Tuolumne Wild and Scenic River
Draft Comprehensive Management Plan and Environmental Impact Statement

Yosemite National Park

Lead Agency: National Park Service

ABSTRACT

This *Tuolumne Wild and Scenic River Draft Comprehensive Management Plan and Environmental Impact Statement* is intended to guide the management of the Tuolumne Wild and Scenic River within the boundaries of Yosemite National Park for the next 20 or more years. The plan and its draft environmental impact statement, which evaluates the potential impacts of the plan and its range of alternatives, are integrated in this document and are referred to collectively as the *Tuolumne River Plan / Draft EIS*.

The *Tuolumne River Plan* directs the protection of the river's free-flowing condition and the values that make it worthy of designation by (1) reviewing and updating river corridor boundaries and segment classifications, (2) prescribing a process for the protection of the river's water quality and free-flowing condition, (3) identifying and documenting the condition of the river's outstandingly remarkable values, (4) identifying management concerns and actions needed to address these concerns, (5) defining visitor use and user capacity for the river corridor, and (6) establishing measurable management standards for river values and a monitoring program for ensuring the standards are met over the life of the plan. The *Yosemite National Park General Management Plan* (NPS 1980b) will be revised to incorporate this direction.

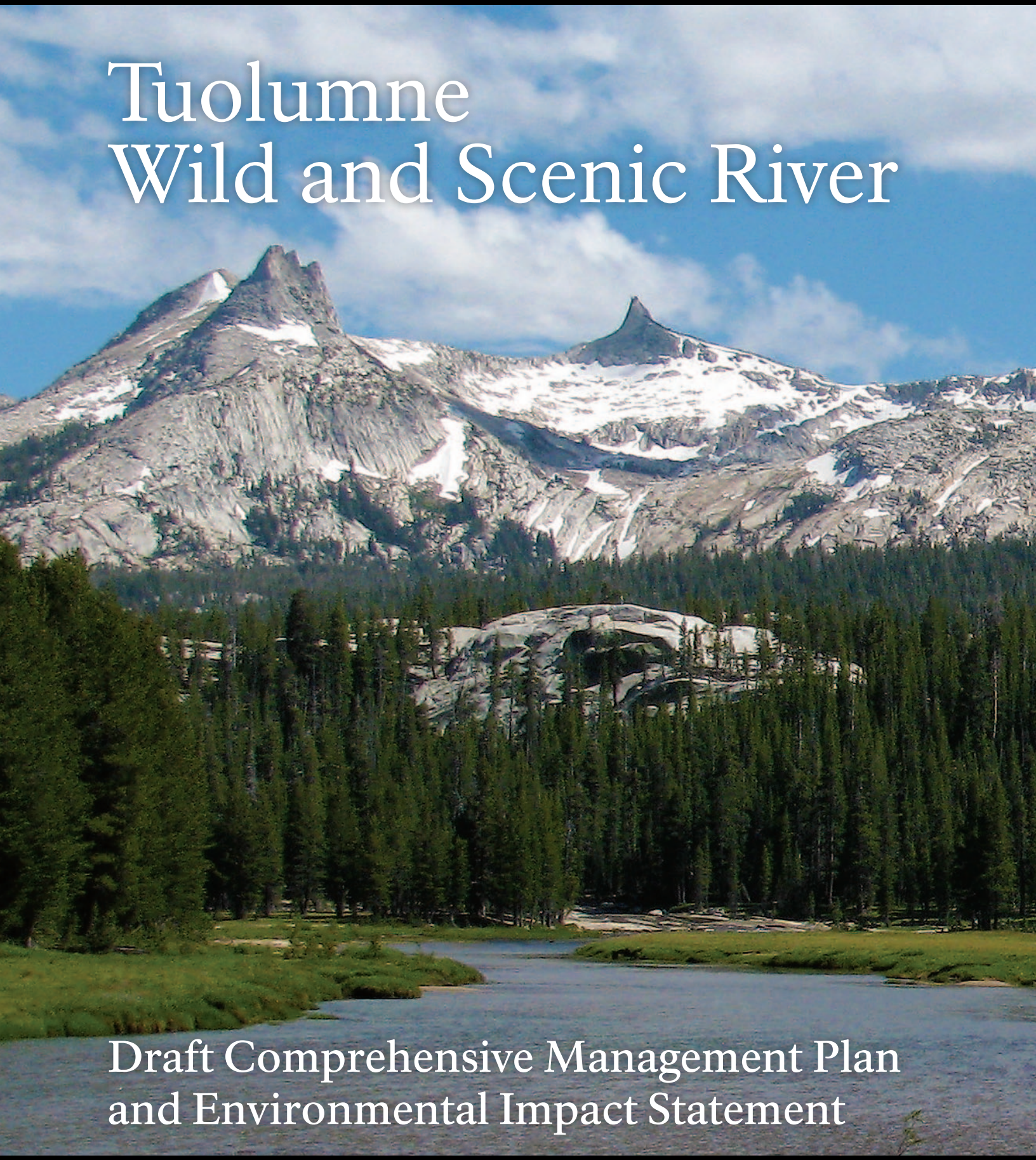
The *Tuolumne River Plan / Draft EIS* presents and analyzes five alternatives. The no-action alternative would continue current management and trends in the condition of river values. Action alternatives 1-4 would protect and enhance river values by restoring ecological conditions at Tuolumne Meadows and by improving conditions that pose risks to water quality, sensitive meadows, archeological sites, scenic vistas, and recreational experiences. The alternatives differ primarily in the kinds of visitor opportunities and use levels at Tuolumne Meadows. Alternative 1 would improve opportunities for self-reliant experiences by closing the Tuolumne Meadows Lodge, reducing use levels, and eliminating all commercial services. Alternative 2 would provide opportunities for a greater diversity of day use and a modest increase in campground capacity. Alternative 3 would focus on retaining the traditional character of the visitor experience in a historic setting that would remain essentially unchanged. Alternative 4 (the preferred alternative) would retain the traditional overnight use and reorient day use to protect river values and improve opportunities for short-term visitors. All alternatives would provide for traditional cultural practices by American Indian tribes.

