



## Chapter 1: Purpose and Need





# CHAPTER 1: PURPOSE AND NEED

## INTRODUCTION

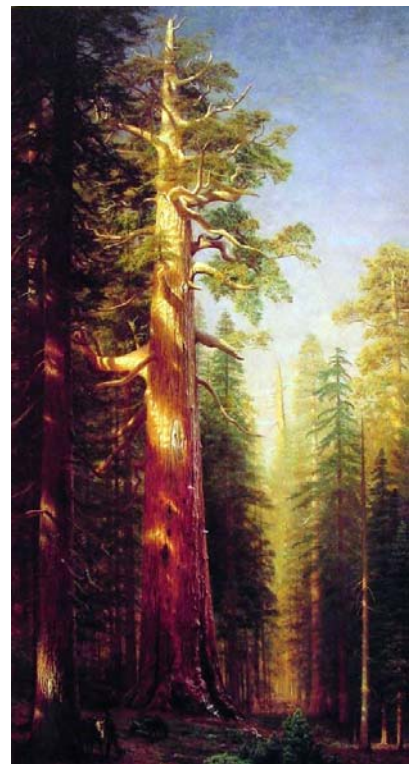
The *Restoration of the Mariposa Grove of Giant Sequoias Final Environmental Impact Statement (Mariposa Grove FEIS)* presents and analyzes four alternatives to restore natural conditions, protect natural and cultural resources, and improve visitor experience and access to the Mariposa Grove of Giant Sequoias in Yosemite National Park, California (also referred to as the Mariposa Grove). A National Park Service (NPS) interdisciplinary team developed the *Mariposa Grove FEIS* in conjunction with park staff and leadership; American Indian tribes and groups; federal, state and local agencies; and substantial input and participation from park partners and the public. This plan addresses the required elements of the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA), and other legal mandates that govern decision-making and planning in the NPS. This FEIS also fulfills the public review requirements of the California Environmental Quality Act. This FEIS presents a “no-action” alternative and three comprehensive alternatives for meeting the goals of the plan. The action alternatives are consistent with overall direction for the Mariposa Grove established in the *General Management Plan (GMP)* (NPS 1980a) for Yosemite National Park. The NPS expects this plan to have a lifespan of at least 20 years.

## BACKGROUND

In 1864, the U.S. Congress passed landmark legislation granting the Yosemite Valley and the Mariposa Grove of Big Trees to the State of California (Act of June 30, 1864, 13 Stat., 325). Signed by President Lincoln, the statute decreed both Yosemite Valley and the Mariposa Grove of Big Trees to be set aside “. . . for public use, resort, and recreation; shall be inalienable for all time.” This was the first time Congress set aside public lands for the express purpose of preserving scenic and natural values. Protection of the Mariposa Grove was crucial at that time, as logging was ongoing in other giant sequoia groves in California.

The natural distribution of the giant sequoia (*Sequoiadendron giganteum*) is limited to about 75 isolated groves on the west slope of the Sierra Nevada of California. These groves are relicts of extensive forests that existed thousands of years ago (figure 1-1). These impressive trees are known for their massive size and longevity, with life spans that may reach 3,200 years (York 2011).

The Mariposa Grove of Giant Sequoias supports about 500 mature giant sequoia trees. It is the largest of three giant sequoia groves within Yosemite National Park, containing 86 percent of the park’s mapped adult giant sequoias (figure 1-2), and is estimated to receive more than one million visitors annually.



**The Great Trees Mariposa Grove California, by Albert Bierstadt, 1876**

Source: Albert Bierstadt, 1876



**Figure 1-1 – Distribution of Giant Sequoia Groves in California**

Distribution of the giant sequoia trees is influenced by several factors, including surface and ground water (typically supplied by melting snow), topography, elevation, aspect, soil type, relative humidity, and temperature. Giant sequoias have extensive shallow lateral root systems that can radiate up to 200 feet from the base of the tree.

Fire plays an important role in giant sequoia ecology, creating canopy openings and releasing soil nutrients needed for seedling establishment. Fire scars on the trees within Mariposa Grove indicate that fires occurred at intervals of approximately 3 to 15 years within the Grove until the late 19<sup>th</sup> century (NPS 2011b).

