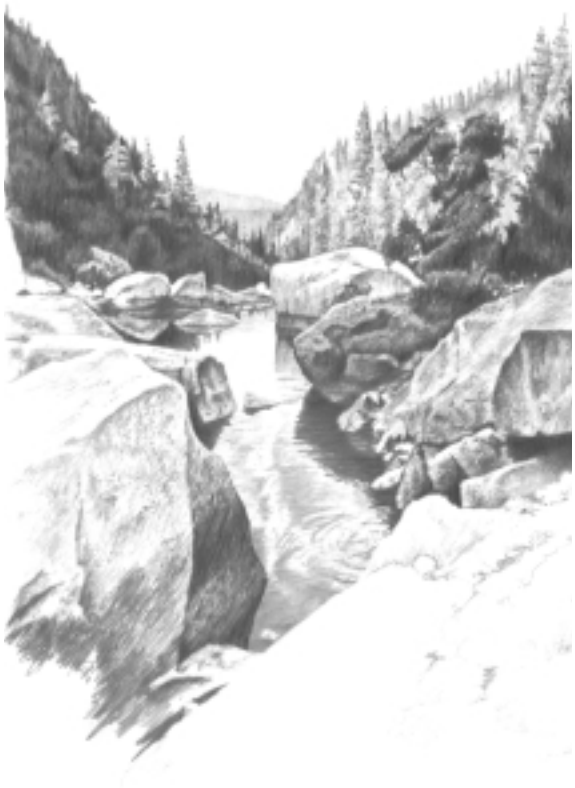
In order to be considered, two vital questions must be answered to establish the criteria for selection of Outstandingly Remarkable Values:

- Is the value river-related or river-dependent?
- Is the value rare, unique, or exemplary in a regional or national context?

In the administration of a Wild and Scenic River, "primary emphasis shall be given to protecting its aesthetic, scenic, historic, archeologic, and scientific features" (16 USC 1281[a]). The *Merced River Plan* includes a set of Outstandingly Remarkable Values for the main stem and South Fork of the Merced River that were refined through the public planning process. Application of the *Merced River Plan's* seven management elements will allow for the protection and enhancement of these Outstandingly Remarkable Values. The following are categories of Outstandingly Remarkable Values used in the *Merced River Plan* (beginning on page 45, table 2 presents the values for each river segment):

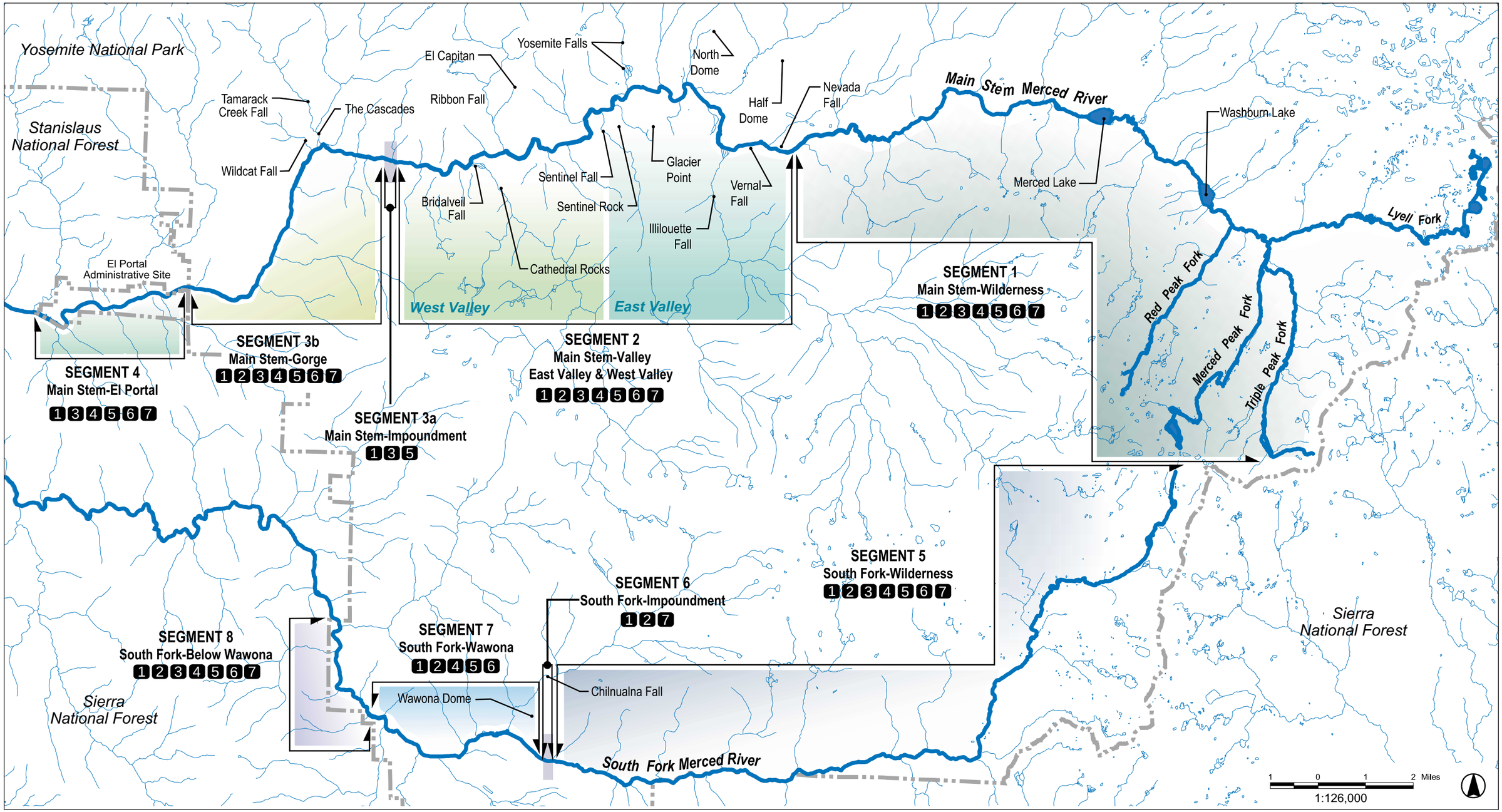
- Scientific – Because much of the watershed is largely within designated Wilderness in Yosemite, the Merced River corridor constitutes a rich resource for scientific study. Scientific Outstandingly Remarkable Values relate to the Merced River's value for research.
- Scenic – Yosemite National Park is recognized worldwide for its spectacular scenic wonders. Scenic resource Outstandingly Remarkable Values include spectacular views from the river and its banks and include a number of viewpoints that exhibit the sublime character of Yosemite National Park.
- Geologic Processes/Conditions – Unique to the Merced River corridor is the dramatic evidence of natural processes at work for thousands of years. Geologic process and geologic condition Outstandingly Remarkable Values are generally related to glaciation, granite domes, river processes, and unique geologic features.

- Recreation – The vast spectrum of recreational opportunities throughout the Merced River corridor – from fishing and hiking to enjoying solitude and natural sounds along the river – all contribute to a special Yosemite experience. Outstandingly Remarkable Values have been identified relating to those activities unique to the Merced River.



- Biological – From the presence of the Wawona riffle beetle to the diversity of neotropical songbirds, the Merced River is a vital component in determining the overall health of riparian communities. Biological resource Outstandingly Remarkable Values have been identified and include riverine habitats such as riparian forests, meadows, and the aquatic environment of the river and associated special-status species.
- Cultural – For thousands of years, Yosemite's human residents have lived within the Merced River corridor. Evidence of historic and prehistoric lifeways tells the story of the Merced River's unique heritage. Cultural resource Outstandingly Remarkable Values include river-related cultural resources that are not intended to divert the free flow of the river and that are either eligible for or listed on the National Register of Historic Places.
- Hydrologic Processes – A logjam hundreds of years old crosses the river in Little Yosemite Valley. The river meanders through Yosemite Valley, then plunges 2,000 feet in elevation over a course of six miles through the gorge. Such distinct features characterize the value of the Merced River's unique river processes. Outstandingly Remarkable Values related to hydrologic processes generally include pristine water quality, exceptionally steep gradients, extraordinary examples of cascades, and examples of unique hydrologic conditions (e.g., oxbows, unique wetlands, fluvial processes, and an active flood regime).

Outstandingly Remarkable Values are typically identified in a study prior to the designation of a Wild and Scenic River. However, the Merced River's designation was not preceded by a formal river study. The river's Outstandingly Remarkable Values have undergone several iterations since its designation, and a description of the evolution of Outstandingly Remarkable Values is provided in Appendix E of the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS*. Figure 2 provides a conceptual illustration of the locations of Outstandingly Remarkable Values by segment; table 2 represents a segment-by-segment overview of the Outstandingly Remarkable Values for the main stem and South Fork of the Merced River.



Outstandingly Remarkable Values

- River
- Tributaries
- National Park Boundary

1. Scientific
2. Scenic
3. Geological Processes and Conditions
4. Recreation
5. Biological
6. Cultural
7. Hydrologic Processes

Figure 2
Outstandingly Remarkable Values

TABLE 2
Outstandingly Remarkable Values of the Merced River (Main Stem and South Fork)

Segment Number and Name	Outstandingly Remarkable Values (By Category)
Main Stem Merced	**Scientific –** These segments of the river corridor constitute a highly significant scientific resource because the river watershed is largely within designated Wilderness in Yosemite National Park.
1) Wilderness	***Scenic*** – This segment includes views from the river and its banks of the glaciated river canyon, exposed bedrock riverbed, Merced Lake and Washburn Lake, the Bunnell Cascades, the confluence of tributaries, a large concentration of granite domes, and the Clark and Cathedral Ranges. ***Geologic Processes/Conditions*** – This segment traverses a U-shaped, glacially carved canyon separated by cascades and soda springs below Washburn Lake. ***Recreation*** – This segment provides outstanding opportunities for solitude along the river, with primitive and unconfined recreation. There is a spectrum of levels of recreational use. River-related recreational opportunities include day hiking, backpacking, horseback riding and packing, camping, and enjoyment of natural river sounds. Untrailed tributaries provide enhanced opportunities for solitude. ***Biological*** – This segment includes a nearly full range of intact Sierran riverine environments, high-quality riparian, meadow, and aquatic habitats (such as the meadow at Washburn Lake), and special-status species such as mountain yellow-legged frog. ***Cultural*** – This segment includes portions of a prehistoric trans-Sierra route in use for thousands of years and many prehistoric sites. There are many historic resources such as homestead sites, trails, river crossings, High Sierra Camp sites, and structures. ***Hydrologic Processes*** – The segment is characterized by a free-flowing river and excellent water quality. The river gradient drops from 13,000 to 6,000 feet in elevation. There are examples of natural conditions, including glacial remnants, a logjam in Little Yosemite Valley that is hundreds of years old, and numerous cascades.
2) Valley	***Scenic*** – This segment provides magnificent views from the river and its banks of waterfalls (Nevada, Vernal, Illilouette, Yosemite, Sentinel, Ribbon, Bridalveil, and Silver Strand), rock cliffs (Half Dome, North Dome/Washington Column, Glacier Point, Yosemite Point/Lost Arrow Spire, Sentinel Rock, Three Brothers, Cathedral Rock, and El Capitan), and meadows (Stoneman, Ahwahnee, Cook's, Sentinel, Leidig, El Capitan, and Bridalveil). There is a scenic interface of river, rock, meadow, and forest throughout the segment. ***Geologic Processes/Conditions*** – This segment contains a classic, glaciated, U-shaped valley, providing important examples of a mature meandering river; hanging valleys such as Yosemite and Bridalveil Creeks; and evidence of glaciation (e.g., moraines below El Capitan and Bridalveil Meadows). ***Recreation*** – This segment offers opportunities to experience a spectrum of river-related recreational activities, from nature study and sightseeing to hiking. Yosemite Valley is one of the premier outdoor recreation areas in the world. ***Biological*** – Riparian areas and low-elevation meadows are the most productive communities in Yosemite Valley. The high quality and large extent of riparian, wetland, and other riverine areas provide rich habitat for a diversity of river-related species, including special-status species, neotropical migrant songbirds, and numerous bat species. ***Cultural*** – This segment contains evidence of thousands of years of human occupation reflected in a large number of archeological sites and continuing traditional use today. Nationally significant historic resources are found here, such as designed landscapes and developed areas, historic buildings, and circulation systems (trails, roads, and bridges) that provide visitor access to the sublime views of natural features that are culturally valuable. ***Hydrologic Processes*** – This segment is characterized by a meandering river, world-renowned waterfalls, an active flood regime, oxbows, unique wetlands, and fluvial processes.

TABLE 2
Outstandingly Remarkable Values of the Merced River (Main Stem and South Fork)

Segment Number and Name	Outstandingly Remarkable Values (By Category)
3a) Impoundment (would become part of Segment 3b, Gorge –classified as Scenic, if Cascades Diversion Dam were removed)	***Geologic Processes/Conditions*** – This segment contains the dramatic transition from the U-shaped, glaciated Yosemite Valley to the V-shaped river gorge. ***Biological*** – This segment contains rich riparian habitat.
3b) Gorge	***Scenic*** – This segment provides views from the river and its banks of the Cascades, spectacular rapids among giant boulders, Wildcat Fall, Tamarack Creek Fall, the Rostrum, and Elephant Rock. ***Geologic Processes/Conditions*** – This segment is characterized by a classic V-shaped river gorge with a continuous steep gradient. ***Recreation*** – This segment provides a spectrum of river-related recreational opportunities, such as picnicking, fishing, photography, and sightseeing. ***Biological*** – This segment is characterized by diverse riparian areas and associated special-status species that are largely intact and almost entirely undisturbed by humans. ***Cultural*** – This segment contains cultural resources, including prehistoric sites and historic sites and structures such as those relating to historic engineering projects. ***Hydrologic Processes*** – This segment is characterized by exceptionally steep gradients (2,000-foot elevation drop in approximately six miles).
4) El Portal	***Geologic Processes/Conditions*** – This segment contains a transition from igneous to metasedimentary rocks (metasedimentary rocks are among the oldest in the Sierra Nevada). ***Recreation*** – This segment provides a range of river-related recreational opportunities, in particular white-water rafting and kayaking (class III to V) and fishing. ***Biological*** – This segment contains riverine habitats such as riparian woodlands and associated federal and state special-status species, including Tompkin's sedge and Valley elderberry longhorn beetle and its critical habitat (elderberry shrub). Expanses of north-facing habitat allow unlimited access to the riparian zone for wildlife species. ***Cultural*** – This segment contains some of the oldest archeological sites in the Yosemite area, as well as many historic Indian villages and traditional gathering places. River-related historic resources include structures related to early tourism and industrial development. ***Hydrologic Processes*** – This segment is characterized by continuous rapids.
South Fork Merced	**Scientific –** These segments of the river corridor constitute a highly significant scientific resource because the River watershed is largely within designated Wilderness in Yosemite National Park.
5) Wilderness	***Scenic*** – This segment provides views from the river and its banks of unique river features, including large pothole pools within slick rock cascades, old growth forest, and meadows. ***Geologic Processes/Conditions*** – This segment is characterized by glaciated valleys in the high country and V-shaped canyons above Wawona. Moraine meadows and soda springs above Gravelly Ford are also unique, river-related geologic features. ***Recreation*** – This segment provides outstanding opportunities for river-related solitude, enjoyment of natural river sounds, and primitive and unconfined recreation. This segment of the river is predominantly without trails, with the exception of four bridgeless trail crossings in the upper reaches of the segment.

TABLE 2
Outstandingly Remarkable Values of the Merced River (Main Stem and South Fork)

Segment Number and Name	Outstandingly Remarkable Values (By Category)
5) Wilderness (cont.)	***Biological*** – This segment includes a nearly full range of riverine environments typical of the Sierra Nevada. Examples of river-related federal and state special-status species include Wawona riffle beetle and mountain yellow-legged frog. ***Cultural*** – This segment includes river-related prehistoric sites and resources and reflects historic stock use and cavalry activities. ***Hydrologic Processes*** – This segment is characterized by a free-flowing river and excellent water quality.
6) Impoundment (would become part of segment 7, Wawona, if an alternative water source were secured and impoundment were removed)	***Scenic*** – This segment provides views from the river and its banks of the river and Wawona Dome. ***Hydrologic Processes*** – This segment has excellent water quality.
7) Wawona	***Scenic*** – This segment provides views from the river and its banks of Wawona Dome. ***Recreation*** – This segment offers opportunities to experience a spectrum of river-related recreational activities, from nature study and photography to hiking. ***Biological*** – This segment contains a diversity of river-related species, wetlands, and riparian habitats. There are federal and state special-status species in this segment, including Wawona riffle beetle. ***Cultural*** – This segment contains evidence of thousands of years of human occupation, including numerous prehistoric and historic Indian villages, historic sites, structures, and landscape features related to tourism, early Army and National Park Service administration, and homesteading.
8) Below Wawona	***Scenic*** – This segment provides views from the river and its banks of continual white-water cascades in the deep and narrow river canyon in a untrailed, undisturbed environment. ***Geologic Processes/Conditions*** – This segment contains a transition from Paleozoic Era igneous to Cretaceous Period metasedimentary rocks (metasedimentary rocks are among the oldest in the Sierra Nevada). ***Recreation*** – This segment provides outstanding opportunities for river-related solitude, enjoyment of natural river sounds, and primitive and unconfined recreation in an untrailed, undisturbed environment. River-related recreational opportunities include hiking, fishing, and white-water kayaking. ***Biological*** – This segment is characterized by diverse riparian areas that are intact and largely undisturbed by humans. River-related federal and state special-status species in this segment include Wawona riffle beetle. ***Cultural*** – This segment contains archeological sites and historic resources such as trail segments representing early cavalry activity. ***Hydrologic Processes*** – This segment is characterized by a free-flowing river with continual white-water cascades.

Section 7 Determination Process

When Congress enacted the Wild and Scenic Rivers Act in 1968, it sought to end decades of damming, dredging, and diversion of some of the nation's most spectacular waterways. However, while the Wild and Scenic Rivers Act does not prohibit development along a river corridor, it does specify guidelines for the determination of appropriate actions within the bed and banks of a Wild and Scenic River. Section 7 of the Wild and Scenic Rivers Act specifies restrictions on hydro and water resources development projects. A key management element for guiding future decisions regarding the Merced River is carried out through a Section 7 determination process. Water resources projects, that is, those that are within the bed or banks of the Merced River and that affect the river's free-flowing condition, are subject to Section 7 of the Wild and Scenic Rivers Act (16 USC 1278). As the designated river manager for the Merced River segments addressed by this *Merced River Plan*, the National Park Service must carry out a Section 7 determination on all proposed water resources projects to ensure they do not directly and adversely impact the values for which the river was designated Wild and Scenic.[1]

Photo by Matt Trask

Removal of the Cascades Diversion Dam, constructed in 1917 and 1918, is subject to a Section 7 determination process.

WATER RESOURCES PROJECTS

Water resources projects include non-Federal Energy Regulatory Commission licensed projects, such as dams, water diversions, fisheries habitat and watershed restoration, bridges and other roadway construction/reconstruction, bank stabilization, channelization, levees, boat ramps, and fishing piers, that occur within the bed and banks of a designated Wild and Scenic River (IWSRCC 1999).

1 The description of the Wild and Scenic Rivers Act Section 7 determination process contained in this section is adapted from a technical report by the Interagency Wild and Scenic Rivers Coordinating Council (IWSRCC 1999).

The National Park Service is responsible for making the final determination as to whether a proposed water resources project will have a direct and adverse impact to river values. The agency should coordinate its evaluation process with other agencies that are required to review and comment on the project. Depending on the type and location of the project, such agencies may include the U.S. Fish and Wildlife Service, the Environmental Protection Agency, the U.S. Forest Service, the Bureau of Land Management, and the U.S. Army Corps of Engineers. Review of Wild and Scenic Rivers Act Section 7 projects will also be coordinated with other environmental review processes, such as those required by the National Environmental Policy Act and the National Historic Preservation Act, as appropriate.

In emergency situations (e.g., a broken sewer pipe in or near the river), a Section 7 determination must be carried out as soon as possible after the project is completed. Changes to mitigate impacts from an emergency project will be implemented, when necessary, based on the findings of the Section 7 analysis. The National Park Service will undertake the following steps as part of its Section 7 determination process for nonemergency projects.

1. The National Park Service will describe the purpose and need of the proposed project and its location, duration, magnitude, and relationship to past and future management activities.
2. The National Park Service will analyze the potential impacts of the proposed project on the values for which the river was designated Wild and Scenic. This analysis should follow the guidelines provided by the Wild and Scenic Rivers Act, Section 7 Technical Report of the Interagency Wild and Scenic Rivers Coordinating Council (1999), and other applicable guidance.
3. The National Park Service will define the likely duration of the projected impacts.
4. The National Park Service will assess the effects of the projected impacts on the achievement or timing of achievement of the management goals of the *Merced River Plan* (based on the Wild and Scenic Rivers Act).
5. The National Park Service will use this analysis to make a Wild and Scenic Rivers Act Section 7 determination. This determination will document the effects of the proposed activity, including any direct and adverse effects on the values for which the river was designated and Wild and Scenic.

6. Water resources projects found to have a direct and adverse effect on the values of this designated river will be redesigned and resubmitted for a subsequent Section 7 determination or abandoned. In the event that a project cannot be redesigned to avoid direct and adverse effects on the values for which the river was designated, the National Park Service will either abandon the project or advise the Secretary of the Interior in writing and report to Congress in writing in accordance with Section 7(a) of the act.
7. The National Park Service will also follow Wild and Scenic Rivers Act Section 7 procedures to determine if projects above or below the designated river or on its tributary streams would invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the designated corridor.

River Protection Overlay

The areas immediately adjacent to the river channel, along with the river channel itself, are particularly important to the health and proper functioning of the river ecosystem. These areas allow for the main channel to link with backwater areas, tributaries, and groundwater systems; provide for increased channel diversity; and contribute sources of needed nutrients and woody debris to the river. In most circumstances, trees or other large woody debris falling into the river are recognized as part of the natural processes and will be left in the river to aid in the recovery of aquatic and riparian habitat. Additionally, the areas immediately adjacent to the river channel can help protect surrounding development from potential flood damage and can be used to filter runoff water draining into the river.

To ensure that the river channel itself and the areas immediately adjacent to the river are protected, the *Merced River Plan* includes a management tool called the River Protection Overlay. It is intended as a primary mechanism to achieve the goals of the *Merced River Plan*. The River Protection Overlay is also intended to identify the location of highest priority for restoration of hydrologic processes and biotic habitats within the river corridor. This critical zone would provide a buffer area for natural flood flows, channel formation, riparian vegetation, and wildlife habitat and would protect riverbanks from human-caused impacts and associated erosion. The River Protection Overlay is intended to apply the requirements of the Wild and Scenic Rivers Act,

RIVER PROTECTION OVERLAY

National Park Service staff developed the technical framework for the River Protection Overlay in a series of internal workshops beginning in 1993 and continuing into 1999. Staff reviewed technical studies by various agencies, including the U.S. Forest Service and the U.S. Fish and Wildlife Service. Many of these studies confirmed the importance of ensuring the contribution of inputs to the river from upland vegetation as a guide for setting the width of riparian protection areas. See, for example, Murphy and Meehan 1997; U.S. Forest Service 1990; Klein, Sonnevil, and Short 1987; Elser 1968; and Bilby and Likens 1980.

Photo by N. Baggott

Fallen trees and other woody debris are important to the health of the riparian corridor.

including the protection and enhancement of the Outstandingly Remarkable Values and the preservation of the free-flowing condition of the river, at a higher standard than that of the underlying management zones. However, the River Protection Overlay does not apply to private property within the river corridor.

Rivers are dynamic systems. As the movement of the river channel shifts over time, so would the specific areas included within the River Protection Overlay. Regardless of the location of the water's edge on any given day throughout the year, the River Protection Overlay is measured from the ordinary high water mark, as defined by the Army Corps of Engineers in 33 CFR Section 328.3 (see Glossary, Appendix C).

The width of the River Protection Overlay is determined by site topography and vegetation and includes the area needed to encompass riparian and adjacent upland vegetation and habitat. In areas above 3,800 feet, the River Protection Overlay includes the river channel itself and extends 150 feet on both sides of the river measured from the ordinary high water mark; and in areas below 3,800 feet includes 100 feet on both sides of the river measured from the ordinary high water mark. (On the main stem of the Merced River, the 3,800-foot elevation point occurs near the Cascades Powerhouse. On the South Fork, the 3,800-foot elevation point occurs approximately one mile downstream of Squirrel Creek.) Generally, a wider band is required along the river in the flatter, open valleys, while a narrower buffer provides adequate protection in the steeper, V-shaped river gorges of the lower elevations (see figure 3). This transition occurs approximately at the 3,800-foot elevation mark, in the gorge area below Yosemite Valley on the main stem of the Merced River, and downstream of Wawona on the South Fork. Approximately 70 miles of the river has a 150-foot River Protection Overlay, including Yosemite Valley and Wawona. Approximately 11 miles of the river has a 100-foot River Protection Overlay, including the El Portal Administrative Site.

Projects occurring within the bed or banks of the river and that affect the free-flowing condition of the river are considered water resources projects under the Wild and Scenic Rivers Act and must also go through a Section 7 determination process.

Within the River Protection Overlay, future actions shall be consistent with the following conditions:

1. Nonessential facilities (including, but not limited to, riprap, levees, diversion walls, impoundments, bridges, bridge abutments, roads, campsites, buildings, utilities, and other structures) should not be located in the River Protection Overlay, except when they meet the following two criteria: (1) where required for access to or across the river, for health and safety, or for the maintenance of historic properties; and (2) where it is impractical to locate them outside the River Protection Overlay.