There will be a 60-day public comment period on the *Tuolumne River Plan/Draft EIS*. Comments are due not later than 60 days after the publication of the EPA notice in the *Federal Register*. Please refer to the project website, *www.nps.gov/yose/parkmgmt/trp.htm*, for the exact comment end date. Readers are encouraged to submit comments electronically through the National Park Service Planning, Environment and Public Comment system, a link to which can be found on the project website above, or directly at *parkplanning.nps.gov/yose_trp*. Written comments regarding this document should be postmarked by the end of the review period and directed to: Superintendent, Yosemite National Park, ATTN: Tuolumne River Plan, P.O. Box 577, Yosemite, California 95389. You may also fax your comments to 209-379-1294. Finally, to request a printed copy or CD of this document (available in limited quantity), please email *Yose_Planning@nps.gov*.

Yosemite National Park

National Park Service
U.S. Department of the Interior

Tuolumne Wild and Scenic River



Draft Comprehensive Management Plan and Environmental Impact Statement

January 2013

Providing Access and Protecting Resources

Volume One

Yosemite National Park

National Park Service
U.S. Department of the Interior

Tuolumne Wild and Scenic River Draft Comprehensive Management Plan and Environmental Impact Statement

Volume One

January 2013

Providing Access and Protecting Resources

Volume One Contents

Executive Summary

Chapter 1: The Tuolumne Wild and Scenic River

Chapter 2: Purpose of and Need for the Tuolumne River Plan

Chapter 3: Wild and Scenic River Corridor Boundaries and Segment Classifications

Chapter 4: Section 7 Determination Process for Water Resources Projects

Chapter 5: River Values and Their Management

Chapter 6: Visitor Use and User Capacity

Chapter 7: Alternatives for River Management

Tables

Figures

THIS PAGE IS INTENTIONALLY BLANK

Volume Two Contents

Chapter 8: Affected Environment and Environmental Consequences

Chapter 9: Consultation and Coordination

Chapter 10: List of Preparers

Chapter 11: Glossary and Acronyms

Chapter 12: References

Tables

Figures

Volume Three Contents†

Appendices

† Volume Three is in electronic form only, available on the Internet (and on compact disc by request).