The Mariposa Grove ecosystem provides important habitat for wildlife and plants, including special status species such as the Pacific fisher (*Martes pennanti*), a federal candidate for listing under the Endangered Species Act; California spotted owl (*Strix occidentalis occidentalis*); and numerous rare herbaceous plants, including Bolander's woodreed (*Cinna bolanderi*), and Coleman's piperia (*Piperia colemanii*).

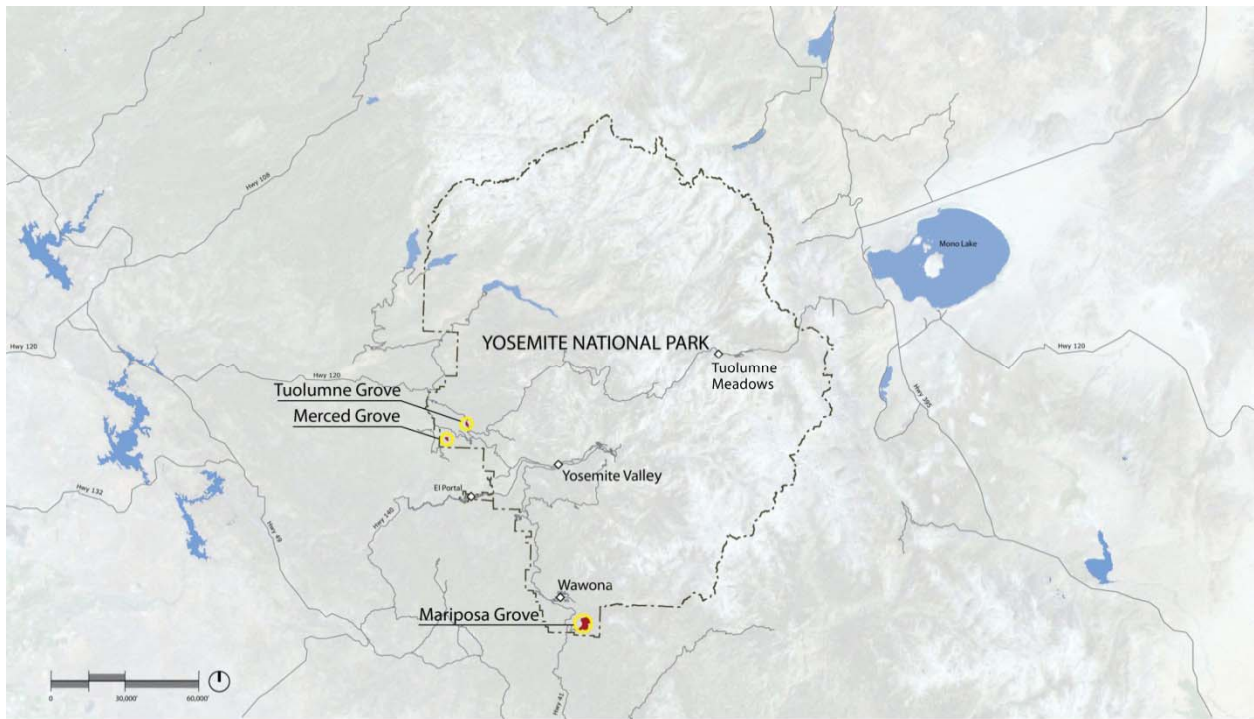
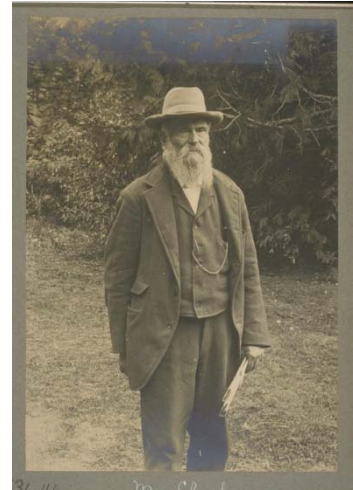


Figure 1-2 – Giant Sequoia Groves in Yosemite National Park

There is a rich cultural history in the Mariposa Grove area. Cultural resources in the area include pre-contact and historic-era archeological resources, several historic properties either listed or eligible for listing on the National Register of Historic Places, and American Indian traditional cultural resources. The Mariposa Grove Historic District includes all of the Mariposa Grove Road from the South Entrance to Wawona Point, several pedestrian and bridle trails, the Wawona Point overlook, and a comfort station, drinking fountains, and the Mariposa Grove Museum in the upper part of the Grove. The museum building was constructed circa 1930 near the former site of a cabin originally constructed in 1864 by Galen Clark, the first government-appointed guardian of the Mariposa Grove of Big Trees (figure 1-3). The South Entrance Historic District includes a comfort station, the ranger residence/garage, and the park entrance checking station.