    - Existing facilities meeting these criteria may remain, and they may be replaced, repaired, or relocated within the River Protection Overlay, but only if the replacement, repair, or relocation does not directly and adversely affect the Outstandingly Remarkable Values.
    - New facilities and development may be constructed in the River Protection Overlay only when meeting these criteria and when located where they do not materially impair the natural function of the river, impede linkages to tributary inflow and backwater areas, or disrupt contribution of woody debris to the river, and where they do not have a direct and adverse impact on the Outstandingly Remarkable Values.

2. Actions within the bed and banks of the river to construct, replace, repair, or relocate essential facilities (i.e., primary roads and bridges, wastewater collection and treatment, domestic water supply, electrical distribution, and similar facilities required to keep the park operating) and facilities that directly protect and enhance the Outstandingly Remarkable Values (e.g., raft launch facilities to preserve the spectrum of recreational experiences and to concentrate use in a hardened area) may be permitted provided that:

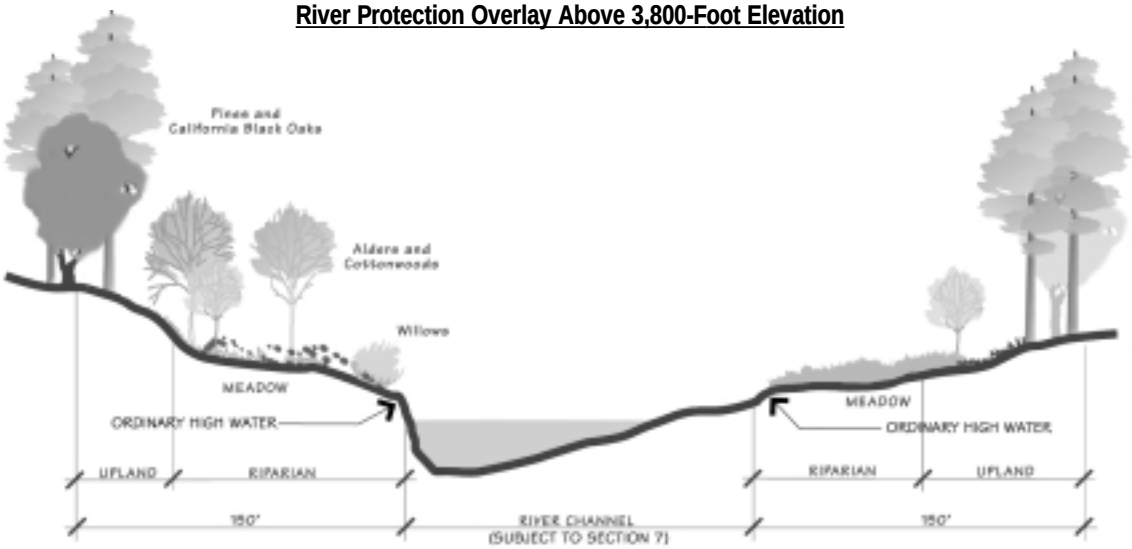
    - Project design minimizes impacts to the free-flowing condition of the river, interference with linkages to tributary inflow and backwater areas, and disruption of contribution of woody debris to the river.
    - The project incorporates mitigation measures to avoid or reduce impacts.

3. Facilities and development covered by paragraphs 1 or 2, above, that occur within the bed or banks of the river and that affect the free-flowing condition of the river must also comply with Section 7 of the Wild and Scenic Rivers Act.

4. Other existing facilities that are not addressed by paragraphs 1 or 2 should be removed, and must be removed at the earliest practicable opportunity when major rehabilitation is needed or when a facility is no longer of use.

Facilities proposed in the River Protection Overlay must meet the stringent requirements of its prescriptions. However, existing facilities in the River Protection Overlay are allowed to remain even if they do not conform with prescriptions. The National Park Service may address an existing, nonconforming facility in the River Protection Overlay at any time, such as through a planning effort.

River Protection Overlay Above 3,800-Foot Elevation



River Protection Overlay Below 3,800-Foot Elevation

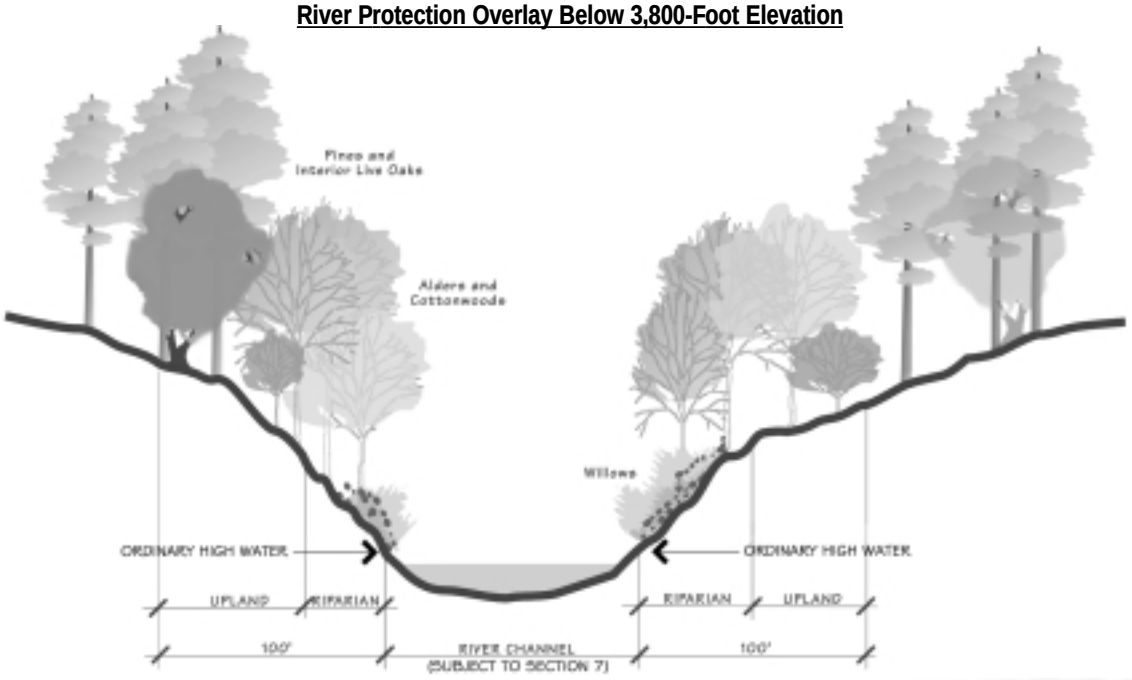


Figure 3
River Protection Overlay Cross-Sections

Management Zoning

Management zoning is a technique used by the National Park Service to classify park areas and prescribe future desired resource conditions, visitor activities, and facilities. Similar to zoning found in other types of land-use planning (such as municipal zoning), management zoning prescribes future desired conditions for a particular area. A management zone is defined in the National Park Service's Visitor Experience and Resource Protection (VERP) framework as:

> *A geographical area for which management directions or prescriptions have been developed to determine what can and cannot occur in terms of resource management, visitor use, access, facilities or development, and park operations. Each zone has a unique combination of resource and social conditions, and a consistent management prescription. Different actions will be taken by the National Park Service in different zones with regard to the type and levels of use and facilities (NPS 1997a).*

The management zoning adopted by this plan was developed to protect and enhance the Outstandingly Remarkable Values within each segment of the river. Specifically, the *Merced River Plan* places an emphasis on integrating protection and enhancement of natural and cultural resource Outstandingly Remarkable Values with the protection and enhancement of the diverse recreation Outstandingly Remarkable Values within the river corridor. Management zoning prescribes certain uses and facilities that are not allowed in an area. Before such zoning existed, additional development and higher-intensity uses by park visitors could have resulted in impacts to Outstandingly Remarkable Values over the long term. Management zoning also provides opportunities for restoration of Outstandingly Remarkable Values in areas where lower use and facility levels are prescribed.

In order to protect the spectrum of recreational opportunities (an Outstandingly Remarkable Value), management zoning allows for visitor access and use of facilities in more resilient locations, as well as different intensities of use along the corridor. As part of the Visitor Experience and Resource Protection framework, it also facilitates the development of user capacity analysis. Zoning is consistent with National Park Service

requirements and with the provisions of the Wild Scenic Rivers Act, which states, "Management plans for any such component may establish varying degrees of intensity for its protection and development, based on the special attributes of the area."

The various management zones are represented schematically on the management zoning maps. Application of the management zones may require additional mapping and site-specific studies for future activities, such as area plans and restoration projects. However, management zoning does not apply to private property that exists within the river corridor.

Management Zoning Categories

The management zones for the Merced River corridor fall into three general categories: (1) Wilderness zones, (2) Diverse Visitor Experience zones, and (3) Developed zones. Within each of these three categories, there are individual management zones that provide for certain levels and types of visitor experiences, resource conditions, facilities, and uses. Existing uses or facilities that are not compatible with the management prescriptions of their zones could be (but are not required to be) removed, relocated, or modified over time. Management zones generally allow for the repair, maintenance, and reconstruction of established facilities (such as structures, utilities, roads, and bridges) unless specifically noted. The National Park Service may address an existing, nonconforming facility in the corridor at any time, such as through a planning effort. New facilities proposed in the river corridor must meet the stringent requirements of the management zone prescriptions. All management zones permit scientific research and monitoring activities, particularly related to the analysis of visitor experience and resource protection of the river corridor.

The management zones are organized along a continuum of allowed impact intensity. Category 1 zones (Wilderness) generally prescribe the least amount and intensity of visitor use and facility development, leaving the landscape mostly natural and protecting the values reflected in the wilderness segment Outstandingly Remarkable Values. Category 2 zones (Diverse Visitor Experience) allow for a low to high range of visitor use and low to moderate range of facility development. While emphasizing protection and enhancement of natural and cultural resource-related Outstandingly Remarkable Values, they provide the diverse recreational opportunities also identified as

Outstandingly Remarkable Values. Category 3 zones (Developed) occur in limited areas in with Scenic and Recreational segments. These zones allow for the most intensive visitor use and/or more developed facilities. The developed areas encourage concentration of higher-impact activities in areas better able to withstand heavy use and at locations that are already developed, enabling better protection of Outstandingly Remarkable Values in other areas. Within each broad zoning category, the level of intensity that is allowed generally increases as the specific zones progress, and each degree of intensity is assigned a letter (e.g., 2A to 2B to 2C). There are certain exceptions to this hierarchy. For example, the Attraction zone (2D) may envision higher use levels than the Camping zone (3A).

Relationship to River Protection Overlay

When considering management decisions for specific projects, the National Park Service may find that the management zoning prescription and the River Protection Overlay provide conflicting guidance. Where the management zoning prescription and the River Protection Overlay are in conflict, the prescription that provides the greater protection and enhancement of the Outstandingly Remarkable Values takes precedence.

Application of Management Zoning

Zoning prescriptions list typical activities, allowed facilities, and examples of facilities not allowed in each zone. These lists provide representative examples of allowed activities and facilities, and are not considered to be exhaustive. In general, the more intensive facilities allowed for in higher category zones would not be allowed in the lower category zones. For example, administrative offices are allowed in Category 3 zones, but not in Category 1 or 2 zones. When determining whether a specific use or facility is appropriate to a management zone, park managers should consider the general character of development and desired resource and visitor experience conditions described for that zone.

Each zone prescribes the maximum level of activities and facilities. In practice, lower levels of visitor use and facilities may be provided than are allowed for in the zoning

prescriptions. Typical uses in lower-intensity zones are generally acceptable uses for higher-intensity zones. For example, areas zoned for overnight lodging may be used for less-developed activities such as walk-in camping or could include protected natural areas. These decisions would be based on site-specific conditions as assessed through the standard planning process. In addition, the management zones, delineated on the zoning maps allow future managers to direct development within the management zone. Within a given management zone, there may be some areas used for higher-intensity facilities or activities, while other areas within the same management zone are left natural and open. Management zoning provides overall guidance for decision-making over the long term. Zoning does not attempt to predict or prescribe every conceivable use or facility decision. Small, isolated "spot" zones were not utilized to distinguish particular facilities or use areas.

Uses or activities allowed in a management zone may be subject to limitations over time. If ongoing monitoring (as implemented through the VERP framework) indicates that impacts on the resource or visitor experience are no longer at an acceptable level, previously designated areas may be further restricted. Management zoning prescriptions can also be temporarily superceded by contingencies, such as the need to respond to emergencies. For example, trails, roads, and facilities may be temporarily closed due to fire, rockfall, or flood.

An area may be designated with two management zones; there are two instances in which multiple zoning is used. The first is where a site may be used for multiple, compatible purposes. Such multiple-use zones are identified with a slash (e.g., 3A/3C). For example, the Yellow Pine Campground in Yosemite Valley is zoned 3A/3C for Camping and Park Operations. This area is currently used as a camping area for park volunteers (an administrative use) and could, in the future, be used as a combination of volunteer and visitor camping or solely as visitor camping.

The second case is where a zoning designation may change in the future depending on specific management actions. Potential conversion zones are indicated with the potential future zone set off in parentheses. For example, the Arch Rock Entrance Station is zoned 3C(2C) for Park Operations/Administration or Day Use. This area is currently used for park operations, but if the entrance station were relocated in the future, the area would convert to Day Use, which would allow for various visitor activities such as picnicking.

The management zones of the *Merced River Plan* are consistent with the purposes of Yosemite National Park, the Wild and Scenic Rivers Act, and the Wilderness Act. Additionally, the management zoning established by this plan is largely consistent with the *General Management Plan*. The zones outlined in the *General Management Plan* include: (1) Natural (wilderness, environmental protection, outstanding natural feature, and natural environment); (2) Cultural (historical, archeological); (3) Development; and (4) Special Use (reservoir). The areas zoned as Natural in the *General Management Plan* are consistently zoned as Wilderness zones in the *Merced River Plan*. The *General Management Plan* consistently designates the Merced River and riparian areas as an "Outstanding Natural Feature" zone, which accords with the *Merced River Plan's* special protection for the corridor through the River Protection Overlay. The *General Management Plan* designates camping, lodging, and more intensive visitor use areas as "Development" zones, in keeping with the Developed zones in the *Merced River Plan*.

However, the management zoning established by the *Merced River Plan*, in some cases, constitutes a revision to the *General Management Plan* zoning for areas within the river corridor. In the eastern portion of Yosemite Valley, the *General Management Plan* designates certain areas as Development zones (such as Housekeeping Camp, Upper and Lower River Campgrounds, and North Pines Campground), while in the *Merced River Plan* these areas are designated for greater resource protection. In all other areas, the management zoning adopted by this plan complements the broad zoning established by the *General Management Plan* by adding further specificity.

Category 1: Wilderness Zones

Approximately 34 miles of the main stem and 19 miles of the South Fork of the Merced Wild and Scenic River corridors flow through designated Wilderness and are managed under the guidance and requirements of the 1964 Wilderness Act and the California Wilderness Act of 1984. As such, these segments will continue to be managed to preserve an environment in which the natural world, along with the processes and events that shape it, are largely unchanged by human use, and to allow for various forms of exploration in an environment primarily free of modification. Access limits are imposed to control human-induced change, and management actions such as education, regulation, and restoration will occur as appropriate to protect natural and cultural resources and designated Outstandingly Remarkable Values. Visitor use and

enjoyment is encouraged as long as such use does not result in levels of human impact that compromise wilderness and river values. Visitors will encounter a variety of opportunities for solitude, primitive and unconfined recreation, and physical challenge. Presence of park staff will be limited, focused on locations of heavy use such as camping areas.

The Wilderness zones will be managed to protect the natural hydrologic and ecologic processes of the Merced River and its immediate environment. Other than trails and designated overnight areas, the Wilderness zones will exhibit natural conditions, with high-quality riparian, meadow, and aquatic habitats. There will be high native plant and animal species diversity and relatively minimal disturbance and human impact. The Merced River will remain free of impoundments, and natural processes, such as deposits of woody debris into the river, will occur without human interference. Water quality in the area will be very high.

The Wilderness zones emphasize the protection of natural resource Outstandingly Remarkable Values, such as biological, geologic, and hydrologic values. By limiting use and development, the Wilderness zones also protect and enhance cultural, scenic, and recreational Outstandingly Remarkable Values, which identify spectacular views, prehistoric sites, and opportunities for solitude and primitive recreation among the important values of the wilderness segments of the Merced River corridor.

The National Park Service manages the designated Wilderness under the direction of the Wilderness Act of 1964. The Wilderness Act provides a high level of resource protection for those river segments within Wilderness areas, generally a comparable or more restrictive level than the Wild and Scenic Rivers Act. In all cases where the Wild and Scenic Rivers Act and the Wilderness Act are in conflict, the more restrictive provision will apply (see Wild and Scenic Rivers Act, 16 USC 1281[b]).

There are four Wilderness zones:

- Zone 1A: Untrailed
- Zone 1B: Trailed Travel
- Zone 1C: Heavy Use Trail
- Zone 1D: Designated Overnight

Wilderness Zone Management Objectives

The overall management objectives for the Wilderness zones, which are consistent with the *Wilderness Management Plan* (NPS 1989), are as follows:

- Manage for protection of Outstandingly Remarkable Values, with an emphasis on protection and enhancement of natural resource Outstandingly Remarkable Values
- Manage for ecosystem integrity
- Preserve natural biodiversity
- Allow natural processes to prevail
- Mitigate, reduce, or eliminate human-caused impacts
- Manage for a high-quality wilderness visitor experience
- Protect all wilderness values (ecological, geological, scientific, educational, scenic, or historical in nature)
- Apply the "minimum requirement" guidance concept in all administrative operational functions in accordance with the Wilderness Act
- Manage for the preservation of cultural resources

Zone 1A. Untrailed

The Untrailed zone is primarily free of signs of modern human presence, with extremely high opportunity for solitude due to the remoteness of the area and lack of trails. Management activities in this zone will be minimal, allowing resources and natural processes to exist in their most pristine state. The Untrailed zone will be managed with very low tolerance for resource degradation from visitor use, and management action can be taken to change visitor use patterns if such degradation occurs.

Visitor experience is primarily based on hiking through often difficult terrain. There are no formal trails or directional markers in this zone. There are few, if any, human encounters, and wilderness skills and knowledge are necessary to safely navigate these areas. Natural and cultural resources can be observed, but there are no formal interpretation or visitor accommodations. This area will provide substantial opportunities for scientific study of natural processes in undisturbed conditions.

The difficulty of access characterized by the Untrailed zone serves to limit visitor use, thereby protecting and enhancing biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values. Opportunities for solitude, primitive and unconfined recreation, and enjoyment of natural river sounds are among the recreational Outstandingly Remarkable Values prominent in this zone.

Activities – The following activities will be typical in this zone:

- Overnight camping 100 feet or more from a water body, by permit
- Hiking
- Rock climbing and mountaineering
- Swimming and wading
- Fishing[2]
- Photography and nature study

Facilities – The following facilities are allowed in this zone:

- Limited numbers of legal and appropriately dispersed campsites

The following are examples of facilities that are not allowed in this zone:

- Support facilities such as food storage, ranger stations, and compost toilets
- Utilities
- Bridges
- Formal trails
- Interpretive signs or programs
- Commercial overnight facilities

Zone 1B. Trailed Travel

The Trailed Travel zone is characterized by light to moderate use focused on marked and maintained trails. Opportunities for solitude will range from moderate to high. There will be some management presence to accommodate resource protection and visitor use. The Trailed Travel zone will be managed with very low tolerance for resource degradation from visitor use, and management action can be taken to change visitor use patterns if such degradation occurred.

Most visitors will experience this area by hiking, although a small percentage of visitors traditionally use pack animals and can continue to do so. Visitor encounters will be infrequent, except in areas common for campsites and at key trail junctions. While there

[2] Fishing is allowed subject to California Department of Fish and Game regulations in all management zones.

will be opportunities for challenge and adventure, the well-marked and maintained trails will allow visitors with a diversity of hiking abilities to experience the wilderness.

Through limitations on development and access, the Trailed Travel zone will protect and enhance biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values. Opportunities for solitude, primitive and unconfined recreation, and enjoyment of natural river sounds are among the recreational Outstandingly Remarkable Values prominent in this zone.

Activities – The following activities will be typical in this zone:

- Overnight camping 100 feet or more from a water body or trail, by permit
- Hiking
- Rock climbing and mountaineering
- Stock use as allowed in the *Wilderness Management Plan*
- Swimming and wading
- Fishing
- Photography and nature study
- Very limited interpretive programs (e.g., guided walks for small groups)

Facilities – The following facilities are allowed in this zone:

- Marked and maintained trails (walls and water bars could be used to provide for protection of resources)
- Limited numbers of legal and appropriately dispersed campsites
- Historic features
- Occasional directional and regulatory signs, and safety signs only as necessary
- Footbridges only at trail crossings where necessary for resource protection and visitor access (in compliance with the *Wilderness Management Plan*)

The following are examples of facilities that are not allowed in this zone:

- Large campsites with facilities
- Commercial overnight facilities
- Utilities

Zone 1C. Heavy Use Trail

The Heavy Use Trail zone is characterized by high levels of use on marked and maintained trails and associated areas. Due to high use levels, opportunities for solitude at peak times will be more limited on trails in this area. In some locations, sections of paved or rocked trails and fencing can be used to direct visitor use away from sensitive ecosystems. The Heavy Use Trail zone will be managed with a low tolerance for resource degradation due to visitor use, and management action can be taken to redirect use if such degradation occurred.

Most visitors will experience this area by hiking, although a small percentage of visitors traditionally use pack animals and can continue to do so. Encounters with other visitors can be frequent during certain periods of the day or at key trail junctions, vistas, and other high use locations. The well-marked and maintained trails will allow for visitors with a diversity of hiking abilities to experience the wilderness.

Through limitations on development, the Heavy Use Trail zone will protect and enhance biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values. While opportunities for solitude will be lower than in the less-traveled Untrailed and Trailed Travel zones, this zone will provide ready access to wilderness hiking and backpacking near the Merced River.

Activities – The following activities will be typical in this zone:

- Hiking
- Rock climbing and mountaineering
- Stock use as allowed in the *Wilderness Management Plan*
- Photography and nature study
- Swimming and wading
- Fishing
- Very limited interpretive programs (e.g., guided walks for small groups)

Facilities – The following facilities are allowed in this zone:

- Marked and maintained trails (Some trails could have remnant paving, soil amendments, or hardened surfaces. Stairs, walls, fencing, and other trail features may be constructed for visitor use management and protection of sensitive areas.)
- Directional, regulatory, and safety signs

- Footbridges only at trail crossings where necessary for resource protection and visitor access (in compliance with the *Wilderness Management Plan*)

The following are examples of facilities that are not allowed in this zone:

- Campsites
- Commercial overnight facilities

Zone 1D. Designated Overnight

The Designated Overnight zone is characterized by the heaviest overnight use of all areas of the Wilderness zones. Designated overnight areas will be centered at destination locations with facilities for resource protection and visitor use, specifically at the Little Yosemite Valley Campground, Moraine Dome Campground, Merced Lake Campground, and the Merced Lake High Sierra Camp (a potential Wilderness addition). Opportunities for solitude will range from low to moderate, depending on the season. Social interaction will be common. Presence of National Park Service staff will be moderate to high in order to prevent or mitigate most adverse impacts. The Designated Overnight zone will be managed with a low tolerance for resource degradation due to visitor use. Facilities such as signs and fencing can be used to prevent unacceptable impacts. Campsites will be located away from any sensitive natural or cultural areas, including meadows, streams, lakes, and historic and archeological sites, to minimize impacts.

Most visitors will experience this area by hiking and/or staying overnight. Small percentages use pack animals and can continue to do so. Visitor encounters with others will be frequent during much of the hiking seasons. The well-marked trails and facilities will allow for a diversity of users to experience the wilderness.

The Designated Overnight zone concentrates visitor facilities in a localized area, allowing for higher protection and enhancement of biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values outside this zone. This zone also ensures that historic structures such as the High Sierra Camp can remain for continued use or for interpretive purposes. Signs, fencing, and other features can be used to direct visitors away from sensitive biological and cultural Outstandingly Remarkable Values, as necessary.

Activities – The following activities will be typical in this zone:

- Overnight camping only within a campground setting, by permit
- Hiking
- Wilderness skiing
- Photography and nature study
- Very limited interpretive programs (e.g., occasional ranger talks, guided walks)
- Stock use as allowed in the *Wilderness Management Plan*
- Use of High Sierra Camps as allowed in the *Wilderness Management Plan*

Facilities – The following facilities are allowed in this zone:

- High Sierra Camps as allowed in the *Wilderness Management Plan*
- Designated campsites of moderate size
- Food storage and campfires, subject to regulation
- Compost toilets and toilet enclosures (as necessary to protect resources)
- Structures such as the Little Yosemite Valley Campground and Ranger Station, Merced Lake Campground, and Merced Lake High Sierra Camp (to concentrate use and reduce or mitigate ecosystem degradation, or for interpretation as a cultural resource)[3]
- Marked and maintained trails (Some trails could have remnant paving, soil amendments, or hardened surfaces. Stairs, walls, fencing, and other trail features could be constructed for visitor use management and protection of sensitive areas.)
- Directional, safety, informational, and regulatory signs, and minimal interpretive signs when required for protection of resources
- Utilities associated with above facilities

The following are examples of facilities that are not allowed in this zone:

- New commercial overnight facilities
- Campsites outside of designated areas

[3] As provided for in the California Wilderness Act of 1984, if overnight use of the Merced Lake High Sierra Camp were restricted through a future, more detailed level of planning (e.g., update to the *Wilderness Management Plan*), the designation would change from potential Wilderness addition to designated Wilderness.