THIS PAGE IS INTENTIONALLY BLANK

Executive Summary

This draft *Tuolumne Wild and Scenic River Comprehensive Management Plan and Environmental Impact Statement* (*Tuolumne River Plan/Draft EIS*) addresses all the elements required by the Wild and Scenic Rivers Act (WSRA) for the management of a designated river. It also analyzes these elements by following and documenting planning processes required by the National Environmental Policy Act (NEPA), the National Historic Preservation Act (NHPA), and other legal mandates governing decision making by the National Park Service (NPS).

Readers may gain a quick summary of the proposed action by reviewing, at a minimum, the following parts of the document:

- Executive Summary
- Table of Contents (for specific sections of interest)
- Chapter 7. Alternatives for River Management: Actions Common to Alternatives 1-4
- Chapter 7. Alternatives for River Management: Alternative 4 (Preferred): Improving the Traditional Tuolumne Experience

Readers who wish to review the plan in more depth, but who don't have time to review the entire document, will find most details related to decision making in the following chapters:

- Chapter 1. The Tuolumne Wild and Scenic River
- Chapter 2. Purpose and Need for the Tuolumne River Plan
- Chapter 5. River Values and Their Management
- Chapter 7. Alternatives for River Management (this chapter includes site plan maps for the existing conditions and alternatives 1-4)

The Tuolumne Wild and Scenic River

The Tuolumne Wild and Scenic River, designated in 1984, includes 54 miles of the Tuolumne River in Yosemite National Park, excluding the Hetch Hetchy Reservoir. The Tuolumne River originates high in the Sierra Nevada on the eastern side of Yosemite National Park and flows westward across the park for 62 miles before it continues into Stanislaus National Forest (see figure ES-1). The river has two principal sources: the Dana Fork, which drains the west-facing slopes of Mount Dana, and the Lyell Fork, which begins at the base of the glacier on Mount Lyell. The two forks converge at the eastern end of Tuolumne Meadows, one of the largest subalpine meadows in the Sierra Nevada. The Tuolumne River meanders through Tuolumne Meadows, and then cascades through the Grand Canyon of the Tuolumne before it enters the eastern end of Hetch Hetchy Reservoir (still within the park, but not part of the wild and scenic rivers system). Below O'Shaughnessy Dam, the river again is included in the wild and scenic rivers system as it continues through a low-elevation meadow and rocky gorge to the park boundary.