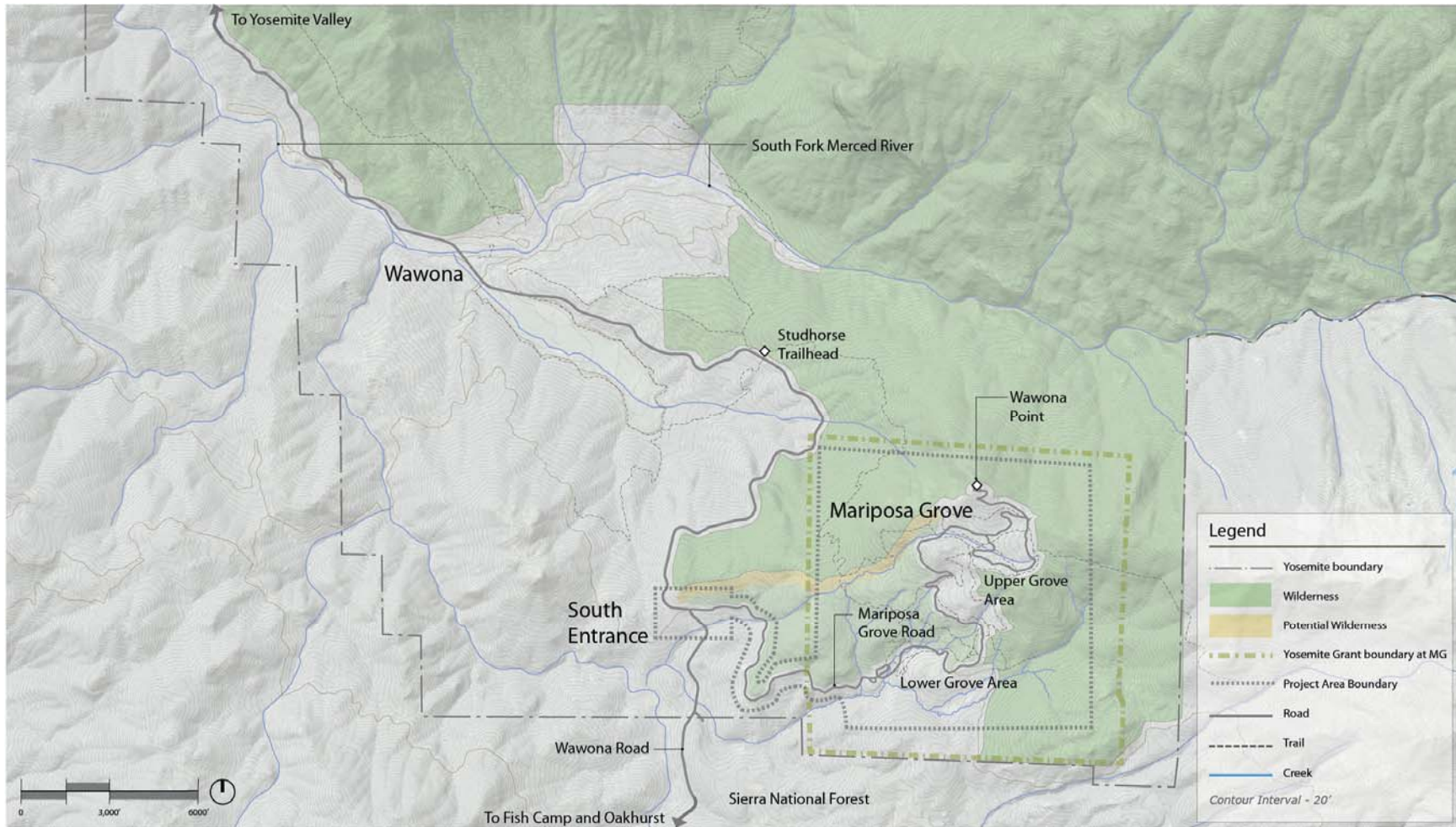


**Figure 1-3 – Galen Clark**

The Mariposa Grove Archeological District includes several discrete prehistoric and historic sites located within and near Mariposa Grove of Giant Sequoias. Archeological sites are fragile, non-renewable resources with important potential for containing information about past life ways, and represent tangible heritage resources for traditionally associated American Indian tribes and groups, as well as the visiting public. Other National Register-eligible archeological sites are present near South Entrance. The Mariposa Grove of Giant Sequoia and its varied flora and fauna and natural topographic prominences (e.g., Wawona Point), along with certain of the archeological sites, also represent traditional cultural resources of importance to American Indian tribes and associated groups.