Category 2: Diverse Visitor Experience Zones

The Merced River corridor serves as an important recreational resource, providing opportunities for nature study, hiking, picnicking, swimming, fishing, and other activities for many of the nearly 4 million people who visit Yosemite National Park each year. The Merced River corridor also serves as a continuous visual element of the landscape, setting off significant features such as waterfalls, granite domes, and peaks.

Natural resource management in these zones will strive to protect and enhance the natural functioning of ecological and hydrological systems while accommodating moderate levels of visitor use. The Category 2 zones are designed to protect and enhance biological, hydrologic, geologic, scenic, cultural, and scientific Outstandingly Remarkable Values, as well as the recreational Outstandingly Remarkable Values. This will be achieved by maintaining, wherever possible, the integrity of an overall ecological unit (such as a meadow, woodland, or wetland), while allowing for some human alteration of the landscape. Riparian, aquatic, and meadow communities in the river corridor play a particularly critical role in a variety of ecosystem processes and also contribute to the cultural landscape. Restoration of the ecological and hydrological systems in these areas will focus on enhancing the diversity and stability of natural functions. Resource degradation will be minimized by the careful design and siting of facilities that direct visitor and administrative activities to locations able to withstand heavy use. Monitoring of visitor impacts on natural and cultural resources will help ensure adaptive and timely management responses to potential resource degradation.

The Diverse Visitor Experience zones will be managed to protect and enhance the hydrologic and ecologic processes of the Merced River and its immediate environment. Riparian areas and meadows shall remain largely intact, supporting a diversity of native vegetation and wildlife species. However, localized areas can be developed with trails, roads, and parking areas and a greater amount of resource protection features (e.g., fencing and boardwalks) to allow for visitor access. Higher levels of resource impacts, such as trampling and soil erosion, and a greater amount of resource protection features might be expected in limited areas within the Day Use and Attraction zones to accommodate high numbers of visitors. The free flow of the river will remain primarily unimpeded. Water quality in the area shall be high.

The Diverse Visitor Experience zones protect cultural Outstandingly Remarkable Values, such as historic structures and prehistoric sites, by directing visitor access to areas able to withstand heavy use. Restoration of natural features such as wetlands and meadows will also restore the cultural landscape. Interpretation of historic resources is allowed in these zones to provide visitor education opportunities.

The Category 2 zones also protect and enhance recreational Outstandingly Remarkable Values, which emphasize the value of providing diverse recreational opportunities for visitors. The lower-intensity zones – Open Space and Discovery – provide opportunities for quiet enjoyment of the river corridor, while the Day Use and Attraction zones accommodate higher levels of use at park destinations.

Four management zones are defined for the Diverse Visitor Experience zone category:

- Zone 2A: Open Space (and Undeveloped Open Space)
- Zone 2B: Discovery
- Zone 2C: Day Use
- Zone 2D: Attraction

Objectives

The overall management objectives for the Diverse Visitor Experience zones are:

- Manage for protection, enhancement, and restoration of Outstandingly Remarkable Values, sensitive resources, and natural processes
- Provide opportunities for varied levels of recreational use
- Provide quality interpretive and educational programs
- Direct visitors to locations able to withstand heavy use
- Manage major attraction areas to allow visitors to enjoy the resource with minimal environmental damage
- Manage for the protection and maintenance of cultural resources, including historical and archeological sites

2A. Open Space

The Open Space zone is characterized by relatively undisturbed natural areas that receive only incidental or casual use. Maintenance of these conditions will allow for the protection and enhancement of the biological, hydrologic, scenic, cultural, and scientific Outstandingly Remarkable Values while providing access to diverse visitor activities.

The visitor experience in this zone will be self-directed, with few visitor or management encounters, which will contribute to the diversity of experiences specified in the recreation Outstandingly Remarkable Value. The Open Space zone will be managed with very low tolerance for resource degradation from visitor use to protect and enhance biological, hydrologic, scenic, cultural, and scientific Outstandingly Remarkable Values. Visitation levels may be controlled by parking limitations and by the lack of shuttle bus stops. These limits on use and facilities will allow natural areas to remain relatively unimpaired and to receive continued protection, restoration, and enhancement.

There will be limited trails and interpretive facilities. These will direct visitors away from hazardous areas and sensitive Outstandingly Remarkable Values, such as unique wetlands, and promote understanding of natural processes. These areas will generally be quiet with limited facilities. The areas can be relatively easy to access or require considerable walking and skill to access. Though not directly accessible by vehicles or from parking areas, noise from nearby vehicles could affect visitor experiences in this zone.

Resource protection activities in this zone will include preservation of cultural resources and restoration of natural processes impacted by contemporary development, restoration of natural flood cycles and river channel dynamics to sustain native plant and wildlife species, and use of fire management practices called for in the *Fire Management Plan* to enhance biological and hydrologic Outstandingly Remarkable Values. This zone also encourages the protection and enhancement of cultural resource Outstandingly Remarkable Values, including archeological sites, by limiting development and access. Restoration of natural resources such as wetlands and meadows will also contribute to the restoration of the cultural landscape.

Activities – The following activities will be typical in this zone:

- Hiking and walking
- Photography and nature study
- Stock use in specified locations
- Swimming and wading
- Fishing
- Rock climbing
- Very limited interpretive programs (e.g., guided walks for small groups)

Facilities – The following facilities are allowed in this zone:

- Vehicle roads can be realigned or relocated where they do not adversely affect Outstandingly Remarkable Values
- Limited turnouts for short-term parking and scenic viewing or shuttle bus stops
- Limited unpaved trails for hiking
- Limited interpretive signs to protect natural or cultural resources or to promote understanding of natural processes
- Boardwalks, fencing, and other features to direct travel appropriately to avoid sensitive resources, such as meadows
- Bridges where necessary for access, improved circulation, safety, and resource protection
- Utilities (wells, utility lines, pump stations, and other facilities where they are screened from view)
- Minimal utility crossings of the river, only where necessary to support park operations

The following are examples of facilities that are not allowed in this zone:

- New roads and paved trails
- Day-visitor parking
- Support facilities, such as restrooms and picnic tables
- Interpretive centers
- Food services
- Bicycle paths
- Non-motorized watercraft launch and removal facilities
- Campgrounds and lodging

2A+. Undeveloped Open Space

The Undeveloped Open Space zone is managed as de facto wilderness, primarily free from signs of human presence due to its inaccessibility. This zone will be used to protect those areas outside designated Wilderness that have limited or no trail access, such as the area west of the Wawona Campground along the South Fork. While Undeveloped Open Space areas will remain in pristine condition, visitors can experience some human influence due to noise from nearby roads. Typical activities include hiking, rock climbing, swimming, nature study, and fishing. Access will require considerable effort because of lack of trails.

This zone will be managed in a similar manner as the Untrailed zone (1A) by protecting and enhancing biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values through limitations on development and access. The following facilities normally allowed in the Open Space zone (2A) are not allowed in this zone, but other prescriptions from the 2A zone will apply:

- Roads, either existing or new
- Turnouts
- Interpretive or directional signs
- Trails, boardwalks, or fencing
- Bridges
- Utilities

2B. Discovery

The Discovery zone is characterized by relatively quiet natural areas where visitor encounters are low to moderate, which will contribute to the diversity of experiences specified in the recreation Outstandingly Remarkable Value. However, during high-use periods, some concentrated use and more frequent visitor encounters can occur on trails that link destination points through the Discovery zone. The Discovery zone will be managed with low tolerance for resource degradation from visitor use, emphasizing the protection and enhancement of biological, hydrologic, scenic, cultural, and scientific Outstandingly Remarkable Values. The zone also emphasizes low-intensity visitor uses, which contribute to the spectrum of river-related activities specified in the recreation Outstandingly Remarkable Values. Limits on use and facilities will allow natural areas to remain relatively unimpaired, when they are not close to one of the few access roads. There will likely be trail access and interpretive signs at principal features and gathering areas, but the visitor experience would be largely self-directed. Areas in the Discovery zone can be used by individuals or smaller, organized groups. Access to these areas can require a moderate level of physical exertion, although some locations would be served by an access road and parking turnouts.

Within the Discovery zone, visitors will likely experience a variety of resources, including distant and close-range scenic views as well as opportunities to wade, swim, or fish in the river and to observe wildlife and plants. If use levels began to show an impact on resources, resource protection measures can be used, such as fencing and signs to direct travel from sensitive resources, well-marked trails and boardwalks, recycling and

trash containers, relocation of shuttle bus stops in this or adjacent zones, or other measures as needed.

Resource protection activities in this zone include restoration of natural processes affected by past or current human use, restoration of natural flood cycles and river channel dynamics to sustain native plant and wildlife species, and use of fire management practices called for in the *Fire Management Plan* to enhance biological and hydrologic Outstandingly Remarkable Values. This zone also encourages the protection and enhancement of cultural resource Outstandingly Remarkable Values, including archeological sites, by limiting development and access. Restoration of natural resources such as wetlands and meadows also contribute to the restoration of the cultural landscape.

Activities – The following activities will be typical in this zone:

- Hiking and walking
- Bicycling
- Photography and nature study
- Stock use in specified locations
- Swimming and wading
- Fishing
- Rock climbing
- Picnicking, relaxing, and gathering at informal locations
- Limited interpretive opportunities (e.g., informal ranger contacts, guided walks for small groups)

Facilities – The following facilities are allowed in this zone:

- Vehicle roads and improved trails (can be realigned or relocated where they do not adversely affect Outstandingly Remarkable Values)
- Small turnouts for trail access parking, scenic viewing, or shuttle bus stops
- Trails for hiking and through-trails for bicycling
- Minimal restroom facilities as needed to protect resources
- Fences, boardwalks, platforms, and other features to direct travel around sensitive resources
- Interpretive, directional, and safety signs

- Bridges where necessary for access, improved circulation, safety, and/or resource protection
- Utilities such as well sites, utility lines, pump stations, and other facilities (where screened from view)
- Minimal utility crossings of the river, only where necessary to support park operations

The following are examples of facilities that are not allowed in this zone:

- Day-visitor parking
- Picnic facilities
- Non-motorized watercraft launch and removal facilities
- Interpretive centers
- Food services
- Campgrounds and lodging

2C. Day Use

The Day Use zone is intended to be applied to popular park destinations, where visitors could spend significant periods of time enjoying the park resources in a relatively accessible setting. The Day Use zone enhances opportunities for visitors to enjoy more intensive recreational activities near the Merced River and supports a range of active recreational opportunities such as swimming, picnicking, and rafting, which contributes to the diversity of experiences specified in the recreation Outstandingly Remarkable Value. Visitors can expect moderate to high numbers of encounters with other park users and crowding on certain peak days. Large groups can use these areas. Day Use areas may be accessible by automobile, shuttle bus, and by bicycle, with interpretive trails or other marked trails leading to waterfalls, beaches, and scenic views. In order to accommodate heavier and more concentrated activity, facilities such as parking areas, restrooms, fencing of sensitive areas, picnic tables, and recycling and trash receptacles are allowed.

Resource protection activities in this zone are comparable to those described in zones 2A and 2B. However, due to the larger volume of visitors, the Day Use zone will be managed with moderate tolerance for resource degradation from visitor use in specified areas. To protect and enhance cultural, biological, and hydrologic Outstandingly Remarkable Values, more extensive resource protection measures may be needed to direct visitor use away from sensitive resources. Examples include boardwalks adjacent to meadows or

fencing to prevent trampling and overuse. By encouraging higher visitor use in the Day Use zone, adjacent Open Space and Discovery zones will experience the desired lower visitor use for these areas. Some Day Use areas also protect historic resources, such as continued use of the Wawona Golf Course.

Activities – The following activities will be typical in this zone:

- Hiking and walking
- Photography and nature study
- Picnicking and social gathering
- Bicycling
- Stock use in specified locations
- Swimming and wading
- Rock climbing
- Fishing
- Use of non-motorized watercraft
- Full range of interpretive programs (e.g., ranger-led walks, talks)

Facilities – The following facilities are allowed in this zone:

- Roads and improved trails (can be realigned or relocated where they do not adversely affect Outstandingly Remarkable Values)
- Day-visitor parking
- Turnouts for parking or scenic lookouts
- Bicycle trails
- Shuttle bus stops
- Support facilities (e.g., restrooms, picnic tables, telephones)
- Marked, maintained, and paved trails, including bike paths and interpretive trails
- Fences, boardwalks, walls, signs, and other features to direct travel appropriately around sensitive resources
- Non-motorized watercraft launch and removal facilities
- Interpretive, directional, and safety signs and exhibits
- Utilities such as well sites, utility lines, pump stations, and other facilities (where screened from view)
- Utility crossings of the river (where necessary to support park operations)
- Bridges where necessary for access, improved circulation, safety, and/or resource protection

The following are examples of facilities that are not allowed in this zone:

- Interpretive centers
- Food services
- Campgrounds and lodging

2D. Attraction

The Attraction zone is applied to main park features that attract large numbers of visitors, such as viewing areas for Bridalveil Fall. Due to the high number of visitors, this zone will be managed with moderate tolerance for resource degradation in specified areas, not to exceed established standards. The visitor experience in this zone will be highly structured, with well-marked and often paved trails or other trails to guide visitors, which will contribute to the diversity of experiences specified in the recreation Outstandingly Remarkable Value. Visitors can expect a high level of encounters with other visitors in these moderately to very busy areas. Attraction areas can be accessible by automobile, shuttle bus, bicycle, and/or trail.

To accommodate high visitor use, substantial facilities such as restrooms, parking lots, bus access and parking, and picnic tables can be provided at the entry point of the attraction area or another appropriate site. Facilities will be concentrated within the attraction area to minimize the extent of development and impacts. As a result, many areas within an Attraction zone will have a well-used trail, but minimal developed uses away from the entry "hub" or access point. Trails can be paved, fenced, and well-signed to reduce potential resource impacts. Visitor use in sensitive areas will be formalized and concentrated to avoid resource damage.

By encouraging higher visitor use in the Attraction zone, adjacent Open Space and Discovery zones will experience the desired lower visitor use for these areas. This zone also will ensure that visitors have the opportunity to enjoy the park's most popular features, some of which are designated scenic, recreational, or cultural Outstandingly Remarkable Values (e.g., views of granite domes, Wawona Covered Bridge).

Activities and Uses – The following uses will be typical in this zone:

- Hiking and walking
- Photography and nature study
- Sightseeing

- Stock use in specified locations
- Swimming and wading
- Fishing
- Rock climbing
- Bicycling (only in specified locations, to ensure visitor safety and resource protection)
- Full range of interpretive programs (e.g., ranger-led walks, talks)

Facilities – The following facilities are allowed in this zone:

- Roads (can be realigned or relocated where they do not adversely affect Outstandingly Remarkable Values)
- Day-visitor parking (to accommodate visitor access and administrative needs at high use areas)
- Bicycle trails
- Shuttle bus stops
- Support facilities such as restrooms, picnic tables, telephones, stables, and limited food services (where appropriate)
- Marked, maintained, and paved trails, including bike paths and interpretive trails (Trails can be hardened to direct visitors and minimize resource damage. Fences, boardwalks, walls, signs, and other features could be used to direct travel.)
- Interpretive centers
- Interpretive signs, exhibits, displays, and kiosks
- Utilities such as wells, utility lines, pump stations, and other facilities (where screened from view)
- Bridges where necessary for access, improved circulation, safety, and/or resource protection
- Limited utility crossings of the river (where necessary to support park operations)

The following are examples of facilities that are not allowed in this zone:

- Non-motorized watercraft launch and removal facilities
- Campgrounds and lodging

Category 3: Developed Zones

Carefully designed and located facilities are needed to meet the diverse needs of the many people who visit Yosemite National Park each year. The use of limited Developed zones provides sites for the facilities that enable the park to support its year-round visitor and employee populations and serve the needs of visitors. These include lodging, utilities, housing, and transportation facilities. Most of the Developed zones are located in areas that are currently, or that were previously, altered by development.

The purpose of the Developed zones is to direct high-impact activities and facilities to areas better able to withstand heavy use and/or already developed locations in order to further protect and enhance the hydrologic, biological, geologic, cultural, scenic, scientific, and recreation Outstandingly Remarkable Values in other parts of the corridor. The facilities allowed for in the Developed zones, such as campsites, lodging, day-visitor parking, operational facilities, and utilities are necessary to properly accommodate park visitors, many of whom are coming to experience the scenic, recreational, and other Outstandingly Remarkable Values of the Merced Wild and Scenic River.

While these zones can absorb the most concentrated visitor and administrative use, resource impacts will be minimized through design and siting of facilities, and the application of mitigation and restoration measures. These measures can include temporary or permanent fencing to reduce or exclude use in sensitive resource areas, revegetation with native species, and/or the prevention of the establishment of non-native species. Visitor use will be managed to reduce the potential impacts of concentrated use.

Higher levels of resource impacts (e.g., through the development of parking and other facilities) will be tolerated in specified areas within the Developed zones. In development areas, with more users and types of uses, there will be more site hardening and other management actions in order to maintain riparian areas, meadows, archeological sites, and other resources. While high-quality riparian habitat and meadows are not found in the Developed zones, use in these zones will be managed to prevent degradation or interference with the natural functions of adjacent zones. The free flow of the river will remain primarily unimpeded, with the exception of existing development such as historic

bridges in Yosemite Valley and riprap along the El Portal Road. Three management zones are defined within the Developed zones:

- Zone 3A: Camping
- Zone 3B: Visitor Base and Lodging
- Zone 3C: Park Operations and Administration (includes day-visitor parking)

Developed Zone Management Objectives

The overall management objectives for the Developed zones include:

- Manage for protection and enhancement of Outstandingly Remarkable Values
- Concentrate support facilities to reduce development pressure on the remainder of the river corridor
- Provide overnight accommodations, support services, and amenities for visitors
- Provide quality interpretive and educational programs
- Provide support facilities for park operations
- Provide transportation facilities designed for sustainability
- Manage for the protection of cultural resources and cultural Outstandingly Remarkable Values
- Implement natural resource mitigation and restoration to greatest extent feasible

3A. Camping

The Camping zone provides visitors with opportunities for both vehicle-access (or drive-to) camping and walk-in camping. Drive-to camping areas will include campsites with adjacent parking, providing convenient access to various facilities. Support facilities such as picnic tables and restrooms will be provided at camping areas. The Camping zone primarily supports the recreational Outstandingly Remarkable Values by ensuring access to diverse recreational activities near the Merced River. Most areas designated as Camping zones have been previously developed, including historic resources such as Camp 4 (Sunnyside Campground), which will be preserved under this zone. By concentrating relatively high-impact development to localized areas, this zone helps to protect and enhance natural and cultural resource Outstandingly Remarkable Values in the zone as a whole and in other parts of the river corridor.

Walk-in camping will provide an opportunity for visitors to camp away from vehicles, but retain access to facilities such as restrooms, water, and picnic tables. Campsites will be

accessed by relatively short and well-marked trails with directional and informational signs. In walk-in camping areas, visitors will have the opportunity to engage more directly with the natural environment of the Merced River corridor without the visual impacts of entry roads, parking lots, vehicles, or other major facilities.

While the Camping zone allows for both drive-to and walk-in camping, the less-intensive walk-in camping will be directed to more sensitive areas (e.g., North Pines), while drive-to camping will be directed to areas better able to withstand heavy use (e.g., Upper Pines). In both drive-to and walk-in camping areas, visitor encounters will be moderate to high in the relatively dense clusters of campsites. The Camping zone will be managed with moderate to high tolerance for resource impacts in localized areas. While a certain level of hardening for parking sites and trampling by campers is expected, use will be directed away from sensitive areas. River access will be provided via marked and potentially hardened trails to direct visitors to areas better able to withstand heavy use, such as annually (or regularly) flooded gravel bars.

Activities – The following activities will be typical in this zone:

- Overnight camping within designated campsites
- Hiking and walking
- Swimming and wading
- Fishing
- Sightseeing and photography
- Picnicking
- Bicycling (only in specified locations, to ensure visitor safety)

Facilities – The following facilities are allowed in this zone:

- Designated campsites (could be equipped with fire rings, picnic tables, nearby restroom facilities, and RV hookups)
- Roads and parking areas
- Shuttle bus stops
- Marked, maintained, and paved trails (fences, boardwalks, walls, footbridges, signs, and other features can be used to protect resources)
- Maintenance and administrative facilities needed to support campgrounds
- Directional, safety, informational, regulatory, or interpretive signs

- Bridges where necessary for access, improved circulation, safety, and/or resource protection
- Utilities such as wells, utility lines, pump stations, and other facilities (where screened from view)
- Interpretive facilities such as an amphitheaters

The following are examples of facilities that are not allowed in this zone:

- Lodging, food services, stores
- Administrative offices not associated with camping
- Maintenance facilities not associated with camping

3B. Visitor Base and Lodging

The Visitor Base and Lodging zone includes areas developed for visitor overnight use as well as support facilities and services such as orientation facilities, eating establishments, gift shops, and equipment rental. Most areas designated as Visitor Base and Lodging zones have been previously developed, including historic resources such as The Ahwahnee, Wawona Hotel, and LeConte Memorial Lodge, which will be preserved under this zone. The visitor can expect a bustling atmosphere in these areas, with high incidence of visitor encounters during peak-use times. Facilities and lodging areas will be easily accessible by shuttle bus, automobile, trail, and bicycle.

With its relatively intense level of development, a higher degree of resource impacts may be tolerated in localized areas within the Visitor Base and Lodging zone. Future projects in this zone will be designed to minimize the footprint of developed areas and to protect and restore adjacent natural and cultural resources. River access will be provided via marked and potentially hardened trails to direct visitors to areas most able to withstand heavy use, such as annually (or regularly) flooded gravel bars. Structures such as fences, boardwalks, or walls can be provided to reduce impacts on riparian areas from casual river access generated by nearby lodging facilities.

The Visitor Base and Lodging zone primarily supports recreational Outstandingly Remarkable Values by providing for visitor uses facilitated by development such as visitor centers, museums, and lodging, which enable visitors to access the park and learn about its natural and cultural resources. Additionally, by concentrating relatively high-impact development to localized areas, this zone will help to protect and enhance

natural and cultural resource Outstandingly Remarkable Values in the zone as a whole and in other parts of the river corridor.

Activities – The following activities will be typical in this zone:

- Lodging
- Hiking and walking
- Swimming and wading
- Fishing
- Sightseeing and photography
- Bicycling (only in specified locations, to ensure resource protection and visitor safety)
- Shopping
- Dining
- Full range of formal interpretation (e.g., slide shows, visitor center, walks)
- Marked, maintained, and paved trails

Facilities – The following facilities are allowed in this zone:

- Bicycle trails
- Visitor overnight accommodations (lodges, motel-type units, cabins, tent cabins)
- Fences, boardwalks, walls, signs, and other features to direct use and protect resources
- Visitor services (e.g., visitor center, museums, eating establishments, gift shops, equipment rental)
- Roads and parking areas
- Bus turnouts, stops, and parking
- Bridges where necessary for access, improved circulation, safety, and/or resource protection
- Utilities such as wells, pump stations, utility lines, and other facilities (screened from view)
- Interpretive facilities, such as amphitheaters
- Supporting operational facilities, such as employee housing, only where it is ancillary to the primary use
  (i.e., a small percentage of the total available area)

The following are examples of facilities that are not allowed in this zone:

- Administrative offices not associated with visitor base or lodging operations
- Maintenance facilities and major utilities not associated with visitor base or lodging operations
- Day-visitor parking/transit center

3C. Park Operations and Administration

The limited use of the Park Operations and Administration zone provides locations for facilities that support the efficient functioning of the park. Many areas designated as 3C have been previously developed, including historic resources such as the Chapel in Yosemite Valley, which will be preserved under this zone. The Park Operations and Administration zone will also provide opportunities for the management of private vehicles and public transit in the park, as well as interpretive centers that help visitors learn about the park's natural and cultural resources. Visitor use and experience of these zones will be limited. These areas will likely be relatively busy, with heavy impacts from vehicles and will be managed with a high tolerance for resource impacts in localized areas. New facilities will use sustainable design and construction principles to protect adjacent natural and cultural resources and would be subject to the criteria and considerations (see page 31).

The Park Operations and Administration zone will primarily support access to the recreational Outstandingly Remarkable Values of the Merced River by providing space for necessary park operations as well as for day-visitor parking. Additionally, by concentrating relatively high-impact development in localized areas, this zone will help to protect and enhance natural and cultural resources in the zone as a whole and in other parts of the river corridor.

Activities – The following activities will be typical in this zone:

- Administrative activities by park staff
- Maintenance and repair activities by park operations staff
- Transportation/transit-related activities
- Visitor orientation and interpretation near parking/transit areas
- Picnicking near parking/transit areas
- Bicycling (only in specified locations, to ensure visitor safety)
- Marked, maintained, and paved trails, including bike paths and interpretive trails

Facilities – The following facilities are allowed in this zone:

- Day-visitor parking/transit center
- Roads, paved and unpaved (In strictly administrative areas, roads could be dirt or paved and closed to non-administrative traffic.)
- Support facilities (including park administrative offices, employee housing, storage, construction staging areas, and utilities such as wastewater treatment plants, sprayfields for reclaimed water, domestic water supply, power plants, and other facilities)
- Interpretive facilities
- Visitor support facilities such as restrooms, picnic tables, telephones, food services, bike rental, small gift shops, showers, and lockers for visitors and employees
- Park information and orientation signs, exhibits, and kiosks
- Bridges where necessary for access, improved circulation, safety, and/or resource protection

The following are examples of facilities that are not allowed in this zone:

- Campgrounds and lodging for visitors

Management Zoning Application

This section describes the application of the management zones to the river corridor by segment. The zoning is also illustrated in figures 4 to 7. Following the segment-by-segment zoning descriptions is a brief discussion of the *Merced River Plan* intent regarding the removal of historic bridges, use of non-motorized watercraft, treatment of private property, and identification of additional studies to assist in future management.