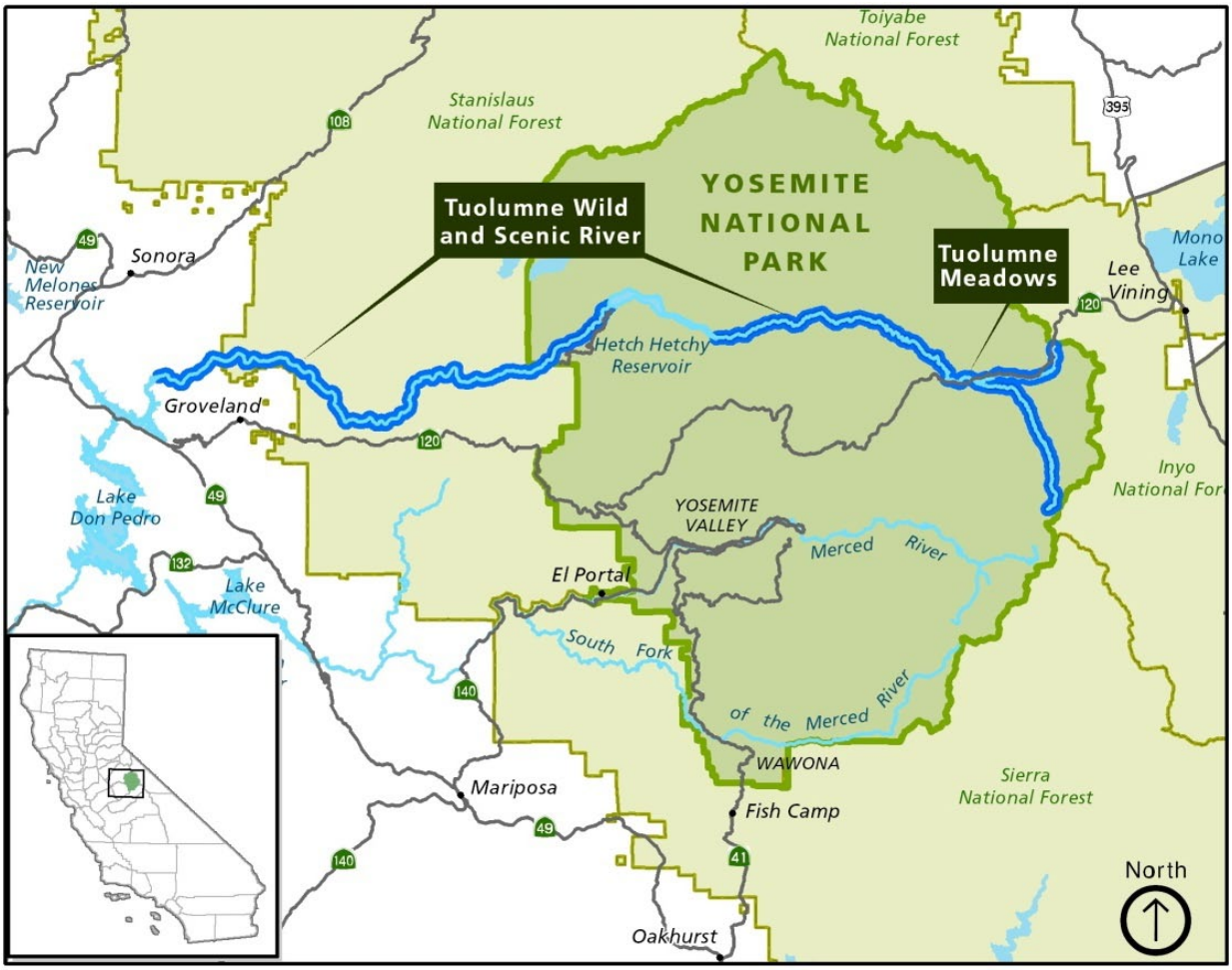


Figure ES-1. Tuolumne Wild and Scenic River and Vicinity.

More than 90 percent of the Tuolumne Wild and Scenic River inside Yosemite National Park flows through congressionally designated wilderness and is managed to protect wilderness qualities. In these areas, natural river-related systems are sustained by natural ecological processes, archeological and American Indian traditional cultural resources characterize the cultural landscape, and recreational opportunities are primitive and unconfined.

The Tuolumne River as it leaves Tuolumne Meadows and enters the Grand Canyon of the Tuolumne, heading west.

Tioga Road, the only park road connecting the eastern and western slopes of the Sierra, and one of only a few trans-Sierra highways, passes through Tuolumne Meadows, then parallels the Dana Fork and one of its tributaries to the top of Tioga Pass. Rustic facilities for visitors have long been located in the Tuolumne Meadows area, which is accessible from Tioga Road, and at the Glen Aulin High Sierra Camp, which is located west of Tuolumne Meadows and is accessible only by trail.

The Tuolumne River in Tuolumne Meadows.

Since the early days of Yosemite National Park, visitors have valued Tuolumne Meadows for its quieter, wilder setting in contrast to the more heavily visited attractions at Yosemite Valley. Tuolumne Meadows is a popular staging area for wilderness travelers and, because of easy access by way of Tioga Road (until the road closes for winter), it is also a destination for river-related recreation that can be readily enjoyed by people of various ages and abilities.