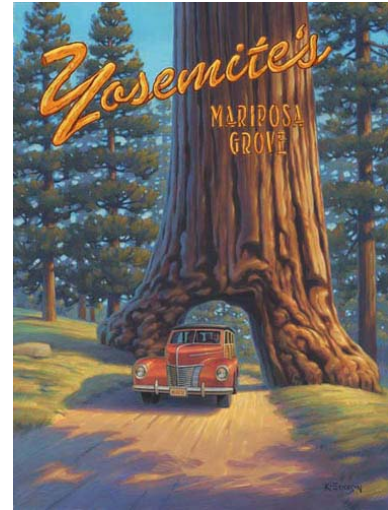
Figure 1-4 displays the project area, which encompasses the Mariposa Grove, South Entrance, and the surrounding area.





**Figure 1-4 – Mariposa Grove Restoration Project Area and Vicinity**

The State of California and private entrepreneurs built trails and facilities in and near the Mariposa Grove as early as the 1860s. In the early to mid-20<sup>th</sup> century, the NPS developed more visitor facilities including parking lots, comfort stations, a lodge, and a campground. During this time, park managers attempted to protect the Grove from fire in various ways such as installing fire hydrants, removing surface fuels and downed trees, and extinguishing wildfires. Following this development period which extended into the 1970s, management practices evolved as understanding of the biology and ecology of giant sequoias improved. Subsequently in 1971, after nearly a century of fire suppression, prescribed fire was reintroduced to the Grove as resource managers recognized that vegetation composition and forest structure had changed, and that heavy fuel accumulation could threaten the long-term survival of giant sequoias.



**Figure 1-5 – Vintage promotional poster of Wawona Tunnel Tree**

Growing concerns about traffic congestion and visitation impacts also eventually led to the decision in 1970 to prohibit private vehicles in the upper Mariposa Grove area and at Wawona Point. By 1980, when the Yosemite GMP (NPS 1980a) was issued, the NPS recognized the need to mitigate traffic congestion at South Entrance, reduce infrastructure and traffic within the Grove, control the intensity of visitor use, and reestablish a more natural fire regime in this rare ecosystem. Today, buildings and infrastructure present in Mariposa Grove include tour bus and visitor parking areas; a shuttle stop; a concessioner-operated gift shop; a commercial tram; the Mariposa Grove Museum; comfort stations and an associated septic system/leach field in the upper Grove area; several pedestrian/hiking trails; paved roadways; drainage control structures such as road-side ditches and culverts; a water storage, treatment, and distribution system that serves both Mariposa Grove and South Entrance; and communications equipment at Wawona Point.

The GMP (NPS 1980a) for Yosemite National Park outlines goals and actions to protect and restore Mariposa Grove and to improve conditions at the nearby South Entrance. A few actions have been implemented, such as removal of the campground and lodge from the Grove, and more recently, removal of the commercial tram fueling station. However, several major actions have yet to be undertaken, including removing the parking lot and gift shop from the lower part of the Grove, improving visitor facilities, upgrading utilities, and improving access to the park and to Mariposa Grove through the South Entrance.

## **PURPOSE OF AND NEED FOR THE PROJECT**

The primary purpose of the *Mariposa Grove FEIS* is to restore the dynamic ecological processes that sustain the Mariposa Grove, increase the resiliency of the Grove to withstand emerging stressors, and improve the overall experience in the Grove for visitors. Comprehensive action is needed to ensure that the Mariposa Grove of Giant Sequoias thrives and continues to provide inspiration and enjoyment for current and future generations. The NPS has completed studies to assess the potential impacts of infrastructure, operations, and visitor use on the condition and health of the ecosystem. Studies also assessed the condition of cultural resources, the condition of existing facilities and infrastructure, visitor access and use patterns, and traffic flow at South Entrance. Based on these studies, actions are needed to ensure the long-term ecological health of the Mariposa Grove and address the following issues:



- Water availability is important for giant sequoia survival and regeneration. Roads, trails, and other infrastructure disrupt the natural hydrologic functioning of the Grove, reducing the infiltration of water into soils, and in some instances diverting water outside the Grove watershed.
- Infrastructure concentrated in the lower portion of the Grove encroaches on individual giant sequoias and their roots, and reduces habitat for giant sequoia propagation. This infrastructure includes a paved roadway, a 115-space parking lot, a commercial tram staging area and tram ticket booth, generators, a comfort station, and a gift shop.
- Ongoing pedestrian and vehicle traffic throughout the Grove damages giant sequoia bark and trunks, leads to soil compaction, and exposes shallow giant sequoia roots, stressing the trees and potentially making them less resilient and more susceptible to external threats such as disease, wildfire, and climate change.
- A deteriorated water treatment, storage, and distribution system in the upper part of the Grove is leaking thousands of gallons of chlorinated water per day, and may be affecting shallow hydrology and local vegetation.

Current factors affecting the quality of the visitor experience include the following:

- Wayfinding information is insufficient to orient visitors upon arrival at the Grove and on trails within the Grove.
- Poor road conditions between the South Entrance and the lower Grove area contribute to seasonal closures, limit vehicle types, and are a safety concern for visitors and park employees.
- The Grove parking lot often fills early in the day, forcing temporary closures of the lot and Mariposa Grove Road, and causing visitor frustration as visitors are redirected to limited overflow parking at South Entrance or to Wawona to await a shuttle to return to the Grove.
- Long lines form at the South Entrance station kiosks and intersection as visitors attempt to get information, find parking, or turn around due to Grove parking lot and road closure.
- Shuttles from Wawona to the Grove are often already full when they arrive at the South Entrance shuttle stop, limiting boarding and increasing visitor wait times.
- Trails and facilities in and around the Grove need improvements to reduce grades and/or increase connectivity to provide better universal accessibility.
- Operation of the commercial tram within the Grove creates vehicle/pedestrian conflicts along the loop road, and intrudes on the experience of pedestrian visitors seeking to enjoy the majestic setting and natural soundscapes, particularly in the upper, more remote areas of the Grove.
- The vault toilets in the lower part of the Grove are inadequate and not fully accessible, and are the source of nuisance odors that detract from the Grove experience.
- The historic comfort station and the associated septic system and leach field in the upper Grove area should address accessibility, water-use efficiency, and maintainability goals.
- Historic features at Wawona Point, including the masonry overlook wall, steps, and railing, are in disrepair and require repair to meet current standards.

With the exception of Alternative 1, No Action, each of the alternatives meets the project purpose and need of the plan to varying degrees and in different ways. All alternatives would retain the

existing visitor use levels of a typical day in the Mariposa Grove, though visitor use would concentrate in different areas. The daily visitor use level proposed in the *Mariposa Grove FEIS* approximates the visitor use levels established for the Mariposa Grove in the 1980 GMP for Yosemite National Park (3,850 visitors per day).

## **GOALS PRESCRIBED IN THE *GENERAL MANAGEMENT PLAN FOR YOSEMITE***

Specific direction in the *GMP* for management of the Grove is outlined in Appendix A. The management goals identified in the GMP (NPS 1980a) for the Mariposa Grove of Giant Sequoias include the following:

- Retain the Grove as the primary park location for visitor enjoyment and interpretation of giant sequoias
- Provide only those visitor facilities consistent with preservation of the giant sequoia ecosystem, and remove all other facilities not necessary for visitor enjoyment of the resource
- Upgrade facilities to eliminate resource impacts and meet current standards

## **PROJECT-SPECIFIC GOALS**

Additional project-specific goals for the protection, restoration, and enjoyment of Mariposa Grove are summarized as follows:

### **Natural Resources**

- Protect and restore giant sequoia habitat and associated wetlands
- Protect special status wildlife and plant species
- Protect air and water quality and natural soundscapes

### **Cultural Resources**

- Protect and maintain historic buildings, structures, and cultural landscapes, including the giant sequoia trees
- Protect and stabilize prehistoric and historic archeological sites
- Sustain and interpret traditional cultural resources

### **Sustainability, Durability, and Efficiency**

- Incorporate sustainable practices
- Improve efficiency and maintainability of park infrastructure
- Optimize constructability