Wilderness (Main Stem)

Boundary: 1/4 mile
Classification: Wild

Starting high in the alpine reaches of the park, the four primary forks of the Merced River flow through an alpine landscape with scant human presence. These tributaries are currently crossed by trails in seven locations (zoned 1B), with one bridge on the lower Merced Peak Fork. Areas zoned Untrailed (1A) have no marked or maintained trails or other facilities beyond small, dispersed campsites in some areas. The tributary areas are characterized by very low visitor use and very little resource impact. This low level of use will protect special-status species and other biological Outstandingly Remarkable Values. These areas also provide outstanding opportunities for solitude, and primitive and unconfined recreation (a recreational Outstandingly Remarkable Value).

In the Trailed Travel zone (1B) between the headwaters and the popular wilderness camping sites at Merced Lake High Sierra Camp and Little Yosemite Valley Campground, visitors are expected to engage in recreational activities such as day hiking, backpacking, horseback riding and packing, and camping in a riverine environment, which are recognized as recreational Outstandingly Remarkable Values.

At the Merced Lake High Sierra Camp, Backpackers Campground, and Little Yosemite Valley Campground (including Moraine Dome Campground), visitors will find a group atmosphere and various facilities, such as lodging at Merced Lake High Sierra Camp and designated campsites and toilets at Merced Lake and Little Yosemite Valley Campgrounds. Zoning in and around the campgrounds is Designated Overnight (1D). This zoning allows for continued use of historic High Sierra Camp structures, which are cultural Outstandingly Remarkable Values. The intent of the Designated Overnight areas is also to keep higher-impact activities confined to small areas in order to improve

protection of natural and cultural resources (e.g., riparian habitat, archeological sites) in the remainder of the river corridor.

On the final descent from the wilderness toward Nevada Fall, the north side of the river corridor, zoned Heavy Use Trail (1C), is characterized by trails that are increasingly maintained and developed, with fairly frequent visitor and park staff encounters. This area provides a diversity of recreational opportunities such as hiking and enjoyment of natural river sounds, which are recognized as recreation Outstandingly Remarkable Values.

The River Protection Overlay will protect and enhance hydrologic-process Outstandingly Remarkable Values, such as glacial remnants, cascades, and a logjam in Little Yosemite Valley that is hundreds of years old. The River Protection Overlay will also protect and enhance scenic Outstandingly Remarkable Values that are located in the riverway (e.g., Merced Lake, Washburn Lake, and the Bunnell Cascades).

East Yosemite Valley (Main Stem)

Boundary: 1/4 mile
Classification: Recreational

The base zoning for the east Valley (from Happy Isles to Sentinel Beach) is Day Use (2C). The area is available for a variety of recreational and educational activities such as nature study, hiking, swimming, fishing, and picnicking, which are part of the recreational Outstandingly Remarkable Values in this segment. Facilities could include some roads, improved trails, shuttle bus stops, restrooms, picnic tables, non-motorized watercraft launch and removal facilities, and other facilities to support active individual and group recreation uses and access to the river. The fen at Happy Isles and other unique wetlands are protected under the restrictive Open Space zoning (2A). Leidig Meadow and areas south of Southside Drive, including Sentinel Meadow, are zoned Discovery (2B) to reduce visitor impacts to these sensitive resources. Other areas, such as the stretch of the river corridor from Nevada Fall to Happy Isles, is zoned Attraction (2D) to allow high levels of visitation to this popular area and provide for adequate facilities to accommodate concentrated numbers of visitors. Primary visitor-serving facilities for the Nevada Fall to Happy Isles segment will be sited near the trailhead at Happy Isles. Formal interpretive programs, such as tours for larger groups, could be available, with visitor-serving facilities and numerous encounters with other visitors and park staff.

The zoning allows for camping at historic Camp 4 (Sunnyside Campground), and at North Pines, Lower and Upper Pines, and Yellow Pine Campgrounds. Housekeeping Camp, zoned Visitor Base and Lodging (3B), could continue to provide a lower cost, family-oriented camp setting, with tent cabins that have electricity and grills. However, the application of the River Protection Overlay could, in the future, trigger a reduction in the extent of Housekeeping Camp due to its proximity to the river. By encouraging such restoration efforts, the River Protection Overlay is particularly important for the protection and enhancement of hydrologic process Outstandingly Remarkable Values in this segment, which recognize the meandering flow of the river. Yosemite Lodge, The Ahwahnee, and the LeConte Memorial Lodge are also zoned Visitor Base and Lodging. Yosemite Village is zoned for Park Operations and Administration to allow for the existing mix of visitor services and park operations. Camp 6 is provisionally zoned to allow for a day-visitor parking facility (Park Operations and Administration – 3C). However, if such a facility were determined not to be needed or were located elsewhere, the Camp 6 area would convert to the surrounding base zone of Day Use (2C) and would not be used for park operations purposes.

West Yosemite Valley (Main Stem)

Boundary: 1/4 mile
Classification: Scenic

The base zoning in the area between Sentinel Beach and Pohono Bridge is Discovery (2B). This zoning provides opportunities for self-directed, reflective, and quiet engagement with the river corridor. The zoning intends for reduced visitor use and more limited facilities, such as turnouts, small restrooms, and trails, in order to protect the riparian areas and low-elevation meadows identified as biological Outstandingly Remarkable Values of this segment. Unique wetlands are also protected under the Open Space (2A) zoning. Recreational opportunities of less intensity are available here, contributing to the protection of the recreation Outstandingly Remarkable Value. However, concentrated visitor use occurs at several popular destinations, such as Bridalveil Fall and Tunnel View (zoned 2D – Attraction), and at areas such as Cathedral Beach, Sentinel Beach, and El Capitan Picnic Area, zoned Day Use (2C). In these more intensive-use areas, roads, paved paths, restrooms, and other facilities can be provided. Yellow Pine Campground is double-zoned, which allows for its continued use as a park volunteer campground or for visitor camping in the future.

The Taft Toe area is provisionally zoned to allow for a transit center/day-visitor parking facility. However, if such a facility were located elsewhere, the Taft Toe area would convert to the base zone of Discovery (2B) and would not be used for park operations purposes. West of Taft Toe, a section of the corridor is zoned Park Operations and Administration (3C) in order to accommodate a potential traffic check station at that location. The intent of focusing use in this area is to help alleviate traffic and congestion in the remainder of the Valley. This zoning would not only assist in meeting *General Management Plan* goals, but would facilitate greater levels of protection and enhancement of Outstandingly Remarkable Values elsewhere in the river corridor. The woodlot and Pohono Quarry are also zoned Park Operations and Administration (3C). The corridor includes portions of the wilderness area above the Valley floor, zoned Untrailed (1A) or Trailed Travel (1B), as appropriate.

Gorge, including Cascades Diversion Dam (Main Stem)

Boundary: 1/4 mile
Classification: Scenic, except at Cascades Diversion Dam where it is Recreational

The base zoning of the gorge segment is a mix of Discovery (2B) and Open Space (2A). These zones protect and enhance the scenic, biological, hydrologic, and cultural Outstandingly Remarkable Values in this segment, which include views of spectacular rapids, waterfalls, and rock formations, intact riparian habitat and associated special-status species, and prehistoric and historic sites and structures. The north side of the river is zoned Discovery (2B); access and activities are self-directed for swimming, fishing, and nature observation by individuals and small groups. There could be some roadway turnouts and developed trails. South of the river, the Open Space (2A) areas are characterized by largely undisturbed natural conditions and limited visitor access. Below the Cascades area, the south side of the river is zoned Undeveloped Open Space (2A+) to ensure it remains relatively undisturbed, without roads, trails, utilities, or other facilities. This area is also the site of a valuable live oak research area. Opportunities for solitude is great in these areas due to low levels of visitation, and consequently, protection of the natural and cultural resources of the river corridor will be extensive.

At the Cascades, zoned Attraction (2D), easy access to recreational Outstandingly Remarkable Values, such as viewing the river and Cascades, picnicking, and sightseeing, allows for more concentrated visitor use. The zoning also allows for continued use of the park entrance station at Arch Rock. However, if the entrance station were eventually relocated, this area would become a Day Use zone (2C). The

Cascades powerhouse above the Cascades area is zoned for Park Operations and Administration (3C). The powerhouse is also a substation and is a critical operation for electric service to Yosemite Valley.

The removal of the Cascades Diversion Dam is allowed by the zoning and would enhance the free-flowing condition of the river as well as allow for the segment to be reclassified from a Recreational to a Scenic river. The removal of an impoundment would be considered a water resources project under Section 7 of the Wild and Scenic Rivers Act, and the project must undergo the Section 7 determination process previously outlined in this chapter. Additional site-specific environmental review would also be conducted for such a project.

El Portal (Main Stem)

Boundary: 100-year floodplain or the extent of the River Protection Overlay, whichever is greater
Classification: Recreational

The base zone through much of the El Portal Administrative Site is Day Use (2C), supporting relatively concentrated and active recreational uses such as swimming, picnicking, fishing, and white-water rafting. The continuous rapids are recognized as hydrologic process Outstandingly Remarkable Values, and associated white-water rafting and kayaking opportunities are recognized as recreational Outstandingly Remarkable Values of this segment. In this area, the river gradient is less steep, providing easier access to swimming holes and fishing for residents and visitors. A number of park administrative facilities, including employee housing, offices, a warehouse, and wastewater treatment plant, are allowed in this segment and are visible from the road and the river. The Park Operations and Administration zoning (3C) allows for expansion of park-related facilities, such as employee housing, to enable such facilities to be relocated from Yosemite Valley. (See the El Portal Administrative Site enabling legislation discussion on page 22.) The concentration of high-intensity administrative uses in El Portal allows for increased protection and enhancement of natural and cultural resource Outstandingly Remarkable Values for the remainder of the river corridor.

Although the 100-year floodplain boundary is used in this segment instead of the quarter-mile boundary, the Outstandingly Remarkable Values are still required to be protected, even when they are located outside the boundary. In addition, the El Portal Administrative Site was established by legislation to accommodate administrative

functions required to support Yosemite National Park; by allowing removal of these uses from Yosemite Valley, river-related sensitive resources in Yosemite Valley can be further protected and enhanced.

Wilderness (South Fork)

Boundary: 1/4 mile
Classification: Wild

The majority of wilderness areas on the South Fork of the Merced River are designated Untrailed zones (1A) to maintain their pristine character and lack of facilities. On sections zoned Trailed Travel (1B) (where hiking trails cross the river or parallel it for a short distance), visitors hike in the corridor and have access to marked trails with directional signs. In this segment, visitors can enjoy river-related recreational values, including primitive and unconfined recreation and enjoyment of natural river sounds. By limiting visitor access and use, the zoning ensures that solitude-based enjoyment of the corridor is protected and enhanced. Limited visitor use also provides protection and enhancement of the segment's biological, hydrologic, cultural, and scenic Outstandingly Remarkable Values, which include the diverse riverine environment, free-flowing condition, excellent water quality, prehistoric sites, and views of unique features such as pothole pools within slick rock cascades, old growth forest, and meadows.

Wawona (South Fork)

Boundary: 1/4 mile
Classification: Recreational, including the Impoundment; Wild below Wawona Campground

The Wawona segment encompasses the South Fork from the Wawona Impoundment to the park boundary, including parts of Section 35, which contains numerous privately owned properties. Private land within the river corridor is not subject to zoning under this plan. Zoning designations shown in figure 7 apply only to publicly held property. However, the National Park Service will work with Mariposa County and the local community to ensure that river-related values are protected.

The base zone designation for the area between the Wawona Impoundment and Squirrel Creek is Discovery (2B), providing self-directed access to the river for swimming, fishing, and nature observation. The relatively low level of development and use prescribed by the Discovery zone protects and enhances the biological, cultural, and scenic Outstandingly Remarkable Values of the segment, which include a diversity of riparian habitat, wetlands, prehistoric and historic archeological sites, and views of Wawona

Dome. Support facilities in the 2B zone can include roads, occasional turnouts, and improved trails. The area south of the river between the Wawona Golf Course and Squirrel Creek is zoned Open Space (2A) to protect its relatively undisturbed natural condition. Areas zoned for more intense uses include the Wawona Campground (zoned Camping – 3A), the Pioneer Yosemite History Center (zoned Attraction – 2D), Wawona Picnic Area (zoned Day Use – 2C), and the historic Wawona Hotel (zoned Visitor Base and Lodging – 3B). The historic Wawona Golf Course is zoned Day Use (2C) to allow its continued recreational use. The golf course also serves as a sprayfield for reclaimed water. Both of these uses are permissible under the zoning.

The wastewater treatment plant and maintenance facility is zoned Park Operations and Administration (3C) to allow for continued use of these functions. Maintenance areas within the River Protection Overlay could be removed to restore the immediate riparian area. The vicinity of the Wawona Impoundment is zoned Park Operations and Administration (3C) to allow continued use of the site as a domestic drinking water supply facility. The impoundment may be removed if an alternate water supply can be secured. If removed, the area would revert to its background zoning (2B).

In Section 35 in Wawona, though zoned primarily as 3C, Park Operations and Administration, it is the intent of the National Park Service that any other development for administration or operations in Section 35 north of the South Fork of the Merced River be compatible in character, density, and scale to existing residential and commercial development in Section 35.

For the area zoned jointly 3A/3C on the south side of the South Fork of the Merced River in Section 35, should the National Park Service determine that new, high density housing is not required to be located in this zone, it is the intent of the National Park Service that any development for administration or operations in this zone be compatible in character, density, and scale to existing residential and commercial development in Section 35. The potential use of this zone (as described under management zone 3A) will not change.

Below the Wawona Campground, the river corridor is zoned Undeveloped Open Space (2A+) to protect its relatively undisturbed natural condition. The zoning protects and enhances scenic, biological, recreational, cultural, and hydrologic process Outstandingly Remarkable Values, which include views of the undisturbed river canyon, opportunities

for solitude and enjoyment of natural river sounds, diverse riparian areas, and archeological sites. No trails, roads, utilities, signs, or other facilities will be constructed in this zone.

The Wawona Impoundment on the South Fork could be removed if an adequate, feasible, and safe water supply alternative could be implemented. The removal of the Impoundment would improve the free-flowing condition of the river and allow for the segment to be reclassified from a Recreational to a Scenic river. The removal of an impoundment would be considered a water resources project under Section 7 of the Wild and Scenic Rivers Act, and the project must undergo the Section 7 determination process previously outlined. Additional site-specific environmental review would also be conducted for such a project.

All Segments

Historic Bridges. A number of bridges spanning the Merced River in Yosemite Valley are eligible for or listed on the National Register of Historic Places. As nationally significant, river-related historic structures, these bridges are included as components of cultural Outstandingly Remarkable Values of the Merced River. Some of these bridges have been found to impede the free flow of the river. These bridges, as well as nonhistoric bridges, could be removed under this plan. Such action would not take place without a thorough evaluation of the project to determine whether the adverse impacts to the cultural Outstandingly Remarkable Value were justified by a significant improvement in the free-flowing condition of the Merced River. Any removal of a historic bridge will require a Wild and Scenic River Section 7 determination and compliance with the National Historic Preservation Act and the National Environmental Policy Act.

Non-Motorized Watercraft. The *Merced River Plan* does not restrict the use of non-motorized watercraft, such as rafts and kayaks, on any segment of the river. Boating activities, along with all other visitor uses, will be monitored through the VERP process to assure that the free-flowing condition of the river and its Outstandingly Remarkable Values are not degraded. For example, individuals can continue to kayak, by permit, from Sentinel Beach Picnic Area to Pohono Bridge. In addition, kayaking is allowed downstream of Swinging Bridge (South Fork) and from Stoneman to Sentinel Bridges without a permit under specified conditions.

Regulation of non-motorized watercraft use will continue under National Park Service regulations, park policies, and standard operating procedures, as appropriate, to ensure visitor safety and protection of natural river processes. Additionally, as a result of the VERP framework, the National Park Service may manage or restrict use of non-motorized watercraft to address impacts associated with visitor use and achieve desired resource conditions and desired visitor experiences.

Management zoning under the *Merced River Plan* guides the development of facilities for watercraft launch and removal. Such facilities are allowed only in the Day Use zone (see the Management Zoning Prescriptions on page 74).

Private Property. Private property within the river corridor is not zoned by the *Merced River Plan*. The Secretary of the Interior is authorized to acquire lands and interests in lands within the authorized boundaries of the main stem and South Fork of the Merced River under Section 6(a) of the Wild and Scenic Rivers Act, and to use condemnation to acquire easements on lands within the corridor when necessary. However, it is the intent of the National Park Service to work cooperatively with private landowners whenever possible within the corridor to ensure that the Outstandingly Remarkable Values of the river segment are protected and enhanced.

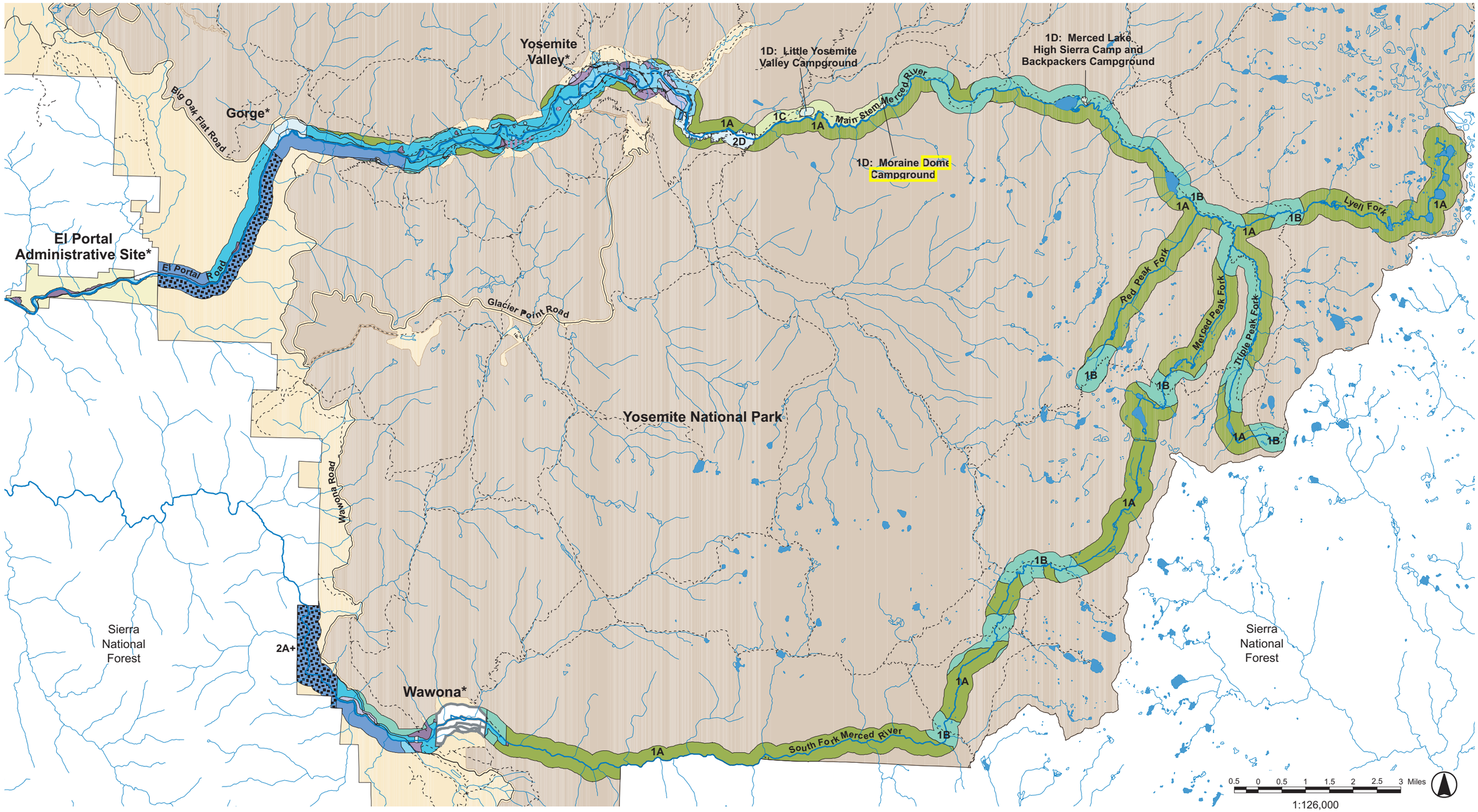
Section 10(e) of the Wild and Scenic Rivers Act allows federal agencies to enter cooperative agreements with state and local governments in the administration of a river segment. While no incorporated cities exist within the corridor, it is the intent of the National Park Service to work with Mariposa County during the development of any future zoning ordinances to ensure that such zoning is consistent with the purposes of the Wild and Scenic Rivers Act. The graphics used in this plan depict the general area of private properties in the corridor, but do not delineate precise parcel boundaries.

Additional Studies. The National Park Service has identified other studies, listed below, that could be conducted to provide updated information to the *Merced River Plan* and assist in future management.

(1) El Capitan Moraine Restoration Feasibility Study: This study would analyze the technical feasibility and likely consequences of restoring the moraine near the El Capitan Meadow to its historic condition.

(2) Wawona Alternative Water Sources: This study would examine alternative water supply sources for Wawona to potentially allow the impoundment to be removed.

(3) Cultural Landscape Study for Wawona: This study would assess the various cultural landscapes in Wawona to determine future needs for protection, restoration, or modification.



Roads
Trails
Merced River and Forks
Tributaries
Lakes
Non Wilderness
Potential Wilderness
Wilderness

Wilderness Zones
- 1A - Untrailed
- 1B - Trailed Travel
- 1C - Heavy Use Trail
- 1D - Designated Overnight

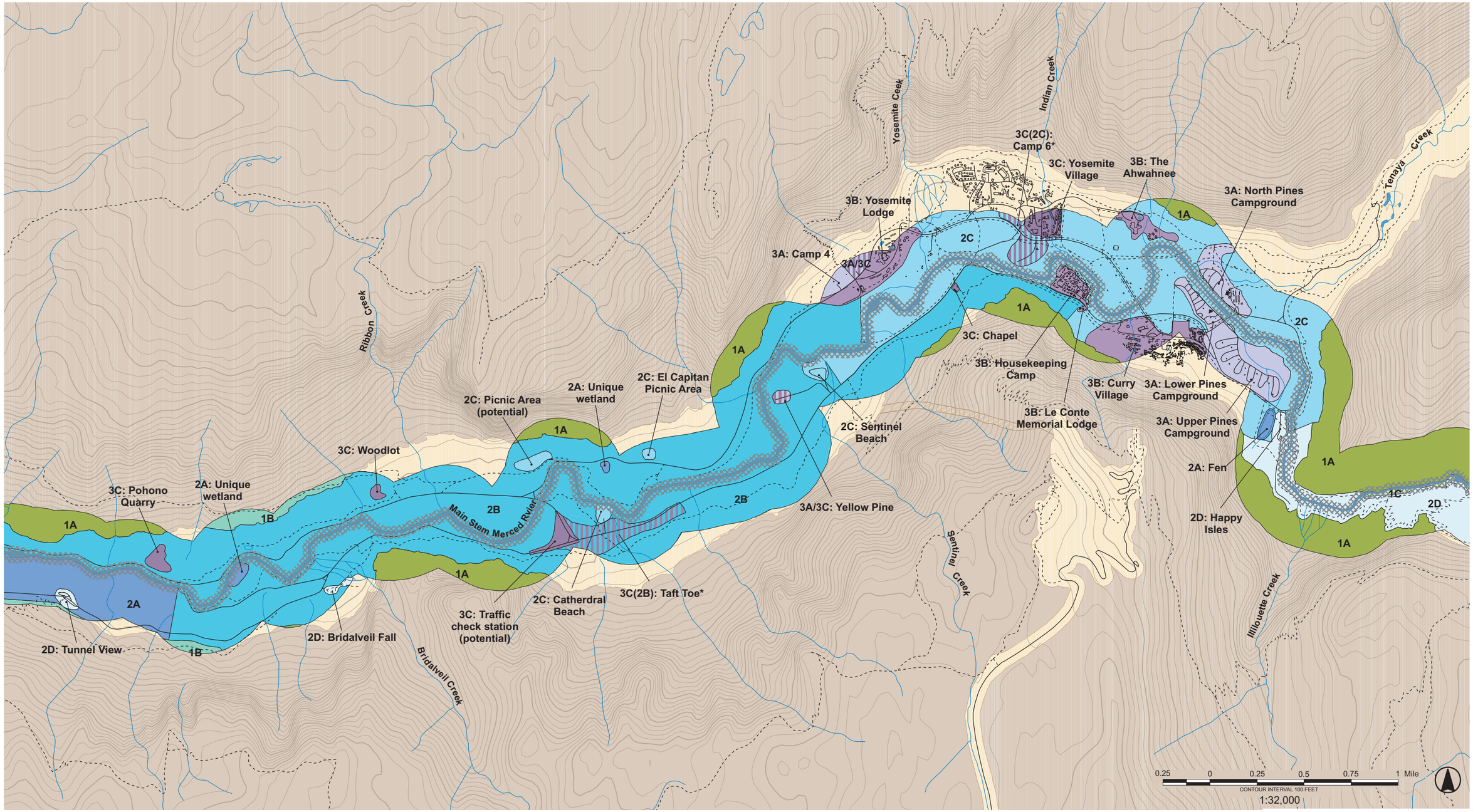
Diverse Visitor Experience Zones
- 2A - Open Space
- 2A+ - Undevelped Open Space
- 2B - Discovery
- 2C - Day Use
- 2D - Attraction

Developed Zones
- 3A - Camping
- 3B - Visitor Base and Lodging
- 3C - Park Operations & Administration (includes day-visitor parking)

River Protection Overlay not shown

*See detail maps on following pages.