River Values

WSRA requires comprehensive planning for the Tuolumne Wild and Scenic River to provide for the protection of the river's free-flowing condition, water quality, and the outstandingly remarkable values that make it worthy of designation. The outstandingly remarkable values of the Tuolumne River are defined in this plan as follows:

Biological Values

- In Tuolumne Meadows, Dana Meadows, and along the Lyell Fork, the Tuolumne River sustains one of the most extensive Sierra complexes of subalpine meadows and riparian habitats with relatively high biological integrity.
- Poopenaut Valley contains a type of low-elevation riparian and wetland habitat that is rarely found in the Sierra.

Geologic Value

- Between Tuolumne Meadows and Pate Valley, the Tuolumne River demonstrates classic stairstep river morphology, repeatedly transitioning from calm stretches to spectacular cascades.

Cultural Values

- The rich archeological landscape along the Tuolumne River reflects thousands of years of travel, settlement, and trade.
- Parsons Memorial Lodge, a national historic landmark sited near the Tuolumne River, commemorates the significance of this free-flowing segment of the river in inspiring conservation activism and protection of the natural world on a national scale.

Scenic Values

- Lyell Canyon offers remarkable and varied views of lush meadows, a meandering river, a U-shaped glacially carved canyon, and surrounding peaks.
- Dana and Tuolumne Meadows offer dramatic views of a meandering river, adjacent meadows, glacially carved domes, and the Sierra Crest.
- The Grand Canyon of the Tuolumne offers views of a deep, rugged canyon with vast escarpments of granite, hanging valleys, and tall cascades of falling water.

Recreational Values

- The Tioga Road across the Sierra provides rare and easy access to high-elevation sections of the Tuolumne River through Tuolumne and Dana Meadows.
- Wilderness travelers along the Tuolumne River engage in a variety of activities in an iconic High Sierra landscape, where opportunities for primitive and unconfined recreation, self-reliance, and solitude shape the experience.

Purpose of and Need for the Plan

The NPS is considering what long-term, comprehensive guidance will best protect and enhance the 54 miles of the Tuolumne Wild and Scenic River within Yosemite National Park. The purpose of the plan, as defined by WSRA and its implementing guidance is to

- Review, and if necessary revise, the boundaries and segment classifications (as wild, scenic, or recreational) of the Tuolumne Wild and Scenic River.
- Provide a clear process for protection of the river's free-flowing condition in keeping with WSRA section 7.
- Refine descriptions of the river's *outstandingly remarkable values*, which are the unique, rare, or exemplary river-related characteristics that make the river eligible for inclusion in the national wild and scenic rivers system.
- Document the conditions of river values, including water quality, free-flowing condition, and outstandingly remarkable values.
- Identify management objectives for the river, and specific actions and/or programs that will be implemented to achieve the objectives.
- Establish a user capacity program that addresses the kinds and amounts of public use that the river corridor can sustain while protecting and enhancing the river's outstandingly remarkable values.
- Commit to a program of ongoing studies and monitoring to ensure that river values are protected and enhanced over the life of the plan.

This is the first comprehensive management plan for the portion of the Tuolumne Wild and Scenic River inside Yosemite National Park. To address this need, the NPS is issuing this plan, which will make long-term decisions about the range of different interests in and concerns about the Tuolumne River expressed by park managers, culturally associated American Indian tribes and groups, other public agencies, and the public. Since the plan's initiation in 2006, the NPS has engaged in nearly continuous outreach (more than 120 public meetings) and communication with American Indian tribes and groups, gateway communities, organizations, other land management agencies, and the general public.

A thorough, science-based examination of river values informed the actions required to protect and enhance the river as part of this *Tuolumne River Plan*. Programmatic and site-specific actions proposed in the plan will address the management concerns raised during this examination.