### **Visitor Experience**

- Improve visitor education
- Improve orientation and wayfinding within the Grove
- Provide options for quality visitor access to the Grove
- Upgrade visitor facilities

### **Public and Employee Health, Safety, and Welfare**

- Enhance universal access and design
- Improve visitor and park/concessioner staff safety



## **ECOLOGICAL RESTORATION GOALS AND OBJECTIVES**

The long-term preservation of giant sequoias depends on mitigating and minimizing the adverse influences of human activities. In the past 40 years, managers across the Sierra Nevada have sought to remove infrastructure (such as the large restoration project in Giant Forest of Sequoia National Park) and to restore natural fire regimes and hydrologic connectivity within giant sequoia groves. This ecosystem approach centers on three key management goals (Piirto and Rogers 1999):

- Protect naturally occurring groves from human impacts (e.g., infrastructure, logging) and disturbances outside the natural range of variability (e.g., stand-replacing fire)
- Preserve the groves by promoting natural ecosystem processes and allowing them to prevail
- Actively restore altered ecosystem functions, particularly fire and hydrology

The overarching goals of ecological restoration in the Mariposa Grove are to promote giant sequoia germination and establishment and ensure the persistence and longevity of the giant sequoia population. To achieve these goals, a combination of restoration actions would provide the best means of achieving the following ecological restoration objectives:

- Protect, maintain, and enhance environmental conditions and ecosystem function required to sustain the population of giant sequoias
  - Ensure germination and recruitment through frequent surface fires
  - Create and maintain canopy gaps to facilitate giant sequoia germination and recruitment
  - Conduct prescribed burning outside of the Mariposa Grove to reduce the risk of a catastrophic fire originating outside of the Grove
  - Protect individual trees and seedling habitat from structural damage caused by roads, trails, utilities, and visitor trampling
- Protect, maintain, and restore natural hydrologic functions in the Mariposa Grove of Giant Sequoias
  - Remove or modify infrastructure that impacts sheet flow hydrology
  - Where roads and trails remain, remove inside ditches, outslope cutbank areas, and repair, replace, or install culverts to facilitate surface flow
  - Protect and restore wetlands
- Restore areas impacted by the removal, alteration, or relocation of buildings or infrastructure to natural conditions
- Maintain and manage structure and composition of native vegetation within the range of natural variability so that the vegetation functions dynamically over a long-term time frame (50-100 years)
  - Continue prescribed burning and modify as needed to reach target forest conditions
  - Retain large snags for wildlife habitat
  - Continue invasive plant removal in and around the Grove

By removing non-essential buildings and infrastructure; protecting the roots of giant sequoias from impacts of roads, trails, and foot traffic; removing impediments to natural surface and subsurface water flow; and restoring a more natural fire regime (augmented by prescribed fire as necessary), the NPS can effectively preserve, protect, and restore the rare ecosystem of the Mariposa Grove.

## POLICY AND PLANNING CONTEXT

The NPS developed the alternatives considered in the *Mariposa Grove FEIS* in accordance with public laws, treaties, proclamations, executive orders, regulations, and directives of the Secretary of the Interior and the Assistant Secretary for Fish and Wildlife and Parks. The NPS Organic Act, passed by the U.S. Congress in 1916, provides fundamental management direction for all units of the National Park System. The Organic Act requires that the NPS “shall promote and regulate the use of . . . national parks . . . by such means and measures as conform to the fundamental purpose of the said parks . . . which purpose is to conserve the scenery and natural and historic objects and the wildlife 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.” Fragile ecosystems such as that of the giant sequoia warrant special care if the groves are to survive and thrive.

Congress amended the Organic Act with the 1970 General Authorities Act, which affirms that all of the nation’s parks—whether they include natural, cultural or historic resources—are united under the mission, purpose and protection of the Organic Act. The 1978 Redwood National Park Expansion Act also amended the Organic Act, re-affirming the mandate and directing the NPS to manage park lands in a manner that would not degrade park values. In addition, federal management decisions must be consistent with national laws, including NEPA, NHPA, the Endangered Species Act, and the Clean Water Act. The following laws and policies are most relevant to this planning process.