Figure 4
Management Zones



Roads
Trails
Merced River and Forks
Tributaries
Lakes
Non Wilderness
Potential Wilderness
Wilderness

Wilderness Zones

- 1A - Untrailed
- 1B - Trailed Travel
- 1C - Heavy Use Trail
- 1D - Designated Overnight

Diverse Visitor Experience Zones

- 2A - Open Space
- 2A+ - Undeveloped Open Space
- 2B - Discovery
- 2C - Day Use
- 2D - Attraction

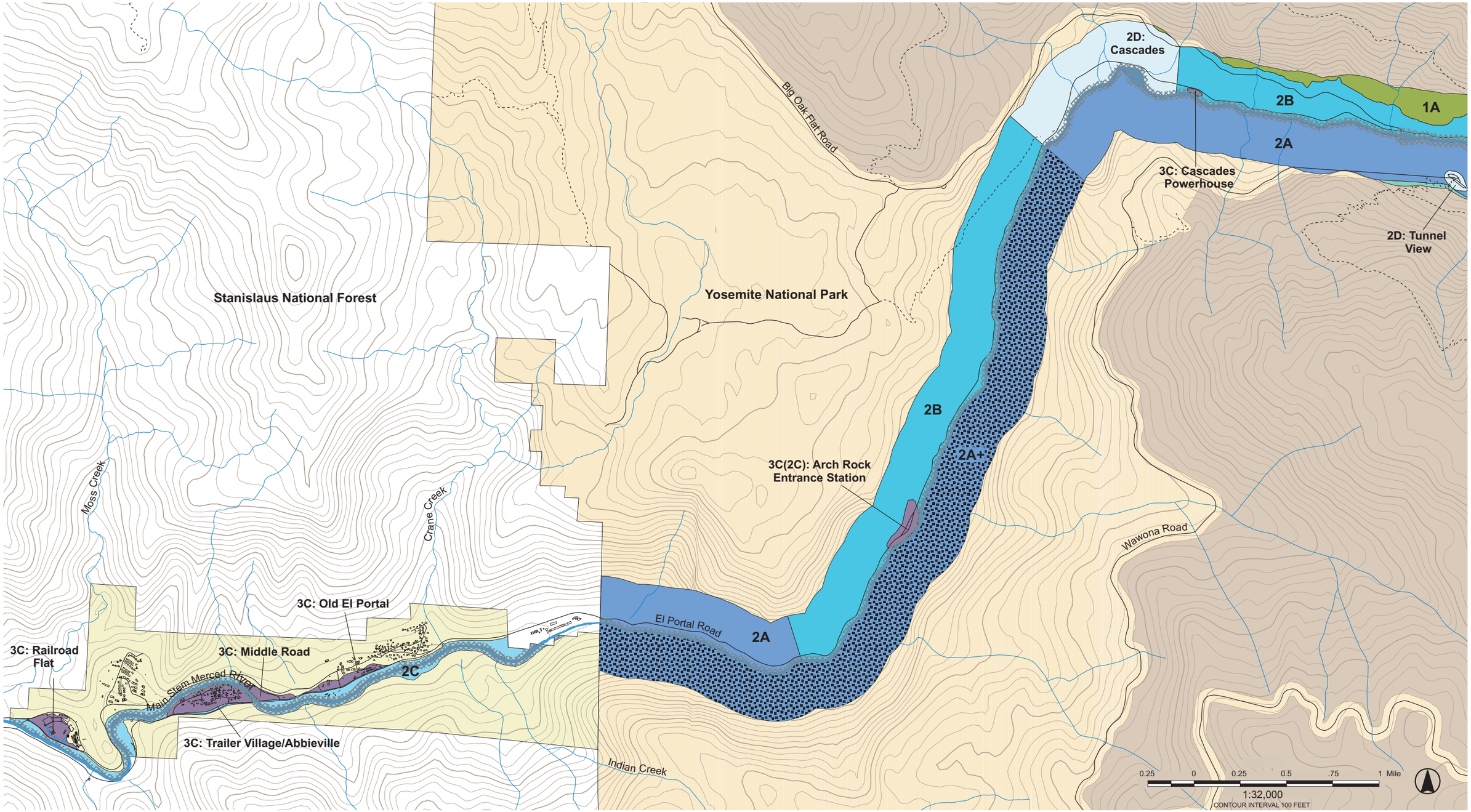
Developed Zones

- 3A - Camping
- 3B+ -Visitor Base and Lodging
- 3C - Park Operations & Administration (includes day-visitor parking)

River Protection Overlay

* Either Camp 6 or Taft Toe may be used as day-visitor parking.
If Taft Toe is selected, Camp 6 would revert to 2C. If Camp 6 is selected, Taft Toe would revert to 2B.
If a different site is selected, both would revert to their respective base zones.

Figure 5
Management Zones
Yosemite Valley



- Roads
- Trails
- Merced River and Forks
- Tributaries
- Lakes
- Non Wilderness
- Potential Wilderness
- Wilderness
- El Portal Administrative Site

- 1A - Untrailed
- 1B - Trailed Travel
- 1C - Heavy Use Trail
- 1D - Designated Overnight

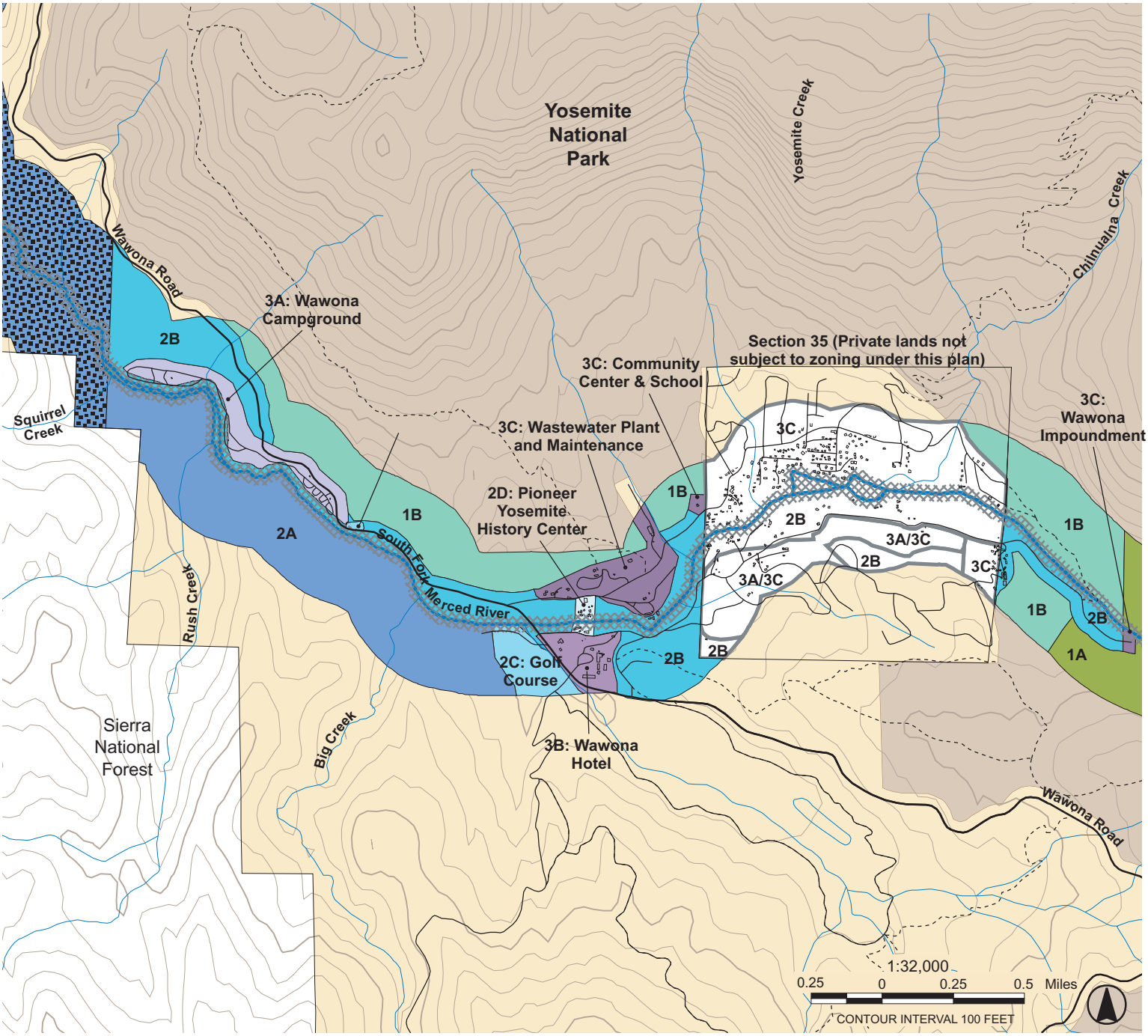
- 2A - Open Space
- 2A+ - Undeveloped Open Space
- 2B - Discovery
- 2C - Day Use
- 2D - Attraction

- 3A - Camping
- 3B - Visitor Base and Lodging
- 3C - Park Operations & Administration (includes day-visitor parking)

- River Protection Overlay

Corridor boundary defined by 100-year floodplain for the Merced River in El Portal (not including influence of tributary creeks), plus meadows and wetlands.

Figure 6
Management Zones
El Portal and Gorge



Roads
Trails
Merced River and Forks
Tributaries
Lakes
Non Wilderness
Wilderness

Wilderness Zones
1A - Untrailed
1B - Trailed Travel
1C - Heavy Use Trail
1D - Designated Overnight

Diverse Visitor Experience Zones
2A - Open Space
2A+ - Undeveloped Open Space
2B - Discover
2C - Day Use
2D - Attraction

Developed Zones
3A - Camping
3B - Visitor Base and Lodging
3C - Park Operations & Administration

Other
River Protection Overlay

3C zoning in Section 35 would be compatible in character, density, and scale to existing residential and commercial development.

Figure 7
Management Zones
Wawona

Visitor Experience and Resource Protection

Purpose

The Visitor Experience and Resource Protection (VERP) framework is a tool developed by the National Park Service to address user capacities and is adopted by the *Merced River Plan* to meet the requirements of the Wild and Scenic Rivers Act. It protects both park resources and visitor experience from impacts associated with visitor use, and helps managers address visitor use issues. The VERP framework is an ongoing, iterative process of determining desired conditions (including desired cultural resource conditions, desired natural resource conditions, and desired visitor experiences), selecting and monitoring indicators and standards that reflect these desired conditions, and taking management action when the desired conditions are not being realized. VERP is a decision-making framework, but does not diminish management's role in decision-making; in fact, management would have to make crucial decisions in determining desired conditions, choosing appropriate management action, and assessing occasional overlap between protecting park resources and providing for visitor experiences.

For the purposes of this plan, the VERP framework will be used as a form of adaptive management. Adaptive management requires a continual learning process, a reiterative evaluation of goals and approaches, and redirection based on an increased information base and changing public expectations (Baskerville 1985). Knowledge and understanding of visitor use issues will improve and evolve over time, and management actions will adapt accordingly. Continual hypothesis testing, data collection, and data analysis will likely result in refinement of desired conditions and, accordingly, refinement of indicators and standards. The implementation of the VERP framework for the Merced Wild and Scenic River corridor will focus on protecting the Outstandingly Remarkable Values and would dovetail with future implementation of the VERP framework outside the river corridor.

One of the methods through which the *Merced River Plan* fulfills the requirement of the Wild and Scenic Rivers Act to address user capacities is the adoption of the VERP framework. The following section provides an overview of the VERP framework, describes

how it will be implemented, and gives examples of desired conditions, indicators, standards, and the type of management actions that could result from implementation of the VERP framework.

The User Capacity Mandate

In 1992, the National Park Service began developing the VERP framework to address visitor management and user capacity issues within the National Park System. The National Park Service is required by law to address user capacity in planning for parks. Relevant legislation and guidelines include the National Parks and Recreation Act, the Wild and Scenic Rivers Act, and the 1982 Wild and Scenic Rivers Guidelines. These are briefly summarized below.

Photo by Matt Trask

Swinging Bridge, Wawona

1978 National Parks and Recreation Act (Public Law 95-625). Requires each park's general management plan to include "identification of and implementation commitments for visitor carrying capacities for all areas of the [park]."

Wild and Scenic Rivers Act, §10(a). "Each component of the National Wild and Scenic Rivers System shall be administered in such a manner as to protect and enhance the values which cause it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration, primary emphasis shall be given to protecting its aesthetic, scenic, historic, archeologic, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development of the special attributes of the area."

Wild and Scenic Rivers Act, §3(d)(1). "The [comprehensive management plan] shall address resource protection, development of lands and facilities, user capacities, and other management practices necessary or desirable to achieve the purpose of this act."

1982 Interagency Guidelines on the Wild and Scenic Rivers Act. Defines user capacity as: "the quantity of recreation use which an area can sustain without adverse impact on the Outstandingly Remarkable Values and free-flowing character of the river area, the quality of recreation experience, and public health and safety."

In the VERP framework, user capacity is defined as: "The type and level of visitor use that can be accommodated while sustaining the desired resource and social conditions that complement the purposes of the park units and their management objectives." VERP addresses user capacity by prescribing desired conditions, not by prescribing maximum visitor use (e.g., numbers of people). Monitoring of the desired conditions replaces the monitoring of maximum visitor use. Based on the desired conditions, VERP will identify the types and levels of visitor use that are appropriate, with particular focus on the protection of Outstandingly Remarkable Values.

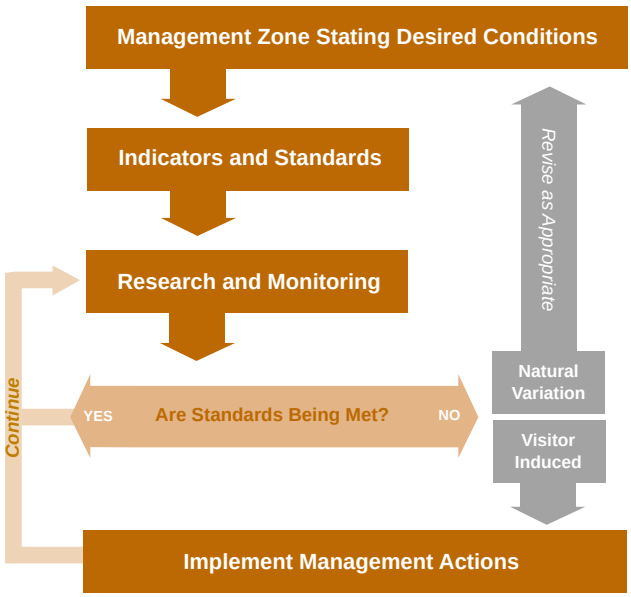
Overview of the VERP Framework

The VERP framework consists of nine elements,[4] four of which are key: (1) determination of desired conditions, which are part of the management zoning prescriptions; (2) selection of indicators and standards that reflect the desired conditions; (3) monitoring of the indicators and standards; and (4) implementation of management action when the desired conditions are violated or when conditions are deteriorating and preventive measures are available. Together, these elements will help park managers make decisions about visitor use and resource protection. Figure 8 illustrates the VERP process.

[4] See the *Visitor Experience and Resource Protection (VERP) Framework: A Handbook for Planners and Managers* for a discussion of the nine elements of VERP (1997a).

Desired Conditions and Management Zones

Figure 8
VERP Process



The VERP framework relies on the concept of desired conditions, which are contained in the management zoning prescriptions and identify how different areas in the river corridor would be managed. Each management zone prescribes a set of desired resource conditions, desired visitor experiences, and types and levels of uses. The *Merced River Plan* management zoning is designed to protect and enhance the Outstandingly Remarkable Values and free-flowing condition of the Merced River. Desired conditions focus on the Outstandingly Remarkable Values and guide the protection and enhancement of those values, and can be refined over time as knowledge and understanding of conditions and issues improve.

In order to implement VERP over the diverse array of ecological types that occur within the river corridor, desired conditions will be developed for each combination of *Merced River Plan* management zones and ecological types (e.g., upper montane coniferous forest, grassland/meadow/herbaceous, etc.).

Indicators and Standards

A major premise of VERP is that desired conditions, which are qualitative in nature, can be translated into measurable indicators and standards. Indicators and standards reflect desired conditions and enable park management to determine whether or not desired conditions are being realized. "Indicators," which are measurable variables, are determined first; "standards" are the acceptable measurements (i.e., values) for that indicator. Desired conditions for each combination of management zone and ecological type would have specific indicators and standards developed. Resource indicators

TABLE 3
Example Indicators and Standards

Sample Hydrologic Process Outstandingly Remarkable Value Indicators and Standards	
Indicator:	Fecal Coliform Bacteria (pristine water quality Outstandingly Remarkable Value)
Standard:	Fecal coliform bacteria should not exceed a geometric mean of 200/100 ml based on five samples for any 30-day period
Indicator:	Dissolved Oxygen Content (pristine water quality Outstandingly Remarkable Value)
Standard:	The dissolved oxygen concentrations should not be reduced below 5.0 mg/l for waters designated as warm waters nor 7.0 mg/l for waters designated cold waters or spawning waters
Indicator:	Water/Stream Turbidity (pristine water quality Outstandingly Remarkable Value)
Standard:	Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU; where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20%; where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs; where natural turbidity is over 100 NTUs, increases shall not exceed 10%

Sample Biological Resource Outstandingly Remarkable Value Indicators and Standards	
Indicator:	The amount of bare ground or exposed roots within riverine habitats (generic biological resource Outstandingly Remarkable Value)
Standard:	No more than 10% of a 100 square foot use area shall be composed of bare ground or exposed roots as compared to a similar natural area

Sample Cultural Resource Outstandingly Remarkable Value Indicators and Standards	
Indicator:	The amount of soil compaction or soil loss (generic cultural resource Outstandingly Remarkable Value)
Standard:	No more than 5% soil loss within a 100-square-foot use as compared to a similar natural area

Sample Recreation Outstandingly Remarkable Value Indicators and Standards	
Indicator:	The number of visitors encountered upon a trail in a specified period of time (generic recreation Outstandingly Remarkable Value)
Standard:	The number of encounters is at a level visitors would find desirable (e.g., an average of no more than 5 groups within sight and sound along the trail at any given time)
Indicator:	The number of people at one time at a park feature (e.g., the Lower Yosemite Fall Bridge - generic recreation Outstandingly Remarkable Value)
Standard:	The number of people is within a level visitors would find tolerable (e.g., an average of no more than 25 groups at a park feature at any given time)
Indicator:	The number of people encountered while floating on the river during a specific period of time (generic recreation Outstandingly Remarkable Value)
Standard:	The number of encounters is at a level visitors would find acceptable (e.g., an average of no more than 10 groups are encountered at any given time)

measure impacts to the cultural, biological, and/or physical resources from visitor use. Social indicators measure impacts to the visitor experience caused by interactions with other visitors. Indicators should be specific, objective, reliable, related, responsive, nondestructive, sensitive to visitor use, and should address Outstandingly Remarkable Values. Standards should be quantitative, measurable, and feasible.

Table 3 on page 107 presents example indicators and standards for the Outstandingly Remarkable Values. These data are included for information purposes only and do not reflect approved indicators or standards.

Monitoring

Detailed monitoring protocols will be developed for each standard to ensure accurate, valid data. Monitoring would begin as soon as a standard is selected and a monitoring protocol is developed.

Management Actions

If monitoring reveals that a standard associated with a indicator is being violated, then desired conditions may not be realized and management action will be initiated. Management action can determine that the violation of the standard is caused by natural variation and that the standard needs to be adjusted or a new indicator and standard selected to better reflect desired conditions. Actions to manage or limit visitor use will be implemented when the standard is violated due to impacts associated with visitor use. Management could include the following (this list is subject to revision):

- Site management (e.g., facility design, barriers, site hardening, area/facility closure, redirection of visitors to suitable sites)
- Regulation (e.g., the number of people/stock, the location or time of visits, permitted activities, or allowable equipment)
- Enforcement of regulations (e.g., patrols, notification, citations)
- Education (e.g., information signs and exhibits, interpretive programs, visitor center exhibits, brochures and fliers, public meetings, meetings with user groups)
- Altering access (e.g., parking in proximity to sensitive resources, shuttle stops, bicycle access, etc.)

Management action will comply with the requirements of the National Environmental Policy Act, the National Historic Preservation Act, and other applicable legislation.

Existing Management Actions

There are a number of existing policies and ongoing management actions that address user capacities and protect the Outstandingly Remarkable Values of the Merced Wild and Scenic River. These policies and management actions would continue and may be modified while the VERP framework is being developed and implemented for the Merced River corridor.

- Federal and state laws, Title 36 of the Code of Federal Regulations, and park-specific regulations based on the authority of 36 CFR (i.e., the Superintendent's Compendium) serve to protect Outstandingly Remarkable Values and address user capacities. These regulations include the ability to close specific areas to protect resources and address fishing, wildlife or plant collection, camping, sanitation and refuse, stock use, boating, swimming, bathing, noise, and commercial operations. An example of how the regulations have been applied to protect Outstandingly Remarkable Values is the closure of Cathedral Beach as a commercial raft removal point, which was closed to protect the riverbank.
- User capacities in designated Wilderness are addressed through the existing overnight trailhead quota system and limits on group size and number of stock allowed. This system was developed with the goal of protecting resources, and continued monitoring of resource conditions allows for modification of the quotas.
- Areas within and adjacent to the river corridor that have been restored or rehabilitated may be closed under the authority of the Superintendent's Compendium. Examples include closure of some highly used "social" trails that impact meadow and riparian communities.
- There are existing limitations on non-motorized boating. For instance, in 1996 limitations on commercial rafting were implemented in Yosemite Valley to enhance the visual quality of the river corridor. These limitations on the number of commercial raft rentals allowed and on the hours of use for rafts will continue and may be modified as necessary.
- Ongoing efforts to educate the public about river-related issues, through interpretive programs and ranger contacts, will continue and may be modified as necessary.

What VERP Is Not

It is worth noting what VERP will not do.

- VERP does not specify the total number of visitors that the river corridor, as a whole, can accommodate at one time. Such an aggregate figure would mask problems at "hot spots" and would not provide managers with useful guidance for addressing use-related problems.
- As a framework for addressing user capacity, VERP is not driven by the capacity of existing infrastructure. Expanding or constructing facilities does not necessarily mitigate visitor use impacts to visitor experience or resources.
- VERP, as applied in the Merced Wild and Scenic River corridor, may not directly transfer to other areas of Yosemite National Park. It may be implemented elsewhere in the park at some future date; desired conditions, indicators, and standards are being developed with this possible expansion in mind. However, due to an emphasis on Outstandingly Remarkable Values and other factors, it is possible that future implementation of VERP outside of the Merced Wild and Scenic River corridor will not dovetail perfectly.
- VERP does not address impacts that do not result directly from visitor use. Impacts from park operations and management activities (e.g., fire management), natural variability (e.g., high water), development (e.g., construction, demolition), and other causes not directly associated with visitor activities are managed through other methods.
- VERP is not static. Visitor use patterns, desired visitor experiences, and resource conditions change with time. VERP is an iterative process of monitoring, evaluation, and adjustment.

VERP Sequencing Plan

Yosemite National Park began development of the parkwide VERP framework in 1998 and continues to develop desired conditions, indicators, standards, and monitoring protocols. The VERP framework outlined herein for the Merced River corridor will be developed and implemented within five years after the final Record of Decision on the *Merced River Plan* and will dovetail with the larger, parkwide VERP program.

In the interim, Yosemite National Park will implement existing management activities (described above) and direction contained in this *Merced River Plan* (e.g., Wild and Scenic Rivers Act Section 7 determination, River Protection Overlay, management zoning

prescriptions) to address user capacity, protection and enhancement of Outstandingly Remarkable Values, and management of park resources, visitor use, and facilities. In addition, the National Park Service will initiate increased resource monitoring to ensure that conditions do not deteriorate. Appropriate management actions, consistent with existing management activities, will be implemented to prevent further degradation of resources.

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Yosemite Falls
Painting by
Gunnar Widforss,
c. 1920
Courtesy of
Yosemite Concession
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Map Data

All data are in Universal Transverse Mercator, North American Datum 1928, meters.