A key management concern within the river corridor relates to the susceptibility of the subalpine meadows to impacts associated with historic uses, including stock grazing and road building; ongoing impacts associated with heavy foot traffic and localized stock use; and potential impacts of climate change. Although the meadows remain highly productive and support a great diversity of species, they may be transitioning toward communities that tolerate drier conditions, compared to the communities believed to have existed in prehistoric times. In addition, widespread parking along Tioga Road and associated social trailing in the Tuolumne Meadows area has resulted in effects on meadow and riparian communities, archeological resources, and scenic values. Increasing visitor use in this popular area now requires the NPS to consider alternatives to the current management of allowing generally unrestricted access to the river at Tuolumne Meadows and along wilderness trails with trailheads on Tioga Road.

Overview of the Plan and Alternatives

The *Tuolumne River Plan* focuses on protecting and enhancing river values. Therefore, many of the actions that would be taken to address management concerns about those values are common to all the action alternatives. For example, a comprehensive ecological restoration program for the subalpine meadow and riparian complex is a central component of the plan that is included in all the action alternatives. The alternatives vary primarily in how they would balance the protection of river values with different kinds of visitor use and associated user capacities in the Tuolumne Meadows scenic segment and at the Glen Aulin potential wilderness addition within the Grand Canyon of the Tuolumne wild segment.

Protection and Enhancement of River Values

Free-Flowing Condition

The Tuolumne River above the Hetch Hetchy Reservoir is free flowing, and the NPS will protect its free-flowing condition by implementing a process under section 7 of WSRA to ensure that no potential water resource project within the bed and banks of the river could have a direct and adverse effect on this river value. The natural flow regime below O'Shaughnessy Dam is altered by the dam, as it was at the time of designation. The NPS will continue to work cooperatively with the San Francisco Public Utilities Commission to inform the timing, duration, and magnitude of flows that will reduce the effects of dam operations on downstream habitats. However, the Raker Act is the controlling authority over water releases from the dam. The NPS will apply the section 7 process to evaluate any potential water resource project below the dam.

NPS management concerns include the abutments of one vehicle bridge and one footbridge at Tuolumne Meadows, and a short section of boulder riprap placed along the Lyell Fork to protect the campground A-loop road from flooding. The plan calls for removal of the riprap and mitigation of the effects of the two bridges.

The amount of water withdrawn from the Dana Fork for domestic use in the Tuolumne Meadows area currently amounts to less than 10% of lowest flow. According to recent research, withdrawing this amount of water has a minimal effect on downstream aquatic habitat; however, any increase in water withdrawals could decrease wetted habitat. NPS management is also concerned about the potential for future reductions in low flows associated with climate change, in which case withdrawals at the current rate could decrease habitat. The plan calls for long-term monitoring of river flows and caps water withdrawals at no more than 10% of lowest flows. Water conservation measures, such as replacement of leaking water lines and installation of low-flow fixtures, are included in all the plan alternatives, and some alternatives would achieve additional decreases in water consumption through decreases in user capacity. If long-term monitoring detects a future decrease in river flows associated with natural cycles or climate change, those findings will trigger further decreases in water withdrawals for domestic use at Tuolumne Meadows, including reductions in the types and levels of visitor services, if necessary. The rapid retreat of the Lyell Glacier indicates that a probable loss of meltwater flows in the upper Lyell Fork will pose a challenge for river managers in the foreseeable future.

Water Quality

The Tuolumne River has exceptionally high water quality. All the measured indicators are within the NPS standards, which are considerably more protective than other federal or state standards. Although water quality is fully protected, a few risks are present within the river corridor, including an unstable road cut along Tioga Road, wastewater treatment facilities at Tuolumne Meadows and Glen Aulin, fuel storage tanks at Tuolumne Meadows, and packstock use. The plan includes actions to stabilize the road cut, to upgrade wastewater treatment facilities at Tuolumne Meadows, and to upgrade or eliminate wastewater treatment facilities at

Glen Aulin. The risks to water quality associated with the public fuel station and pack stock use will either be eliminated or reduced and mitigated, depending upon the alternative selected.