### Federal Statutes and Executive Orders

- National Park Service Organic Act (1916)
- National Park Service General Authorities Act (1970)
- National Environmental Policy Act (1969)
- National Historic Preservation Act (1966), as amended
- Clean Water Act (1972)
- Clean Air Act (1970), as amended
- Endangered Species Act (1973)
- Migratory Bird Treaty Act (1918)
- Wild and Scenic Rivers Act (1968), as amended
- Archaeological Resources Protection Act (1979)
- Native American Graves Protection and Repatriation Act (1990)
- American Indian Religious Freedom Act (1978)
- Rehabilitation Act (Section 504) (1973)
- Architectural Barriers Act (1968), as amended
- Executive Order 11593: Protection and Enhancement of the Cultural Environment
- Executive Order 13007: Indian Sacred Sites
- Executive Order 13514: Federal Leadership in Environmental, Energy, and Economic Performance
- *Architectural Barriers Act Accessibility Standards for Federal Facilities* (GSA 2006)
- *The Secretary of the Interior’s Standards for the Treatment of Historic Properties* (NPS 1995)



## National Park Service Policies, Guidance, and Directors Orders

- *Management Policies 2006* (NPS 2006)
- *Guiding Principles of Sustainable Design* (NPS 1993)
- Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* (NPS 2001)
- Director's Order 28: *Cultural Resource Management* (NPS 1998)
- Director's Order 42: *Accessibility for Visitors with Disabilities in National Park Service Programs and Services* (NPS 2000a)
- Director's Order 77-1: *Wetland Protection* (NPS 2002)

## Yosemite National Park Plans

- *General Management Plan* (NPS 1980a)
- *Fire Management Plan* (NPS 2004a)
- *Scenic Vista Management Plan* (NPS 2011)
- *A Sense of Place: Design Guidelines for Yosemite National Park* (NPS 2012)
- *Cultural Landscapes Inventory, Mariposa Grove* (NPS 2004b)
- *Cultural Landscapes Inventory, South Entrance Station* (NPS 2004c)
- *Self Evaluation and Transition Plan, Yosemite National Park Accessibility Program* (NPS 2010a)

Laws, policies, and plans that relate to specific resources or impact topics (e.g., vegetation) are identified in the respective sections in Chapter 3: Affected Environment and Environmental Consequences.

## INTERRELATIONSHIPS WITH OTHER PLANS AND PROJECTS

In addition to the complex legal framework of the *Mariposa Grove FEIS*, the following Yosemite-specific plans play a strong role in the planning framework.

***Concession Services Plan (1992)***. This plan supplements the 1980 *General Management Plan for Yosemite National Park*. Revisions to certain concession services action items of the General Management Plan are described, and the environmental consequences of those items are evaluated. The final plan reduced overall lodging, replaced lodging at Yosemite Lodge with economy cabins and cottages rather than motel units, retained 150 tent cabins at Curry Village (rather than 100), and increased food service seats, among other actions.

***Fire Management Plan (2004)***. This plan guides a complex fire management program, which oversees wildland fire suppression, wildland fire used to achieve natural and cultural resource benefits, fire prevention, prescribed fire, fire ecology research, and the use of mechanical methods to reduce and thin vegetation in and around communities. Actions prescribed in the *Fire Management Plan* will help achieve natural resource goals of the *Mariposa Grove/FEIS*.

***General Management Plan for Yosemite (1980)***. The GMP, as amended by the 1992 *Concession Services Plan*, is the overall management document for Yosemite National Park. The GMP directs the NPS to “Retain [the Mariposa Grove] as the primary location within the park for visitor enjoyment and interpretation of the giant sequoia. Provide only visitor facilities consistent with

preservation of the unique ecosystem; remove all other facilities not necessary for visitor enjoyment of the resource.” The *Mariposa Grove Plan FEIS* is consistent with this overall GMP direction for the Mariposa Grove area.

The GMP directs a number of specific actions for the Mariposa Grove. The *Mariposa Grove FEIS* is consistent with most of these specific actions and it would amend several specific actions. Actions that are consistent with the GMP include: accommodate the physically disabled, repair and reconstruct trails, remove the 150-car parking lot, convert the existing bus parking area to shuttle turn-around and off-season parking for the Grove, remove the gift shop, and upgrade physical facilities (toilets). Actions that amend the GMP are described in Appendix A.

***Draft Merced Wild and Scenic River Comprehensive Management Plan (Merced River Plan) (in progress)***. The *Merced River Plan* proposes transportation and transportation facility actions in Wawona. It also proposes public transit opportunities for visitors traveling from Fresno, California to Wawona and beyond. The options proposed in the *Merced River Plan* are integrated into planning for the *Mariposa Grove FEIS*. For example, facility and shuttle operations are being designed to accommodate anticipated public transit operations outlined in the *Merced River Plan*.