Data	Source
100-foot contours	U.S. Geological Survey 30-meter Digital Elevation Model
100-year floodplain, Happy Isles to Housekeeping Camp	Cella Barr Associates (1998 for Alternatives 2, 3, 4, 5)
100-year floodplain, Yosemite Valley (except Happy Isles to Housekeeping Camp)	U.S. Army Corps of Engineers (1981, rev. 1991 for all alternatives)
100-year floodplain, El Portal Administrative Site	U.S. Army Corps of Engineers (1998 for Alternatives 2, 3, 4, 5; 1987 for Alternative 1)
100-year floodplain, Wawona	U.S. Army Corps of Engineers (1981 for all alternatives)
1997 flood extent	Yosemite GIS
Hydrology	U.S. Geological Survey Digital Line Graphs
Park boundary	U.S. Geological Survey Digital Line Graphs
Roads	U.S. Geological Survey Digital Line Graphs
Trails	U.S. Geological Survey Digital Line Graphs
Wetlands	U.S. Fish and Wildlife Service, National Wetlands Inventory (1995)
Wild and Scenic River boundaries and zones	Yosemite GIS and MIG, Inc.
Yosemite Wilderness boundaries	Yosemite GIS

APPENDICES

APPENDIX A

Revised Record Of Decision
Merced Wild & Scenic River Comprehensive Management Plan/Final Environmental Impact Statement

Bridalveil Fall
Painting by
Thomas Moran,
1924
Courtesy of
Yosemite Museum

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

REVISED RECORD OF DECISION

MERCED WILD AND SCENIC RIVER COMPREHENSIVE MANAGEMENT PLAN FINAL ENVIRONMENTAL IMPACT STATEMENT

Yosemite National Park
California

The Department of the Interior, National Park Service (NPS) has prepared this revised Record of Decision (ROD) on the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement*, for the Merced Wild and Scenic River in Yosemite National Park, California. These revisions are designed to clarify statements in the original Record of Decision and *Merced River Plan* itself regarding the measurement of corridor and River Protection Overlay boundaries, and to clarify statements in the *Merced River Plan/FEIS* regarding the process to be used by the NPS in complying with Section 7 of the Wild and Scenic Rivers Act. These revisions are editorial. The NPS is not changing its decision regarding the alternative selected for implementation, nor is this Record of Decision modifying that alternative. As a result, there are no new or different impacts associated with the project that require re-evaluation through the NEPA process. All references in the *Merced River Plan* to the National Park Service's decision to use the Army Corps of Engineers definition of "ordinary high water mark" are revised to reflect the official Army Corps of Engineers definition of this term, as found in 33 C.F.R. Section 328.3:

> The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Previously, the *Merced River Plan/FEIS* and ROD paraphrased the ordinary high water mark definition as the 2.33-year floodplain. Based upon further review, the National Park Service has determined that this is an inaccurate summary of the official Army Corps of Engineers definition. In order to avoid confusion, the National Park Service will use the official Army Corps of Engineers definition of ordinary high water mark for measuring the extent of the river corridor boundaries and the River Protection Overlay.

The National Park Service will also modify its restatement of Section 7 of the Act with regard to water resources projects that are found to have a direct and adverse impact on

river values. Text in the *Merced River Plan/FEIS* paraphrased Section 7 requirements with regard to Congressional reporting obligations. These statements in the *Merced River Plan/FEIS* are revised to more closely follow the statutory language of Section 7.

This ROD includes a description of the background of the project, a statement of the decision made, synopses of other alternatives considered, the basis for the decision, a description of the environmentally preferable alternative, a listing of measures to minimize environmental harm, and an overview of public involvement in the decision-making process.

BACKGROUND OF THE PROJECT

The National Park Service manages 81 miles of the Merced River, encompassing both the main stem and the South Fork in Yosemite National Park and the adjacent El Portal Administrative Site. In 1987, the U.S. Congress designated 122 miles of the Merced a "Wild and Scenic River" to protect the river's free-flowing condition and to protect and enhance its unique values for the benefit and enjoyment of present and future generations (16 United States Code [USC] 1271). The 81 miles of the Merced managed by the National Park Service is included, in its entirety, in the designation. This designation gives the Merced River special protection under the Wild and Scenic Rivers Act and requires the managing agencies to prepare a comprehensive management plan for the river and its immediate environment.

In January 1997, a major flood caused extensive damage to facilities along the main stem of the Merced River. Many facilities in Yosemite Valley were flooded. The El Portal Road and the main sewer line (under the road) connecting Yosemite Valley to the El Portal Wastewater Treatment Plant also sustained significant damage and required repair and rebuilding. The National Park Service took this rebuilding process as an opportunity to upgrade and widen the road, which has historically been unsafe for travel, and particularly dangerous for bus travel.

A lawsuit was brought against the National Park Service over the adequacy of the environmental assessment for the reconstruction of the El Portal Road. At the time of the road reconstruction, a comprehensive management plan for the National Park Service segment of the Merced Wild and Scenic River had been initiated, but not completed. The U.S. District Court determined that the absence of a river management plan hindered the National Park Service's ability to ensure that projects in the river corridor adequately protect the Merced Wild and Scenic River. The district court's ruling on the lawsuit required the National Park Service to complete a comprehensive management plan for the Merced Wild and Scenic River with August 2000 as the target date for completion.

The *Merced River Plan* is designed to satisfy the Wild and Scenic Rivers Act's requirement for a comprehensive management plan. According to the Act, comprehensive management plans must address resource protection, development of lands and facilities, user capacities, and other management practices necessary or desirable to

achieve the purposes of the Act (16 U.S.C. Section 1274(d)). This same provision also states that comprehensive management plans "shall be coordinated with and may be incorporated into resource management planning for affected adjacent Federal lands." In designating the Merced as a Wild and Scenic River, Congress further authorized the National Park Service to prepare its management plan for the river by making appropriate revisions to the Park's 1980 *General Management Plan* (16 U.S.C. Section 1274(a)(62)).

The 1980 *General Management Plan* is the overall guiding document for planning in Yosemite National Park. The Merced River Plan was developed in coordination with the *General Management Plan* and does not tier directly off the General Management Plan as do implementation plans. Each of the action alternatives in the *Merced River Plan* would result in some revisions to the *General Management Plan*. For example, the *Merced River Plan's* management zoning, River Protection Overlay, river corridor boundaries and classifications, and the ORVs would amend the *General Management Plan* by establishing additional land use designations that would be considered in future site specific planning. The *Merced River Plan's* Section 7 process and Visitor Experience and Resource Protection program are tools that would augment the goals of the *General Management Plan*. Although the *Merced River Plan* would amend the *General Management Plan* in certain respects, other aspects of the *General Management Plan*, including its five broad goals, remain unaffected. Implementation plans affecting the Merced Wild and Scenic River will need to be consistent with these goals and the management elements contained in the *Merced River Plan*.

As a programmatic plan, the *Merced River Plan* does not specify site-specific detailed actions. Instead, it applies management elements to prescribe desired future conditions, typical visitor activities and experiences, and allowed park facilities and management activities in the Merced River corridor. The *Merced River Plan* establishes seven management elements: boundaries, classifications, Outstandingly Remarkable Values (ORVs), a determination process to comply with Section 7 of the Wild and Scenic Rivers Act, the River Protection Overlay (RPO), management zoning, and the Visitor Experience and Resource Protection (VERP) framework. These management elements were selected because of their ability to address resource protection, development of lands and facilities, user capacities, and other management practices necessary or desirable to achieve the purposes of the Act as required under Section 1274(d). For example, future development of lands and facilities would be guided by all seven of the management elements, as would resource protection. User capacity would be addressed through the elements of river classification, the River Protection Overlay, management zoning, and the VERP process. The alternatives evaluated in the Environmental Impact Statement were developed using different combinations of these seven management elements.

Alternative 1, the No Action Alternative, represents the current management direction for the Merced River corridor. It is based on the boundaries, classifications, and Outstandingly Remarkable Values for the Merced River corridor as published in the 1996 *Draft Yosemite Valley Housing Plan*. The four action alternatives (Alternatives 2, 3, 4, and 5) are based on a consistent set of Outstandingly Remarkable Values, which have

been further evaluated and revised from those published in the 1996 *Draft Yosemite Valley Housing Plan*. The alternatives vary in their management zoning areas, their specification of river corridor boundaries and classifications, and in their application of the River Protection Overlay.

DECISION (SELECTED ACTION)

The National Park Service will implement Alternative 2 as described in the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement* issued in June 2000.

The intent of Alternative 2 is to protect and enhance all ORVs with a focus on integrating the Merced River Plan goal to "protect and enhance natural resources" with the goal to "provide diverse recreational and educational experiences." Under this alternative, the seven management elements would be used to guide future management decisions affecting the river corridor. Four of the seven management elements are specific requirements of the Wild and Scenic Rivers Act: boundaries, classifications, ORVs, and Section 7. The remaining three management elements (RPO, management zoning, and VERP) were chosen by the National Park Service to further meet the requirements of the Wild and Scenic Rivers Act.

The river corridor boundaries established by this *Merced River Plan* begin at the ordinary high water mark (as defined by the U.S. Army Corps of Engineers in 33 C.F.R. Section 328.3) and extend one-quarter mile on each side of the river, except in the El Portal Administrative Site where the boundary extends out to the 100-year floodplain or the extent of the River Protection Overlay, whichever is greater. (The maps included in the Merced River Plan depict these boundaries.) The river corridor boundaries established in the *Merced River Plan* are based on the existing river channel. The river corridor boundaries established by the *Merced River Plan*, and reflected in its maps, will not be changed to account for every fluctuation in the river channel. However, the National Park Service will continue to allow natural processes to prevail and will consider changing the river corridor boundaries if there is a major shift in the river channel, or significant new information regarding the river channel and the National Park Service's ability to protect and enhance the ORVs is inhibited. If changes are deemed necessary, an environmental compliance process will be initiated and the *Merced River Plan* will be amended or updated as appropriate.

Boundaries

Section 3(b) of the Wild and Scenic Rivers Act indicates that "boundaries shall include an average of not more than 320 acres of land per mile measured from the ordinary high water mark on both sides of the river." This equates to an average width of one-quarter mile on each side of the river. Alternative 2 implements a quarter-mile boundary on both sides of the river beginning at the ordinary high water mark, except in the El Portal Administrative Site where the boundary is defined by the 100-year floodplain or the extent of the River Protection Overlay, whichever is greater. Of the 81 miles of the river,

about 77 miles would have a quarter-mile boundary under Alternative 2. Management zoning only applies to federal land within these boundaries.

Classifications

The classifications (Wild, Scenic, or Recreational) for the various segments are based on existing conditions in the river corridor. Wilderness areas, which account for approximately 51 miles of the 81-mile river, are classified Wild. Areas with moderate development within the corridor (west Valley and gorge) are classified Scenic. The Scenic areas account for approximately 13 miles of the Merced. The east Valley, Wawona, the El Portal Administrative Site, and the impoundments are classified as Recreational, reflecting the higher level of development in these areas. The Recreational areas account for approximately 17 miles of the Merced. The Cascades Diversion Dam and the Wawona Impoundment would revert to a Scenic classification if and when the impoundments were removed.

Outstandingly Remarkable Values

Outstandingly Remarkable Values (ORVs) are defined by the Wild and Scenic Rivers Act as those characteristics that make the river worthy of special protection. Two vital questions establish the criteria set forth by the Wild and Scenic Rivers Act for selection of ORVs:

- Is the value river-related or river-dependent?
- Is the value rare, unique, or exemplary in a regional or national context?

Both of the above criteria must be satisfied in order for a characteristic to be included as an ORV. The refined ORVs of the Merced meet both of these criteria.

Section 7 Determination

One of the policy objectives of the Wild and Scenic Rivers Act is to preserve rivers in their free-flowing condition, which is defined by the Act to mean a river flowing in its natural condition without impoundment, diversion, straightening, rip-rapping, or other modifications of the waterway (16 USC Sections 1271 and 1286). To further this goal, the Act includes a process for evaluating "water resources projects." Water resources projects, that is, those that are within the bed or banks of the Merced River and that affect the river's free-flowing condition, are subject to Section 7 of the Wild and Scenic Rivers Act (16 USC Section 1278). The National Park Service must carry out a Section 7 determination on all proposed water resources projects to ensure that they do not directly and adversely affect the values for which the river was designated. Alternative 2 includes a comprehensive process to ensure that all water resources projects are in compliance with the Wild and Scenic Rivers Act.

The *Merced River Plan/FEIS*, includes statements that "Water resources projects that have a direct and adverse effect on the values for a designated river must either be redesigned and resubmitted for a subsequent Section 7 determination, abandoned, or may proceed following written notification of the Secretary of the Interior and the United States Congress." These references are an inaccurate summary of the intent of the

National Park Service and are hereby clarified with the following process in accordance with Section 7(a) of the Act. Water resources projects found to have a direct and adverse effect on the values of this designated river will be redesigned and resubmitted for a subsequent Section 7 determination or abandoned. In the event that a project can not be redesigned to avoid direct and adverse effects on the values for which the river was designated, the NPS will either abandon the project or will advise the Secretary of the Interior in writing and report to Congress in writing in accordance with Section 7(a) of the Act.

River Protection Overlay

To ensure that the river channel itself and the areas immediately adjacent to the river are protected, Alternative 2 includes a management tool called the River Protection Overlay (RPO). The RPO, in areas above 3,800 feet elevation, includes the river channel itself and extends 150 feet on both sides of the river measured from the ordinary high water mark[1]; and in areas below 3,800 feet elevation includes 100 feet on both sides of the river measured from the ordinary high water mark. The RPO would not apply to private property within the river corridor. The RPO would provide a buffer area for natural flood flows, channel formation, riparian vegetation, and wildlife habitat and would protect riverbanks from human-caused impacts and associated erosion. The RPO is intended to apply the requirements of the Wild and Scenic Rivers Act, including the protection and enhancement of the ORVs and the preservation of the free-flowing condition of the river, at a higher standard than that of the management zones.

Management Zoning

Management zoning is a technique used by the National Park Service to classify park areas and prescribe future desired resource conditions, visitor activities, and facilities. The management zoning in Alternative 2 was developed to protect and enhance the ORVs in each segment of the river, with an emphasis on integrating protection and enhancement of the river corridor's natural and cultural resource ORVs with the protection and enhancement of the diverse visitor recreation ORV in the river corridor. This focus is consistent with Section 1281 of the Wild and Scenic Rivers Act, which states that a protected river “shall be administered in such manner as to protect and enhance the values which caused it to be included in [the] system, without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values.” Management zoning does not apply to private property that exists within the river corridor.

Under Alternative 2, nearly 60% of the river corridor has wilderness-related Category 1 management zoning, which severely restricts the development of facilities and will help to ensure that the natural and cultural resources in these segments of the river corridor will remain largely undisturbed and that the area will remain essentially primitive. The majority of land within Yosemite Valley and the Gorge segments of the river corridor, and

[1] Regardless of where the water's edge is on any given day throughout the year, the RPO is measured from the ordinary high water mark, as defined by the Army Corps of Engineers in 33 C.F.R. Section 328.3.

along the south side of the river in Wawona, is assigned to diverse visitor experience Category 2 management zoning. Category 2 management zoning focuses on protecting and enhancing ORVs while allowing for varied types of visitor use within the river corridor. On one end of the spectrum, certain Category 2 areas will be managed as undisturbed natural areas and at the other end of the spectrum, major park attractions, such as Bridalveil Fall, will be managed to allow for large numbers of visitors. Sections of the east Valley and sections of El Portal are zoned Day Use (2C) to allow for more intensive activities in these areas, while the west Valley and Wawona are zoned Discovery (2B) to provide opportunities for quieter, less crowded visitor experiences and a higher level of resource protection.

Major visitor support facilities, such as lodging and camping, and major administrative facilities are limited to Category 3 management zones, which account for only a small percentage of the river corridor. Category 3 management zoning is used for visitor facilities, such as Housekeeping Camp and Upper Pines, Lower Pines, North Pines, and Wawona Campgrounds. To provide for future flexibility in managing transportation in the Valley, the management zone 3C (Park Operations and Administration), allows for either Camp 6 or Taft Toe to be developed as a transit center and/or parking facility. If either one of these sites were selected, the other site would revert to the zone designation of the surrounding area (Day Use [2C] for Camp 6 or Discovery [2B] for Taft Toe) and would not be used for park operations purposes. If a different site were selected for this purpose that is consistent with the management zoning of Alternative 2, both would revert to their respective base zones. Specific decisions on whether a transit center and/or parking facility would be provided and where it would be located are analyzed in the *Draft Yosemite Valley Plan/SEIS*.

Each management zone prescribes the *maximum* level of activities and facilities. In practice, lower levels of visitor use and facilities may be provided than are allowed for in the management zoning prescriptions. Typical uses in lower-intensity zones are generally acceptable uses for higher-intensity zones. For example, implementation plans (such as the *Yosemite Valley Plan*) could call for less-developed activities such as walk-in camping or protected natural areas in areas zoned for overnight lodging. In this way, the management zones allow future managers to direct development within the zone and these decisions would be based on site-specific conditions as assessed through standard planning processes.

Visitor Experience and Resource Protection Framework

The Visitor Experience and Resource Protection (VERP) framework is a tool developed by the National Park Service to address user capacities and is adopted by the *Merced River Plan* to meet the requirements of the Wild and Scenic Rivers Act for carrying capacity. The VERP framework is in addition to the existing tools used by the National Park Service that address user capacity (e.g., federal and state laws, Title 36 of the Code of Federal Regulations, the overnight trailhead quota system, and the Superintendent's Compendium). Elements of the VERP framework that will be undertaken as part of the *Merced River Plan* include: (1) determination of desired conditions, which are part of the management zone prescriptions; (2) selection of indicators and standards that reflect

the desired conditions; (3) monitoring of the indicators and standards; and (4) implementation of management action when the desired conditions are violated or when conditions are deteriorating and preventive measures are available. The VERP framework protects both park resources and visitor experience from impacts associated with visitor use and helps managers address visitor use issues.

OTHER ALTERNATIVES CONSIDERED

The *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement* described five management alternatives, the environment that will be affected by those alternatives, and the environmental consequences of implementing these alternatives. The major topic areas covered in each alternative are related to the park's goals, and include visitor experience and resource protection.

The National Park Service considered four other alternatives in addition to Alternative 2. They are:

Alternative 1: The No Action Alternative represents the current management direction for the Merced River corridor. It is based on the boundaries, classifications, and Outstandingly Remarkable Values for the Merced River corridor as published in the 1996 *Draft Yosemite Valley Housing Plan*. The No Action Alternative does not incorporate a management zoning approach, a River Protection Overlay, or a VERP framework. Like each of the action alternatives, management direction for the river corridor would also be based on the 1980 *General Management Plan* and other applicable management plans and guidelines, such as the *Wilderness Management Plan*, *Fire Management Plan*, *Vegetation Management Plan*, *Resources Management Plan*, Restricted Access Plan, Geologic Hazard Guidelines, Floodplain Criteria, and Standard Operating Procedures on Ending Removal of Fallen Trees from the Merced River, and boundaries for cultural resources on the National Register of Historic Places (including historic districts).

Requirements of the Wild and Scenic Rivers Act, such as the protection and enhancement of Outstandingly Remarkable Values and compliance with Section 7 for water resources projects, must be followed. However, decisions regarding the potential construction, renovation, repair, and removal of facilities in the corridor would not be subject to management zoning prescriptions or the River Protection Overlay. As a result, future actions would not be guided or constrained in the river corridor by a comprehensive management plan. For example, the impoundment at Cascades Diversion Dam and the Wawona Impoundment could be removed, but there would be no encouragement for these activities. Similarly, additional development in the river corridor, such as parking lots or campgrounds, would not be guided by management zoning and direction. Ongoing programs of the National Park Service would continue, such as restoration of riparian habitats along the river. For purposes of analysis and comparison, this document assumes that certain activities and programs would take place under the No Action Alternative and others would not in the absence of comprehensive management direction.

Alternative 3: The River Protection Emphasis with Narrow Corridor alternative focuses on resource protection of the river corridor in the floodplain areas. Alternative 3 emphasizes two of the *General Management Plan's* broad goals of "let natural processes prevail" and "reclaim priceless beauty," and the *Merced River Plan* goals to "protect and enhance natural resources" and to "protect and restore natural, hydrological, and geomorphic processes." The management philosophy of Alternative 3 focuses on reducing impacts on natural resources, removing facilities from the floodplain, and restoring the free-flowing condition of the river. Through the active application of management zoning prescriptions and the use of the River Protection Overlay, this alternative encourages the protection and enhancement of natural resource ORVs, and a visitor experience based on individual and small-group activities in the river corridor.

The boundary in this alternative is generally defined by the 100-year floodplain in Yosemite Valley, El Portal, and Wawona (including meadows and wetlands), and by a quarter-mile boundary for the remainder of the river. Under this alternative, wilderness areas and the undeveloped area below Wawona are classified "wild," and areas with moderate development within the corridor are classified "scenic." The El Portal Administrative Site and areas with impoundments are classified as "recreational," reflecting the higher level of development in these areas.

Alternative 3 designates a considerable portion of the river corridor with zoning that restricts new uses and facilities in the river corridor and could lead to removal of existing development in the floodplain. As with Alternative 2, nearly 60% of the river corridor has wilderness-related Category 1 management zoning. The east Valley and Wawona (including adjacent meadows and wetlands) are zoned Discovery (2B), and the west Valley and El Portal are zoned Open Space (2A), with few exceptions allowing for varying intensities of use in these areas. Moreover, several facilities and campgrounds (such as Housekeeping Camp and Wawona Campground) that are partially or completely located in the river corridor are zoned Discovery (2B) and therefore could be removed from the river corridor (floodplain) to restore valuable riparian habitat. The management zoning of Alternative 3 also does not allow for the development of a consolidated parking and/or transit center anywhere in the river corridor, although such a facility could be allowed outside of the corridor. More intensive visitor uses are limited to only a few popular day-use areas, such as Cathedral Beach, Sentinel Beach, and the Wawona Golf Course, all zoned Day Use (2C), and several major destination sites, such as Tunnel View and Happy Isles, zoned Attraction (2D). As in Alternative 2, high-use visitor-serving facilities such as picnic areas and parking would be concentrated near a trailhead, hub, or focused site to accommodate large numbers of visitors interested in the destination.

Like Alternative 2, Alternative 3 relies on the River Protection Overlay to provide maximum resource protection for the river itself and the lands immediately adjacent. The River Protection Overlay provides considerable protection and enhancement of natural resource ORVs and the free-flowing condition of the river.

Alternative 4: This alternative emphasizes protection and enhancement of natural resource ORVs and the free-flowing condition of the river while reducing visitor access to the river corridor. Alternative 4 was developed in response to a substantial number of public comments during the scoping process requesting expansion of the boundary for the Wild and Scenic River corridor in order to place more land under the protection of the Wild and Scenic Rivers Act. As such, this alternative emphasizes the *General Management Plan* goals of "let natural processes prevail" and "reclaim priceless beauty" and the Merced River goals of "protect and enhance natural resources" and "protect and restore natural hydrological and geomorphic processes." Access to, and availability and diversity of, recreational opportunities that exist in the river corridor could be decreased under Alternative 4, while some opportunities could be severely restricted. Alternative 4 attempts to provide maximum resource protection and restoration opportunities by including the largest possible area within the Merced River corridor boundaries, applying restrictive zoning prescriptions to many of these areas, and through the application of the River Protection Overlay.

Alternative 4 applies a quarter-mile boundary throughout the length of the river, the maximum allowed under the Wild and Scenic Rivers Act. Wilderness areas and the undeveloped area below Wawona remain classified "wild," and areas with moderate development within the corridor (west Valley, gorge) remain classified "scenic." The El Portal Administrative Site, east Valley, Wawona, and impoundments would be classified "recreational," reflecting the higher level of development located within the river corridor in these areas once the full quarter-mile is used. For example, in the east Valley, Yosemite Village, most of Yosemite Lodge, and The Ahwahnee are in the quarter-mile corridor.

As with Alternative 2, nearly 60% of the river corridor has wilderness-related Category 1 management zoning. However, to protect and enhance non-recreation ORVs, such as riparian habitat, Alternative 4 applies more restrictive zoning within developed areas of the park (compared to Alternative 2), with few exceptions for more intensive uses. This could result in the removal of facilities such as the Pioneer Yosemite History Center, Housekeeping Camp, and the Trailer Village from the floodplain. Higher-intensity management zones are focused outside the floodplain but are limited in size. Existing development such as Yosemite Village (3C), Yosemite Lodge (3B), the Wawona Campground (3A), and the Wawona Hotel (3B) are zoned to allow for their continued use. However, the management zoning under Alternative 4 could result in an overall reduction in the availability of camping and lodging accommodations in Yosemite Valley since north of Upper Pines, Housekeeping, and Lower Pines are assigned Zone 2B: Discovery, which would encourage their eventual removal. The management zoning in Alternative 4 also does not allow for a consolidated parking and transit center to be developed in the river corridor; this would potentially reduce recreational opportunities by denying access to a large number of visitors who could not be accommodated by the parking and transit facilities otherwise available under this alternative.

Like Alternative 3, this alternative zones most of the west Valley for Open Space (2A), meaning that few visitor-related facilities would be constructed and use levels would be

anticipated to be reduced. It is likely that, under Alternative 4, overall visitor levels in the park and along the river corridor would be restricted, with a possible decrease in the number of visitors that could enjoy the river's ORVs. Opportunities to restore the natural processes of the river corridor, particularly hydrologic and biological ORVs, and to protect sensitive archeological sites, would be maximized under Alternative 4.

Alternative 5: The Visitor Experience Emphasis with Wide Corridor alternative provides for diverse visitor experiences and access to Yosemite National Park and the river corridor. Alternative 5 emphasizes the *Merced River Plan* goal of "provide diverse recreational and educational experiences," and emphasizes access to the recreational ORVs of the Merced River. This alternative also facilitates the implementation of many of the broad goals and recommended actions of the *General Management Plan*, including the relocation of administrative and operational facilities out of Yosemite Valley into the El Portal Administrative Site and the rebuilding of campsites in Yosemite Valley to levels envisioned in the *General Management Plan*. The management zoning prescriptions and criteria would be used to guide management decisions. The River Protection Overlay would not be applied in this alternative, although compliance with the Section 7 determination process and compliance with the management zoning would guide future management actions in the river corridor. These management elements would be used under this alternative to protect and enhance the river's free-flowing condition and ORVs.