***Invasive Plant Management Plan Update (2011)***. This plan updates the *2008 Invasive Plant Management Plan* to create a more comprehensive and adaptive plan for protecting Yosemite’s natural and cultural resources from non-native, invasive plants.

Appendix B: Cumulative Actions describes additional plans related to the *Merced River Plan/DEIS*.

## **ISSUES AND CONCERNS IDENTIFIED IN SCOPING**

The NPS sought to understand and consider input from the public, NPS staff, subject-matter experts, American Indian tribes and groups, and other federal, state, and local agencies, as part of the planning process for the *Mariposa Grove FEIS*. The NPS conducted an open process, referred to as “scoping,” to identify and determine the scope of issues to be addressed in the environmental analysis. The public scoping period for the *Mariposa Grove /EIS* was conducted from August 31, 2011, through February 3, 2012. During the public scoping period, the NPS collected written comments and conducted public open houses (see Chapter 4, Consultation and Coordination). Internal scoping, including consultation with traditionally associated American Indian tribes and groups, other public agencies, and park staff, continued throughout the planning process.

During the public scoping period, the park received 43 letters from 41 individuals and 2 organizations. Analysis of these letters identified 126 discrete substantive comments, from which the following 15 issue statements were generated:

- Concern #1: Existing visitor amenities at the Grove are adversely affecting the giant sequoia trees.
- Concern #2: Continue prescribed fire; it is vital to maintaining the health of the Grove.
- Concern #3: Long-term sustainability of the health of the Grove ecosystem is important and should be considered in the management of the Grove.
- Concern #4: The Grove parking lot often fills to capacity, forcing temporary closures of the parking lot and road.



- Concern #5: The Grove parking lot and its associated noise and traffic diminish the visitor experience.
- Concern #6: Information and signage are inadequate to properly orient visitors when traveling to the Grove, upon arrival at the Grove, and within the Grove.
- Concern #7: Vehicle operation on Grove roads adversely impacts the visitor experience.
- Concern #8: Grove accessibility should be improved for visitors with disabilities.
- Concern #9: Additional recreation opportunities should be provided at the Grove.
- Concern #10: Protect the Grove by limiting/managing visitation.
- Concern #11: Road configuration, pedestrian crossings, and access at South Entrance are unsafe for visitors and staff.
- Concern #12: Inadequate parking at the Grove contributes to long shuttle rides and traffic congestion at South Entrance.
- Concern #13: Noise from vehicle traffic and commercial tram audio presentations is adversely affecting the Grove's soundscape.
- Concern #14: The bathroom facilities are inadequate.
- Concern #15: The Mariposa Grove planning process is not integrated with other park planning efforts.

The NPS used the public and internal scoping comments to identify issues and concerns, develop and refine alternatives, and evaluate potential environmental impacts.

## **DOCUMENT ORGANIZATION**

The *Mariposa Grove FEIS* is organized as follows:

**Chapter 1, Purpose and Need** – The first chapter includes a discussion of the significance of the Mariposa Grove of Giant Sequoias, the purpose of and need for the proposed action, the relationship to laws and other plans, input from the consultation and public involvement process, and issues used to inform the plan.

**Chapter 2, Alternatives** – This chapter presents the four alternatives proposed in the *Mariposa Grove FEIS*: three action alternatives and one No-Action Alternative. It also discusses alternatives considered but dismissed.

**Chapter 3, Affected Environment and Environmental Consequences** – This chapter describes the existing environment that could be affected by implementation of the alternatives. It also analyzes the potential impacts that could result from implementation of each alternative.

**Chapter 4, Consultation, Coordination, and Preparers** – This chapter summarizes the consultations undertaken in the preparation and review of this document, including public involvement, and lists the names and qualifications of the individuals who have contributed to this document.

**Chapter 5, Bibliography** – This chapter lists the references cited in this document.

**Appendices** – The appendices are as follows:

- Appendix A: Amendments to the General Management Plan
- Appendix B: Cumulative Actions
- Appendix C: Public Comments and Responses
- Appendix D: Restoration Plan
- Appendix E: Mitigation Measures
- Appendix F: Draft Statement of Findings for Protection of Wetlands
- Appendix G: Draft Memorandum of Agreement