Like Alternative 4, this alternative employs a quarter-mile boundary throughout the river corridor. Due to the additional area included in the corridor, the segment classifications under this alternative are different from alternatives that use a narrower corridor. Wilderness areas and the undeveloped area below Wawona would be classified "wild," and areas with moderate development within the corridor (west Valley, gorge) would be classified "scenic." The El Portal Administrative Site, east Valley, Wawona, and impoundments would be classified "recreational," reflecting the higher level of development within the quarter-mile river corridor in these areas.

As with Alternative 2, nearly 60% of the river corridor has wilderness-related Category 1 management zoning. However, zoning in the other parts of the corridor allows for the highest level of visitor use and facility development among the alternatives. Many of the campgrounds and facilities now located in the floodplain (such as Housekeeping Camp, the Upper, Lower, and North Pines Campgrounds, and Wawona Campground) are zoned Camping (3A) or Visitor Base and Lodging (3B) and would be maintained and potentially expanded to the levels in place before the 1997 flood. El Portal is zoned to accommodate additional facilities relocated from Yosemite Valley, such as employee housing, offices, and parking. Wawona is zoned to accommodate relocated maintenance facilities and additional visitor-serving facilities, as specified in the *General Management Plan*.

This alternative allows for the most flexibility for future park development and visitor services. However, Alternative 5 does not provide as much protection of the river and adjacent areas, primarily due to the lack of a River Protection Overlay.

BASIS FOR DECISION

The *Merced River Plan* was developed within a complex legal framework. The Wild and Scenic Rivers Act states that the National Park Service shall administer rivers under its jurisdiction in accordance with the Wild and Scenic Rivers Act and with the laws under which the National Park System is managed (16 U.S.C. Section 1281(c)). For rivers flowing through wilderness areas, such as the Merced, the Act also requires compliance with the Wilderness Act (16 U.S.C. Section 1281(b)). For either situation, in the case of conflict, the more restrictive law is to apply. The Act also requires the National Park Service to coordinate the comprehensive management plan for the river with the Park's *General Management Plan* (16 U.S.C. Section 1274(d)). In managing the river corridor within the Park and the El Portal Administrative Site, the Act requires the National Park Service to make "... appropriate revisions to the general management plan ..." and to ensure that "... such revisions shall assure that no development or use of park lands shall be undertaken that is inconsistent with the designation ..." of the Merced as a wild and scenic river.

The *General Management Plan* for the Park reflects the mandate of the National Park Service Organic Act, which applies to all units of the National Park System. The Organic Act established the National Park Service in order to "promote and regulate the use of parks...." The Organic Act defined the purpose of the national parks as "to conserve the scenery and natural and historic objects and wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." The Organic Act still provides overall guidance for the management of Yosemite National Park, and the broad goals of the *General Management Plan* remain valid today.

In addition to park lands, the Merced River also flows through the El Portal Administrative Site, which is managed in accordance with the legislation that transferred land within the Site to Yosemite National Park. The Administrative Site was established "in order that utilities, facilities, and services required in the operation and administration of Yosemite National Park may be located on such site outside the park" (16 U.S.C. Section 47-1). In keeping with these legislative purposes, the *General Management Plan* proposed to relocate many facilities from the Valley to El Portal.

In reaching its decision to select Alternative 2, the National Park Service considered the multiple laws and policies that apply to lands within the river corridor, such as the Wild and Scenic Rivers Act, the National Park Service Organic Act, the Wilderness Act, the legislation establishing the El Portal Administrative Site and the Park's *General Management Plan*. The National Park Service also carefully considered the substantial body of public comments received during the planning process.

Each alternative in the *Merced River Plan* presents a different framework for managing the Merced Wild and Scenic River, with some alternatives emphasizing natural resource protection and others emphasizing visitor use of the corridor. The alternatives that are weighted toward one goal in particular, whether it be visitor use or resource protection,

tend to emphasize only certain facets of the myriad laws and policies that apply to lands within the river corridor. For example, alternatives focused on natural resource protection further those provisions of the Wild and Scenic Rivers Act and the Organic Act that speak to natural resource preservation. However, both the Wild and Scenic Rivers Act and the Organic Act also contain provisions allowing for visitor use. As explained below, unlike the alternatives that are weighted toward one goal, Alternative 2 would allow the National Park Service to achieve important resource protection goals while also allowing for appropriate levels and types of visitor use within the river corridor.

The primary feature that distinguishes Alternative 2 from the other alternatives is the interplay of four of its management elements: boundaries, classifications, the River Protection Overlay, and management zoning.[2] Alternative 2 uses a quarter-mile boundary for the river corridor except in the El Portal Administrative Site where the boundary is defined by the 100-year floodplain. Alternative 2 provides a greater area within the river corridor compared to Alternative 3, which uses the 100-year floodplain in Yosemite Valley, Wawona, and the El Portal Administrative Site. Although Alternatives 4 and 5 use the quarter-mile boundary throughout the river corridor, this would result in only a slightly greater area within the river corridor compared to Alternative 2. The classifications are the same for Alternatives 2, 4, and 5. Alternative 3 has a "scenic" classification in east Valley and Wawona, but this scenic classification is only possible because of the narrower river corridor under Alternative 3.

Alternative 2 also provides for a River Protection Overlay, as do Alternatives 3 and 4. This is a distinct advantage over Alternative 5 and the No Action Alternative since the provisions of the River Protection Overlay would result in a buffer area for natural flood flows, channel formation, riparian vegetation, and wildlife habitat. In addition, the River Protection Overlay is intended to protect riverbanks from human-caused impacts and associated erosion.

There are significant differences among the action alternatives in terms of the management zoning each applies to Yosemite Valley, Wawona, and the El Portal Administrative Site. Like Alternatives 3 and 4, the management zoning under Alternative 2 protects and enhances the river corridor's natural resource ORVs. However, the management zoning under Alternatives 3 and 4 does not provide the same level of protection of diverse visitor recreation ORVs within the river corridor that would occur with the management zoning under Alternative 2. Under Alternatives 3 and 4, management zoning would shift emphasis from socially-oriented recreational activities, characterized by spontaneity and group activities, to more individually-oriented activities characterized by solitude and quiet. As a result, the current access to and availability and diversity of recreational opportunities in the river corridor could be decreased and some opportunities could be severely restricted. The recreational

[2] Three of the seven management elements are treated the same way under each of the action alternatives: the refined ORVs, the Section 7 determination process, and the VERP framework. The differences among the action alternatives are evident in the other four management elements: boundaries, classifications, the River Protection Overlay, and management zoning.

opportunities that could be most directly affected involve non-motorized watercraft, bicycling, and camping. Other opportunities that could be more indirectly affected include hiking, fishing, sightseeing, photography, nature study, climbing, and stock use.

Given its combination of management zoning, boundaries, classifications, and River Protection Overlay, Alternative 2 best enables the National Park Service to protect resources within the river corridor while also ensuring appropriate levels and types of visitor use. This in turn enables the National Park Service to fulfill the mandate of the Wild and Scenic Rivers Act without compromising the National Park Service's ability to manage the Park and the Administrative Site in accordance with other applicable laws and policies.

With regard to the specific factors contained in Section 1274(d), the adoption of Alternative 2 also satisfies the Act's requirements for a comprehensive management plan. Future development of lands and facilities would be guided by all seven of the management elements, as would resource protection. User capacity would be addressed through the elements of river classification, the River Protection Overlay, management zoning, and the VERP process. Resource protection, development of lands and facilities, and user capacity also would be managed pursuant to existing National Park Service authorities in the Code of Federal Regulations (Title 36) and the Superintendent's Compendium, and under general National Park Service policies, such as those pertaining to wilderness and fire management. The combination of these elements will enable the National Park Service to administer the river in a manner that protects and enhances each of the ORVs while allowing for appropriate levels of use and development.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

Environmentally preferable is defined as “the alternative that will promote the national environmental policy as expressed in the National Environmental Policy Act's section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources” (“Forty Most Asked Questions Concerning Council on Environmental Quality's [CEQ] National Environmental Policy Act Regulations,” 1981).

Section 101 of the National Environmental Policy Act states that “... it is the continuing responsibility of the Federal Government to ... (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations; (2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings; (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences; (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice; (5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and (6) enhance the quality of renewable resources and approach the

maximum attainable recycling of depletable resources." The environmentally preferable alternative for the *Merced River Plan* is based on these national environmental policy goals.

Alternative 1 represents the current management direction for the Merced River corridor. It is based on the boundaries, classifications, and Outstandingly Remarkable Values for the Merced River corridor as published in the 1996 *Draft Yosemite Valley Housing Plan*. Since Alternative 1 does not include the River Protection Overlay or management zoning, provisions 3 and 6 of the national environmental policy goals are not fully realized. Although Alternative 1 would provide the greatest protection of cultural resources, this alternative would not result in the same level of protection of natural resources within the river corridor as would occur under the action alternatives.

Alternative 2 strives to integrate the *Merced River Plan* goal to "protect and enhance natural resources," and the goal to "provide diverse recreational and educational experiences." Through the use of the River Protection Overlay and its application of management zoning, Alternative 2 would realize each of the provisions of the national environmental policy goals.

Alternative 3 focuses on resource protection of the river corridor in the floodplain areas. Although Alternative 3 emphasizes two of the *General Management Plan's* broad goals of "let natural processes prevail" and "reclaim priceless beauty," and the *Merced River Plan* goals to "protect and enhance natural resources" and to "protect and restore natural, hydrological, and geomorphic processes," this alternative restricts the visitor experience. Thus, Alternative 3 does not meet the national environmental policy goals to the same extent as Alternative 2, and, in addition, does not fully realize provision 5 of the goals.

Alternative 4 promotes the most comprehensive protection and enhancement of natural resources in a broader area of the Merced River corridor. This alternative emphasizes protection and enhancement of natural resource ORVs and the free-flowing condition of the river while reducing visitor access to the river corridor. Alternative 4 attempts to provide maximum resource protection and restoration opportunities by including the largest possible area within the Merced River corridor boundaries, applying restrictive zoning prescriptions to many of these areas, and through the application of the River Protection Overlay. However, like Alternative 3, this alternative restricts the visitor experience and does not fully realize provisions 3 and 5 of the national environmental policy goals to the same extent as Alternative 2.

Alternative 5 provides for the greatest range of diverse visitor experiences and access to Yosemite National Park and the river corridor. However, since the River Protection Overlay would not be applied in this alternative, natural resources would not be as protected and enhanced as under Alternatives 2, 3, and 4. Thus, Alternative 5 does not meet the national environmental policy goals to the same extent as Alternative 2, and, in addition, does not fully realize provisions 4 and 6 of the goals.

The environmentally preferable alternative is Alternative 2 because it surpasses the other alternatives in realizing the full range of national environmental policy goals as stated in Section 101 of the National Environmental Policy Act. Although other alternatives achieve greater levels of protection for cultural resources, natural resources, and/or visitor experiences, Alternative 2 does (1) provide a high level of protection of natural and cultural resources while concurrently attaining the widest range of neutral and beneficial uses of the environment without degradation; (2) maintain an environment that supports diversity and variety of individual choice; and, (3) integrate resource protection with an appropriate range of visitor uses.

MEASURES TO MINIMIZE ENVIRONMENTAL HARM

The National Park Service has investigated all practicable measures to avoid or minimize environmental impacts that could result from implementation of the selected action. The measures have been incorporated into Alternative 2, and are presented in detail in the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement*.

To ensure that implementation of Alternative 2 protects natural and cultural resources, ORVs, and the free-flowing condition of the Merced River corridor, a consistent set of mitigation measures would be applied to actions that result from this plan (see Attachment A). These mitigation measures would also be applied to future actions that are guided by this plan. The National Park Service would prepare appropriate environmental review (i.e., National Environmental Policy Act, the National Historic Preservation Act, and other relevant legislation) for these future actions. As part of the environmental review, the National Park Service would avoid, minimize, and mitigate adverse impacts when practicable.

PUBLIC AND INTERAGENCY INVOLVEMENT

The National Park Service published a notice of intent to prepare an environmental impact statement in the *Federal Register* on August 23, 1999 (V64-N162-P45979). The *Merced River Plan/FEIS* has been developed pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969 (Public Law 91-190) and the Council on Environmental Quality regulations (40 CFR 1508.22). The intent of this planning process is to prepare a comprehensive management plan that encompasses protection and enhancement of the values for which the Merced River was designated as a Wild and Scenic River (16 USC 1271-1287). Through scoping and the public comment review process on the *Draft Merced River Plan/EIS*, the planning process was conducted in consultation with affected federal agencies, state and local governments, tribal groups, and interested organizations and individuals.

The National Park Service invited American Indian tribes to participate in the formal scoping process, and held formal consultation meetings with the North Fork Mono Rancheria, the American Indian Council of Mariposa County, Inc. (Southern Sierra

Miwok), and the Mono Lake Indian Community. These tribes are associated with lands and resources along the main stem and South Fork of the Merced River in Yosemite National Park.

The *Draft Merced River Plan/EIS* was prepared by the National Park Service pursuant to the requirements of the Wild and Scenic Rivers Act and the National Environmental Policy Act. The National Park Service completed the scoping phase through a concerted public involvement effort that included numerous activities. An invitation letter initiating scoping and announcing four public meetings was mailed to over 8,500 individuals, organizations, agencies, and other entities during the week of June 7, 1999. On June 11, 1999 the National Park Service formally published the Merced River Plan scoping period in the *Federal Register* (V64-N112-P31605), accepting comments through July 14, 1999. In deference to public interest, the National Park Service on July 13, 1999 via direct mailing and news release issued a two-week extension of the scoping period through July 30, 1999. Formal notice of the extension appeared in the *Federal Register* on July 23, 1999 (V64-N141-P40037). Altogether six public meetings were held in the following locations: San Francisco (June 22), Modesto (June 23), Mariposa (June 24), Yosemite Valley (June 28), Wawona (July 7), and El Portal (July 12). In addition to direct mailing and the Internet posting, all meetings were publicized via news releases sent to over 110 media contacts on June 3 and July 1, 1999.

As a result of the scoping effort, which elicited over 300 responses, it was determined that an Environmental Impact Statement (not an Environmental Assessment) would be prepared. A Notice of Intent to prepare an Environmental Impact Statement was published in the *Federal Register* (V64, N162, P45979) on August 23, 1999. All comments received during June 11, 1999 through July 30, 1999 in response to the scoping and extension notices have been duly considered and are in the administrative record. For example, the National Park Service updated and refined the boundaries, classifications, and ORVs based on these public comments and new information.

A January 7, 2000 *Federal Register* notice (V65, N5, P1170-71) and media announcements initiated the beginning of a formal public comment period on the draft plan and its environmental impact statement. All interested agencies, groups and individuals were invited to review the document and submit comments.

Public meetings on the draft plan were held in various locations throughout the state from January 31, 2000 to February 15, 2000 during the early weeks of the public comment period. The date, time, and location of each meeting were announced in the *Federal Register* and through the regional/local media.

The comment period for the *Draft Wild and Scenic River Comprehensive Management Plan/EIS* was scheduled to close on March 14, 2000. To accommodate the requests of some organizations and the general public, the National Park Service extended the comment period by ten days and the comment period officially closed on March 24, 2000. Over 2,500 comments were received by mail, e-mail, fax, and at the 12 public hearings held throughout the state in January and February. The National Park Service

received a spectrum of valuable comments from individuals throughout the nation, local residents, long-time Yosemite visitors, government agencies, and interested organizations.

The Merced River planning team reviewed and incorporated comments into the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement*. The Content Analysis Enterprise Team (CAET), a division of the U.S. Forest Service, assisted in the sorting and analysis of these comments. A broad range of issues surfaced during the public comment period. Some responses addressed concerns regarding the proposed boundaries, classifications, Outstandingly Remarkable Values, and the River Protection Overlay. Other public comments included suggestions for changes to the management zones to respond to camping, parking, boating, and other river management-related issues. Respondents also requested that the National Park Service provide more specific research and monitoring guidelines in the Merced River Plan, as well as more detail on the Section 7 determination process. A Notice of Availability of the *Merced Wild and Scenic River Comprehensive Management Plan/Final Environmental Impact Statement* was published on July 7, 2000 in the Federal Register (V65, N128, P41083-84).

Following release of the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS* the National Park Service received 27 comment letters. Some expressed support for Alternative 2 - the preferred alternative - and others voiced concern about specific aspects of Alternative 2. After careful review of these comments, the National Park Service determined that no new issues were raised that would require additional response in a NEPA context or require modifications to the Plan.

The National Park Service prepared and approved a Record of Decision implementing the Proposed Action (Alternative 2) on August 9, 2000. Media announcements were made on that date and a Notice of Approval of Record of Decision was published on August 18, 2000 in the *Federal Register* (V65, N161, P50565).

The National Park Service has determined that it is appropriate to make the following clarifications to the management zoning in Alternative 2. These clarifications will be added to the final *Merced River Plan* which should be available by February, 2001.

The management zoning adopted in this alternative only applies to federal lands. With regard to Section 35 in Wawona, though zoned primarily as 3C, Park Operations and Administration, it is the intent of the National Park Service that any other development for administration or operations in Section 35 north of the South Fork of the Merced River would be compatible in character, density, and scale to existing residential and commercial development in Section 35.

For the area zoned jointly 3A/3C on the south side of the South Fork of the Merced River in Section 35, should the National Park Service determine that new, high density housing is not required to be located in this zone, it is the intent of the National Park Service that any development for administration or operations in this zone would be

compatible in character, density, and scale to existing residential and commercial development in Section 35. The potential use of this zone (as described under management zone 3A) would not change.

The Endangered Species Act of 1973, as amended (16 USC 1531 et seq.) requires all federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat. A *Notice of Intent to Prepare an Environmental Impact Statement* was sent to the U.S. Fish and Wildlife Service on August 20, 1999. On September 9, 1999, project staff met with a representative from the Sacramento office of the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service provided a draft letter listing species of concern, based on USGS 7.5-minute quadrangles that encompass the immediate project area, as well as a summary list. A final, augmented list was provided by U.S. Fish and Wildlife Service a week later and included all of the lands potentially affected by the proposed action. Staff wildlife and vegetation specialists used this list as a foundation for endangered species analysis summarized in this plan.

The National Park Service prepared a Biological Assessment in accordance with Section 7 of the Federal Endangered Species Act of 1973, as amended, and implementing regulations (16 USC 1536[c], 50 CFR 402.14[c]), National Environmental Policy Act requirements (42 USC 4332[2][c]), and direction provided in the 1988 *National Park Service Management Policies* (4:11). The Biological Assessment was submitted to the U.S. Fish and Wildlife Service for official review and comment in January 2000. A Final Biological Assessment based on the final *Merced River Plan/FEIS* was submitted to the U.S. Fish and Wildlife Service in June 2000. Copies of the Biological Assessment are on file at Yosemite National Park. On July 11, 2000, the U.S. Fish and Wildlife Service concurred with the National Park Service's determination that the Merced River Plan would not adversely affect federally-listed threatened or endangered species.

An overriding assumption of the Biological Assessment was that each site-specific action included in follow-on implementation plans that could occur after the adoption of the proposed action would be analyzed as required by the National Environmental Policy Act and the Endangered Species Act and that all federal laws would be complied with during implementation. Since the decision made under this EIS is programmatic, no specific commitment of resources is made by the decision. The U.S. Fish and Wildlife Service concurred with this determination that the *Merced River Plan* is a programmatic document. Therefore, a Biological Evaluation and/or Biological Assessment would be made for all site-specific projects, as warranted.

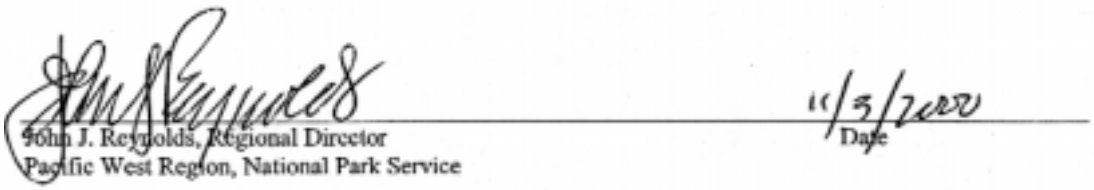
The National Park Service conducted consultation with the California State Historic Preservation Officer and the Advisory Council on Historic Preservation. This consultation, which was done according to the National Park Service's 1999 Programmatic Agreement for compliance with Section 106 of the National Historic Preservation Act, includes letters dated October 19, 1999, February 7, 2000, and March 20, 2000 to the California State Historic Preservation Officer and the Advisory

Council on Historic Preservation. These letters provide the determination by the National Park Service that the selection of Alternative 2 would have no effect on properties listed or eligible for listing in the National Register of Historic Places. This determination was based on the fact that the *Merced River Plan* would allow for, but does not propose, actions that are subject to the Yosemite Programmatic Agreement. The California State Historic Preservation Officer concurred with this "no effect" determination on March 29, 2000.

CONCLUSION

When taking into account the requirements of the Wild and Scenic Rivers Act, in conjunction with other legal requirements, Alternative 2 provides the most comprehensive and effective method among the alternatives considered for meeting Yosemite National Park's management objectives and for meeting the national environmental policy goals. The selection of Alternative 2, as reflected by the analysis contained in the environmental impact statement, would allow the National Park Service to conserve park resources, provide for their enjoyment by visitors, and would not result in the impairment of park resources.

Approved:



ATTACHMENT A

MERCED RIVER PLAN MITIGATION MEASURES

Attachment A of the Revised Record of Decision has been incorporated into Appendix B of the *Merced Wild and Scenic River Comprehensive Management Plan*.

APPENDIX B

Requirements for Project Implementation

To ensure the protection of natural and cultural resources, Outstandingly Remarkable Values, and the free-flowing condition of the river within the Merced River corridor, a consistent set of mitigation measures will be applied to actions that result from this plan. These mitigation measures will also be applied to future actions that are guided by this plan. The National Park Service will prepare appropriate environmental review (i.e., National Environmental Policy Act, National Historic Preservation Act, and other relevant legislation) for these future actions. As part of the environmental review, the National Park Service will avoid, minimize, and mitigate adverse impacts when practicable.

Sustainable Design and Aesthetics

Projects shall avoid or minimize adverse impacts to natural and cultural resources. Development projects (e.g., buildings, facilities, utilities, roads, bridges, trails, etc.) or reconstruction projects (e.g., road reconstruction, building rehabilitation, utility upgrade, etc.) shall be designed to work in harmony with the surroundings, particularly in historic districts. Projects shall reduce, minimize, or eliminate air and water nonpoint-source pollution. Projects shall be sustainable whenever practicable, by recycling and reusing materials, by minimizing materials, by minimizing energy consumption during the project, and by minimizing energy consumption throughout the lifespan of the project.

Best Management Practices During Construction

The following best management practices will be implemented, as appropriate, prior to, during, and/or after specific construction (for the purposes of this discussion, construction includes major repair and/or rehabilitation, demolition, deconstruction, reconstruction, restoration, etc.). Specific tasks will include, but are not limited to, the following:

- Implement a compliance-monitoring program in order to stay within the parameters of National Environmental Policy Act and National Historic Preservation Act compliance documents, U.S. Army Corps of Engineers Section 404 permits, etc. The compliance-monitoring program will oversee these mitigation measures and will include reporting protocols.
- Implement a natural resource protection program. Standard measures include construction scheduling, biological monitoring, erosion and sediment control, use of fencing or other means to protect sensitive resources adjacent to construction, removal of all food-related items or rubbish to bear-proof containers, topsoil salvage, and revegetation. This includes specific construction monitoring by resource specialists as well as treatment and reporting procedures.
- Implement a cultural resource protection program. Standard measures include salvage of historic building materials, archeological monitoring during ground-disturbing activities (in keeping with the 1999 Programmatic Agreement), use of fencing or other means to protect sensitive resources adjacent to construction, and preparation of a discovery plan to handle unanticipated exposure of buried human remains. This includes specific construction monitoring by resource specialists and culturally associated American Indian people, as well as treatment and reporting procedures.
- Implement a traffic control plan, as warranted. Standard measures include strategies to maintain safe and efficient traffic flow during the construction period.
- Implement a dust abatement program. Standard dust abatement measures include the following elements: water or otherwise stabilize soils, cover haul trucks, employ speed limits on unpaved roads, minimize vegetation clearing, and revegetate post-construction.
- Implement standard noise abatement measures during construction. Standard noise abatement measures include the following elements: a schedule that minimizes impacts to adjacent noise-sensitive uses, use of the best available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive uses as possible.

- Implement a noxious weed abatement program. Standard measures include the following elements: ensure construction-related equipment arrives to the site free of mud or seed-bearing material, certify all seeds and straw material as weed-free, identify areas of noxious weeds preconstruction, treat noxious weeds or noxious weed topsoil prior to construction (e.g., topsoil segregation, storage, herbicide treatment), and revegetate with appropriate native species.
- Implement a spill prevention and pollution control program for hazardous materials. Standard measures include hazardous materials storage and handling procedures; spill containment, cleanup, and reporting procedures; and limitation of refueling and other hazardous activities to upland/nonsensitive sites.
- Implement measures to reduce adverse effects of construction on visitor safety and experience.
- Implement a notification program. Standard measures include notification of sensitive receptors, utilities, and emergency response units prior to construction activities.
- Implement an interpretation and education program. Continue directional signs and education programs to promote understanding among park visitors.
- Use silt fences, sedimentation basins, etc. in construction areas to reduce erosion, surface scouring, and discharge to water bodies.
- Develop revegetation plans for the disturbed area and require the use of native species. Revegetation plans shall specify seed/plant source, seed/plant mixes, soil preparation, etc. Salvage vegetation shall be used to the extent possible.
- Delineate wetlands and apply protection measures during construction. Wetlands will be delineated by qualified National Park Service staff or certified wetland specialists and clearly marked prior to construction work. Construction activities shall be performed in a cautious manner to prevent damage caused by equipment, erosion, siltation, etc.
- Implement a fencing and flagging program to protect special-status species or sensitive habitats. This includes the following types of measures: use of high visibility snow fence about protected elderberry shrubs, marking trees to be retained, and use of signs (e.g., no refueling signs) in areas of high sensitivity.
- Implement a tree protection plan as warranted. This includes measures such as avoidance of the root-zone (typically 1.5 times the tree canopy), use of hand equipment for trenching within the root-zone, reduce compaction within root-zones, and maintain a natural grade.

Resource-Specific Measures

Geology, Geohazards, and Soils

- Conduct geotechnical and soils investigations as warranted. Implement appropriate siting, design, and construction measures to avoid or minimize geohazards. Provide erosion and sediment control.
- Avoid placing new facilities and buildings within geologic hazards areas whenever practicable.

Hydrology, Water Quality, and Floodplains

- An emergency preparedness plan will be developed for any facilities within the 100-year floodplain.
- Site new buildings outside of the floodplain, and/or use building engineering solutions to remove the building footprint from the floodplain, or flood-proof the building where feasible.
- For new facilities, and to the extent practicable for existing facilities, implement stormwater management measures to reduce nonpoint-source pollution discharge from roads, parking lots, and other impervious surfaces. This includes oil/sediment separators, street sweeping, infiltration beds, and use of permeable surfaces and vegetated or natural filters to trap or filter stormwater runoff.

Wetlands

- Conduct wetland surveys as warranted.
- Site and design facilities/actions to avoid adverse effects to wetlands. If avoidance is infeasible, minimize and compensate adverse effects to wetlands in accordance with Executive Order 11990 (Protection of Wetlands), the Clean Water Act, and Director's Order #77-1.
- Develop and implement restoration and/or monitoring plans as warranted. Plans shall include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.

Vegetation

- Conduct vegetation surveys as warranted.
- Site and design facilities/actions to avoid adverse effects to sensitive vegetative communities and large trees. If avoidance is infeasible, minimize and compensate adverse effects to sensitive vegetation as appropriate.

- Use only native plants in landscaping. Existing annosus centers in developed areas could be mitigated by landscaping with species that are not susceptible to infection, such as California black oak, live oak, and big-leaf maple.
- Prepare and implement a noxious weed abatement program. This includes restoration of degraded habitats, use of hand labor to remove weeds, and use of herbicides.
- Develop and implement restoration and/or monitoring plans as warranted. Plans shall include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
- Comply with the *Vegetation Management Plan* for landscaping and yard care within and around developed areas, including minimization of irrigation systems and planting with native species.

Wildlife

- Conduct wildlife surveys as warranted.
- Implement measures to reduce bear/human encounters. Measures include visitor education on bear behavior; installation of bear-proof food storage lockers at campsites and bear-proof garbage receptacles in parking lots and other facilities as warranted; enforcement of park regulations; regular trash collection; and removal of apples from historic orchards.
- Implement measures to reduce adverse effects of non-native wildlife. This includes use of processed feeds and hay at stables to reduce food for cowbirds, trapping programs for cowbirds, and measures to eradicate bullfrogs from wetland habitats.
- Site and design facilities/actions to avoid adverse effects to sensitive wildlife habitats or habitat features, especially during breeding seasons. If avoidance is infeasible, minimize and compensate adverse effects as appropriate.
- Minimize night lighting where practicable. Where night lighting is necessary, design lighting to be minimal, directed downward, and shielded.
- Educate the public on the dangers of intentional or unintentional feeding of park wildlife and on inadvertent harassment through observation or pursuit.

Special-Status Species

General Special-Status Species Measures

The following general measures will be employed to avoid, minimize or compensate for adverse effects to special-status species.

- Avoid adverse effects to special-status species when practicable.
- Conduct surveys for rare, special-status species as warranted.
- Site and design facilities/actions to avoid adverse effects to special-status species. If avoidance is infeasible, minimize and compensate adverse effects to rare, threatened, and endangered species as appropriate and in consultation with the appropriate resource agencies.
- Develop and implement restoration and/or monitoring plans as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
- Implement measures to reduce adverse effects of non-native plants and wildlife on special-status species.
- Maintain or restore the presence of very large, old trees, snags, large diameter logs, and decaying wood across the landscape.
- Maintain conditions suitable for spotted owl prey base, including decadence features such as mistletoe brooms, cavities, tree deformities, fungus growth, and large, decadent oaks.
- Maintain and restore shading and desired water temperatures, water quality, root strength, input of large woody debris, and input of organic matter (including leaf litter) in riparian and aquatic areas.
- Maintain and restore functioning wet meadows within or adjacent to late-successional forests.
- Maintain and restore watershed and hydrologic processes, including the role of mountain meadows.
- Maintain and restore riparian and aquatic vegetation structure and function.
- Maintain and restore connectivity of aquatic and riparian habitats.
- Maintain areas where species sensitive to human activity can successfully breed or feed without harassment.
- Implement adaptive management strategies as appropriate.

Valley Elderberry Longhorn Beetle

- All National Park Service personnel that coordinate construction work in the gorge and El Portal shall be familiar with locations and avoidance requirements for all elderberry shrubs within the construction zone.
- The contractor and all of the contractor's on-site personnel shall be briefed on the locations of elderberry, avoidance requirements, and penalties for noncompliance.
- Elderberry plants within the project area shall be individually fenced 20 feet from the dripline. The area will be signed before clearing and grubbing begins and before any large equipment is allowed to access to the site.
- A qualified National Park Service staff member shall be present for the duration of the project to ensure no unnecessary take of elderberry occurs. The staff member will have the authority to stop all construction activities should the potential for unnecessary take become apparent. He or she shall report any violations to the U.S. Fish and Wildlife Service.
- Any construction-related disturbance to the buffer zone (100-feet from the dripline) shall be minimized and restored following construction.

Special-Status Birds

- To avoid conflicts with nesting birds, construction activities within nesting habitat could occur outside the breeding season (which typically is March to August).
- Trees or structures with unoccupied nests (stick nests or cavities) shall be removed prior to March 1, or following the nesting season.
- Alternatively, if activities take place during the breeding season, a qualified biologist will conduct a pre-construction survey for individuals no more than two weeks prior to construction in March through August. If any special-status species is observed nesting, a determination shall be made whether or not the proposed action will impact the active nest or disrupt reproductive behavior.
- If it is determined that the action will not impact an active nest or disrupt breeding behavior, construction will proceed without any restriction or mitigation measure.
- If it is determined that construction will impact an active nest or disrupt reproductive behavior then avoidance strategies should be implemented. Construction shall be delayed within 500 feet of such a nest until a qualified biologist determines that the subject birds are not nesting or until any juvenile birds are no longer using the nest as their primary day and night roost.

Special-Status Aquatic Species

Implementation of the following conservation and protection measures would reduce or eliminate potential taking of special status amphibians and aquatic species. These measures were abstracted from the U.S. Fish and Wildlife Service Programmatic Biological Opinion for projects that may affect California red-legged frog, though the Biological Opinion does not specifically apply to this project because no California red-legged frog take is anticipated. Provisions listed below are considered reasonable and prudent for actions located within 100 feet of aquatic habitats:

- Work activities within potential special status aquatic species habitat shall be completed between April 1 and November 1 or during low-flow conditions.
- A qualified biologist shall survey the site two weeks before the onset of activities. If special status aquatic species, tadpoles, or eggs are found, the biologist will contact the appropriate agency(ies) to determine if moving any of these life-stages is appropriate.
- A qualified biologist shall conduct training sessions for all construction personnel before activities begin.
- The aquatic construction boundary shall be fenced to prohibit the movement of frogs into or out of the construction area and to control siltation and disturbance to aquatic habitat.
- All construction adjacent to or within aquatic habitats shall be regularly monitored.
- All trash that may attract predators shall be contained and regularly removed. Following construction, all trash and construction debris will be removed from work areas.
- All fueling and maintenance of vehicles and equipment shall occur at least 20 meters (65 feet) from any aquatic habitat.
- The spread or introduction of invasive non-native plant species shall be avoided. When practicable, invasive non-native plants in the project areas will be removed.
- The number and size of access routes, staging areas, and total area of activity shall be limited to the minimum necessary to achieve the project goal.
- Best management practices shall be implemented to control erosion.
- During dewatering, intakes shall be completely screened with wire mesh not larger than five millimeters (mm) to prevent aquatic species from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that allows flow to resume with the least disturbance to the substrate.

- Where practicable, qualified biologists will permanently remove, from within the project area, any individuals of non-native species, such as bullfrogs, crayfish, and centrachid fishes, to the maximum extent possible.
- The downstream construction boundary shall be fenced to prohibit the movement of aquatic species into the construction area and to control creek siltation and disturbance to downstream riparian habitat. An exclosure fence shall be installed in the creek channel both upstream and downstream of construction activities as appropriate. Fences shall be installed at least six weeks prior to the commencement of any construction activities.
- Immediately after installation of the exclosure fence, a qualified biologist shall inspect all areas within the fence for aquatic species.

Special-Status Bats

- A qualified biologist shall conduct surveys to determine whether affected structures, mature trees, or other habitat (e.g., crevices) that would be affected by a proposed action, provide hibernacula or nursery colony roosting habitat.
- If surveys conducted during the fall do not reveal any bat species, then the action shall occur within three days in order to prevent the destruction of any bats that move into the area after the survey.
- If the site is being used as a winter roost, then the action shall occur either prior to (between September 1 and October 1) or after hibernation (January 15 to February 15).
- If spring surveys are conducted and reveal that the site is being used as a nursery colony, the action shall not occur until after August 15, when the pups are weaned and are volant.

Other Special-Status Mammals

- Excavation sites (trenches or pits) will have suitable ramps for all small mammals to exit these areas.
- A qualified biologist will be available to inspect all excavations before refilling occurs, ensuring that special-status species are passively relocated to avoid incidental take.
- Exclosure fencing can be erected prior to construction to ensure that no special-status species are within the construction area.
- Speed limits in primary fishery habitat shall be low to prevent accidental injury.

Air Quality

- Implement smoke management policies of the Fire Management Plan to reduce the potential for prescribed burning activities to have a major effect on air quality in the park or in the park vicinity.
- Site and design facilities to minimize objectionable odors.

Noise

- Implement standard noise abatement measures during park operations. Standard noise abatement measures could include the following elements: a schedule that minimizes impacts to adjacent noise-sensitive uses, use of the best available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive uses as possible.
- Site and design facilities to minimize objectionable noise elements.

Cultural Resources

- Subject projects to site-specific planning and compliance in accordance with the park's 1999 Programmatic Agreement. Efforts will be made to avoid adverse impacts through use of the Secretary of the Interior's Standards for Archeology and Historic Preservation, and by using screening and/or sensitive design that would be compatible with historic resources.
- Site and design facilities/actions to avoid adverse effects to sensitive cultural resources. Subject projects to site-specific planning and compliance in accordance with the park's 1999 Programmatic Agreement. Conduct archeological site monitoring and routine protection. Conduct data recovery excavations at archeological sites threatened with destruction, where protection or site avoidance during design and construction is infeasible.
- Avoid or mitigate impacts to ethnographic resources. Mitigation could include identification of and assistance in accessing alternative resource gathering areas, continuing to provide access to traditional use and spiritual areas, and screening new development from traditional use areas.
- Restore and rehabilitate cultural landscape resources to the extent feasible. This could entail restoring important historic viewsheds through manual thinning, rehabilitating meadows and open spaces through prescribed burning, removing noncontributing and incompatible structures, and incorporating new additions using compatible design.
- Continue and formalize ongoing consultations with culturally associated American Indian people. Formalize a parkwide gathering plan and discovery plan for American Indian remains. Protect known burial sites, and protect sensitive traditional use areas to the extent feasible.

- Conduct surveys for archeological sites, traditional resources, historic sites, structures, and cultural landscape resources as warranted.

Land-Use Planning

The National Park Service, in consultation with Mariposa County, shall prepare a detailed map of Section 35 in Wawona reflecting that the management zoning adopted under this alternative only applies to federal lands. This map will be completed as soon as practicable and will be available to the public upon request.

Before undertaking development of new employee housing units in Section 35, the National Park Service will identify and evaluate alternatives for housing opportunities outside of Yosemite National Park. The identification and evaluation of housing alternatives would be collaborative, with participation by appropriate county officials and representatives of affected communities. Decisions regarding the location of new employee housing will be in accordance with the Omnibus Parks and Public Lands Act of 1996 and applicable National Park Service policies. With regards to Wawona, it is the intent of the National Park Service to locate additional housing outside the park where possible.

The National Park Service will also continue in a collaborative planning process for the community of Wawona with the Wawona Town Planning Advisory Committee, the Mariposa County Planning Commission, and the Mariposa County Board of Supervisors. Although ultimate responsibility for regulating land uses in federal and private lands in Wawona will remain with the National Park Service and Mariposa County, respectively, the National Park Service will strive, to the maximum extent possible, to coordinate land use planning in Wawona with Mariposa County and the Wawona Town Planning Advisory Committee. The National Park Service and each party will designate a liaison as the principal contact in this collaborative process.

Construction of new administrative and housing facilities will be accomplished in Wawona and El Portal only after additional environmental compliance is completed. The site design and development process will provide for the participation of National Park Service and concession employees, residents, and other interested parties in the site development studies for housing, administrative functions, and community/commercial facilities. Such compliance will consider appropriate town planning area specific plans and will be in consultation with appropriate county officials and community representatives.

Transportation

- Implement the Restricted Access Plan when traffic and parking conditions in Yosemite Valley are overly congested.

Scenic Resources

- Where appropriate, facilities such as boardwalks and fences shall be used to route people away from sensitive natural resources, while still permitting access to important viewpoints.
- Facilities shall be designed, sited, and constructed to avoid or minimize adverse effects on natural communities and visual intrusion into the natural landscape.

Socioeconomics

- Eligible residents who might be effected by actions of this plan, and who meet the compensation criteria under provisions of the Uniform Relocation Act, could be eligible for housing and moving benefits.

APPENDIX C

Glossary

Glossary of Terms[1]

100-year floodplain: The area along the river corridor that would receive floodwaters during a 100-year flood event. A 100-year flood event has the probability of occurring 1% of the time during any given year. If a 100-year flood event occurs, the following year will still have the same probability for occurrence of a 100-year event. For the purposes of this plan, the 100-year floodplain also includes wetlands and meadows associated with the hydrologic and ecological processes of the river.

Adaptive Management: Adaptive management is a process that allows the development of a plan when some degree of biological and socioeconomic uncertainty exists. It requires a continual learning process, a reiterative evaluation of goals and approaches, and redirection based on an increased information base and changing public expectations (Baskerville 1985).

Bank: The area below the ordinary high water mark in a river or stream. The ordinary high water mark is defined by the U.S. Army Corps of Engineers as that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character

1 See the *Merced River Plan/FEIS* for a more exhaustive glossary.

of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Best Management Practices: Effective, feasible (including technological, economic, and institutional considerations) conservation practices and land- and water-management measures that avoid or minimize adverse impacts to natural and cultural resources. Best management practices may include schedules for activities, prohibitions, maintenance guidelines, and other management practices.

Boundaries: The areas that receive protection under the Wild and Scenic Rivers Act. Boundaries include an average of not more than 320 acres of land per mile, measured from the ordinary high water mark on both sides of the river. This equates to an average width of one-quarter mile on each side of the river.

California Wilderness Act of 1984: A federal law that designated a number of additional wilderness areas in California, including those in Yosemite National Park.

Classifications: The status of rivers or river segments under the Wild and Scenic Rivers Act ("wild," "scenic," or "recreational"). Classification is based on the existing level of access and human alteration of the site.

Comprehensive Management Plan: A plan to protect and enhance a Wild and Scenic River. The *Merced River Plan* is the National Park Service's comprehensive management plan for segments of the Merced River corridor under its jurisdiction.

Drive-to Campground: A campground with associated parking adjacent to individual campsites.

El Portal Administrative Site: The area outside the western boundary of the park along Highway 140 under the jurisdiction of the National Park Service used to locate park operations and administrative facilities for Yosemite National Park.

Environmental Impact Statement (EIS): A public document required under the National Environmental Policy Act (NEPA) that identifies and analyzes activities that might affect the human and natural environment.

Facilities: Buildings and the associated infrastructure such as roads, trails, and utilities.

Fen: An open wetland system with very high nutrients and productivity that receives some drainage from surrounding mineral soils and usually supports marsh-like vegetation (sedge, rushes, reeds, horsetails, grasses).

Floodplain: A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Free-flowing river: Existing or flowing in natural condition without impoundment, diversion, straightening, riprapping, or other modification of the waterway (as defined in the Wild and Scenic Rivers Act - 16 USC 1286 [b]).

High Sierra Camps: Overnight lodging facilities operated by the concessioner in the wilderness areas that include tent cabins, food service, and other amenities. Merced Lake High Sierra Camp is one of the High Sierra Camps.

Impoundment: A dam or other structure to obstruct the flow of water in a river or stream.

Main stem (Merced River): The sections of the Merced River beginning at the headwaters near the Sierra Crest and continuing through Yosemite Valley, the Merced River gorge, El Portal, and further downstream.

Management zone: A geographical area for which management directions or prescriptions have been developed to determine what can and cannot occur in terms of resource management, visitor use, access, facilities or development, and park operations.

National Environmental Policy Act (NEPA): The federal act that requires the development of an environmental impact statement (EIS) for federal actions that might have substantial environmental, social, or other impacts.

Natural processes: All processes, such as hydrologic, geologic, or ecosystemic, that are not the result of human manipulation.

Non-motorized watercraft: A class of boats that includes rafts, kayaks, inner tubes, and inflatable air mattresses.

Non-wilderness: Areas that have not been designated for special protection under the Wilderness Act.

Ordinary high water: The line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Outstandingly Remarkable Values: Those resources in the corridor of a Wild and Scenic River that are of special value and warrant protection. Outstandingly Remarkable Values are the "scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values...that shall be protected for the benefit and enjoyment of present and future generations" (16 USC 1272).

Paternoster lakes: A chain of lakes in a glacially carved region.

Potential wilderness additions: Areas officially designated as potential wilderness additions under the California Wilderness Act. This act mandates that "lands designated as potential wilderness additions shall be managed by the Secretary in so far as practicable as wilderness until such time as said lands are designated as wilderness."

Prescription: A guideline that directs the management of a specific area by describing the type and intensity of activities, facilities, and park operations that can and cannot occur. See "management zone."

Pristine: Unaltered, unpolluted by humans.

Record of Decision (ROD): The public document describing the decision made on selecting the "preferred alternative" in an environmental impact statement. See "environmental impact statement."

Riparian areas: The land area and associated vegetation bordering a stream or river.

Riprap: A layer of large, durable fragments of broken rocks specially selected and graded, thrown together irregularly or fitted together to prevent erosion by waves or currents.

Riverine: Of or relating to a river. A riverine system includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean-derived salts in excess of 0.5%. A channel is an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water.

River corridor: The area within the boundaries of a Wild and Scenic River (e.g., the Merced River corridor).

River Protection Overlay: A buffer area within and adjacent to the river that allows for the protection and restoration of natural and aquatic ecosystem processes.

Section 35: The area on the South Fork of the Merced River, originally designated by the U.S. Geological Survey, that demarcates the "township of Wawona" and contains intermixed parcels of private and National Park Service lands.

South Fork (Merced River): The segments of the Merced River passing through Wawona and entering the main stem west of El Portal.

Superintendent's Compendium: Pursuant to 36 CFR 1.5 and 1.6, this is a set of superintendent's orders that establishes restrictions, conditions of use, closures, and public use limits in park units over which a superintendent has jurisdiction.

User capacity: As it applies to parks, user capacity is the type and level of visitor use that can be accommodated while sustaining the desired resource and social conditions based on the purpose and objectives of a park unit.

U-Shaped valley: A glacially carved valley having a pronounced parabolic cross-sectional profile suggesting the form of a broad letter "U" and characterized by steep sides and a nearly flat bottom.

Visitor experience: The perceptions, feelings, and reactions a park visitor has in relationship with the surrounding environment.

Visitor Experience and Resource Protection (VERP): A process developed for the National Park Service to help manage the impacts of visitor use on the visitor experiences and resource conditions in national parks.

V-Shaped valley: A valley having a pronounced cross-profile suggesting the letter "V", characterized by steep sides and short tributaries. Specifically, a young narrow valley resulting from downcutting by a stream.

Walk-in campground: A campground with consolidated parking areas separated from the individual campsites. Campers walk a short distance from the parking area to their campsites.

Water Resources Projects: Any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act, or other construction of developments that would affect the free-flowing characteristics of a wild and scenic or congressionally authorized study river. In addition to projects licensed by the Federal Energy Regulatory Commission, water resources projects may also include: dams; water diversion projects; fisheries habitat and watershed restoration/enhancement projects; bridges and other roadway construction/reconstruction projects; bank stabilization projects; channelization projects; levee construction; recreation facilities such as boat ramps and fishing piers; and, activities that require a 404 permit from the U.S. Army Corps of Engineers (IWSRCC 1999).

Watershed: The region drained by, or contributing water to, a stream, lake, or other body of water. Synonym: basin or drainage basin.

Wetland: Wetlands are defined by the U.S. Army Corps of Engineers (CFR Section 328.3[b], 1986) as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Wild and Scenic Rivers: Those rivers receiving special protection under the Wild and Scenic Rivers Act.

Wilderness: Those areas protected by the provisions of the 1964 Wilderness Act. These areas are characterized by a lack of human interference in natural processes.

Wilderness Act of 1964: The Wilderness Act restricts development and activities to maintain certain places where wilderness conditions predominate.

Acronyms[2]

CFR Code of Federal Regulations

EIS Environmental Impact Statement

FERC Federal Energy Regulation Commission

GIS Geographic Information System

IWSRCC Interagency Wild and Scenic Rivers Coordinating Council

NEPA National Environmental Policy Act

NHPA National Historic Preservation Act

NPS National Park Service

ORVs Outstandingly Remarkable Values

PL Public Law

ROD Record of Decision

2 See the *Merced River Plan/FEIS* for a more exhaustive list of acronyms.

RPO River Protection Overlay

USC United States Code

USFS United States Forest Service

USFWS United States Fish and Wildlife Service

VERP Visitor Experience and Resource Protection

APPENDIX D

List of Preparers

Name	Responsibility
National Park Service	
Yosemite National Park	
David A. Mihalic	Superintendent
Stanley T. Albright	Former Superintendent
Kevin Cann	Deputy Superintendent
Core Team	
Dave Ashe	Protection
Ali Baird	GIS Analysis
Laurel Boyers	Wilderness Management
Mark Butler	NEPA, Water Resources, Soils
John C. Clark	Facility Management Specialist: Maintenance, Water Quality
James Corless	Interpretation, Visitor Experience
Louise Johnson	River Management
Peter Keller	Policy
Paul Laymon	Maintenance Operations, Utilities; Project Manager of ROD and Final Plan
Martha Lee	Public Involvement
Joe Meyer	Natural and Cultural Resources
Martin Nielson	Concessions Operations, Recreation
John Roth	Operations, Wilderness, Recreation
Kristina Rylands	Editor-in-Chief, Document Preparation
Amy Schneckenburger	Project Manager of Draft Plan/EIS and Final Plan/EIS
David Siegenthaler	Public Involvement
Wendy Vittands	Administrative Record

Name	Responsibility
Technical Experts	
Lisa Acree	Natural Resources
Linda Eade	Bibliography
Sue Fritzke	Natural Resources, Vegetation, Wetlands
Dave Forgang	Cultural Resources
Russell Galipeau	Chief of Resources Management
Laura Kirn	Cultural Resources
Jerry Mitchell	Resources Management
Brenda Ostrom	Transportation
Glen Rothell	Operations
Steve Thompson	Ecology and Resources; Wildlife; Special-Status Species
Katy Warner	Air Quality
U.S. Geological Survey	
Jan Van Wagtendonk	Environmental Consequences
Gerry Wieczorik	Geologic Hazards
Denver Service Center	
Dave Kreger	NEPA Compliance
Gary Smillie	Water Resources and Floodplains
Michael Spratt	Project Manager, Contracting Officer's Representative
Larry Walling	Project Manager, Contracting Officer's Representative
Frank Williss	NHPA Compliance
Consulting Team	
MIG, Inc.	
Jeff Loux	Project Manager
Junko Peterson	Environmental Planner
Jonathan London	Environmental Planner
Environmental Science Associates	
David Full	EIS Project Manager, Cultural Resources
Tina Ogawa	EIS Deputy Project Manager, Socioeconomics, Scenic Resources
Nancy Barbic	Wetlands; Vegetation; Wildlife; Special-Status Species; Park Operations and Facilities
Lisa Bautista	Word Processing
John Brosnan	Cultural Resources, Land Use, Document Preparation
Lisa Crossett	Document Layout and Design

Name	Responsibility
Elise Holland	Visitor Experience
Peter Hudson	Geology, Geohazards, and Soils
Jack Hutchison	Transportation
Gus JaFolla	Administrative Record
Perry Jung	Graphics
Jeff Langman	Hydrology, Water Quality, and Floodplains
Rowell Llanillo	Mapping, Graphics
Tim Morgan	Administrative Record, GIS
Anthony Padilla	Document Production
Phil Rieger	Fisheries, Visitor Experience
Tom Roberts	Wildlife; Special Status-Species
Matt Trask	Land Use, Scenic Resources, Park Operations and Facilities
Jeff Wehling	Air Quality, Noise
Loralie Froman	Document Editing

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MERCED WILD AND SCENIC RIVER

Comprehensive Management Plan

As the nation s principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public land and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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