An ongoing monitoring program will continue to test for nutrients, *E. coli*, and petroleum hydrocarbons to ensure that the exceptional baseline water quality is sustained over time. Decreasing water quality for any of these indicators will trigger studies to identify the source of the concern. Depending on the source, appropriate action will be taken to address the concern prior to an adverse impact. If the concern is related to visitor use, use will be managed as needed to protect this river value.

Subalpine Meadow and Riparian Complex

At the time of designation, the portion of the subalpine meadow and riparian complex in the Tuolumne Meadows segment was likely experiencing a shift in vegetation associated with historic grazing and disruptions to meadow hydrology caused by historic road-building and drainage projects. Stresses on meadow processes are now being increased by visitor foot traffic, which is creating informal trails across the meadow and causing habitat fragmentation. These management concerns will be addressed by a comprehensive program of ecological restoration and management of visitor use and development. Ecological restoration will include actions to restore riparian vegetation along riverbanks, restore more natural meadow hydrology, and continue research into possible additional restoration of historic vegetation communities. Management of visitor use and development will include the elimination of roadside parking to reduce informal trailing and removal of facilities from riverbanks and wet areas. These actions will be expected to enhance the meadow and riparian complex and allow for its long-term management in a condition equal to or better than the management standards. (Additional management of visitor use and development to further enhance this value is explored through alternative proposals to reduce use levels, reduce development, and/or confine use to resilient areas; these alternatives are explored in chapter 7).

At the time of designation, the portions of the subalpine meadow and riparian complex in the Lyell Fork and Lower Dana Fork segments were in good condition and they remain in that condition today. Stock use has been identified as a management concern for meadow and riparian areas in Lyell Canyon. Streambank stability is a management concern in at least one location on the Lyell Fork. This concern will be addressed under the plan either by eliminating or regulating commercial stock use (both alternatives are under consideration).

An ongoing program of monitoring and continuing study will be implemented to ensure that the subalpine meadow and riparian complex is returned to good condition and remains in good condition over the life of the plan. A suite of three indicators will be used to track the health and potential for impact on this complex river value. An important part of the monitoring program will be management triggers that will identify any decline from good condition under any of the three indicators well before an adverse impact occurs. Any of these triggers would require additional action to protect the subalpine meadow and riparian complex.

Low-Elevation Riparian and Meadow Habitat

Since 1923 O'Shaughnessy Dam has influenced the magnitude, timing, duration, and frequency of river flows below the dam. Because of favorable site conditions, Poopenaut Valley continues to experience seasonal flooding and retains a rare mix of diverse riparian, wetland, and upland meadow plant communities. For reasons that are still the subject of ongoing research, some wetlands appear to be transitioning to drier upland habitat, while riparian areas appear to be expanding. The NPS is working collaboratively with the San Francisco Public Utilities Commission to scientifically inform dam releases to mitigate the impacts on natural ecological processes in Poopenaut Valley to the maximum extent possible; however, this management is constrained by the legal mandates of the commission to deliver water and power. Monitoring is ongoing to support this

collaborative effort; however, because the NPS does not have jurisdiction over the extent to which dam releases affect the ecology in Poopenaut Valley, no management standards or determinations of adverse effect or degradation have been established for this value.

Stairstep River Morphology

Stairstep river morphology is considered impervious to the intended human uses in this wild river segment. No management or monitoring is needed to protect this river value.

Archeological Landscape

At the time of designation, the known archeological resources in the river corridor were characterized as being in a generally fair condition. Since then ongoing documentation, condition assessments, and evaluation projects have expanded the body of knowledge about the importance and condition of this cultural value. Several decades of site condition assessments have found that archeological sites occurring in every river segment either have or appear to have important research potential. Almost all the archeological sites along the river and in meadows have been affected by informal trails, and many of these sites are at risk of losing some of their integrity.

Since the time of designation, the NPS adopted the Archeological Sites Management Information System (ASMIS) to support improved archeological resource protection by providing a systematic, consistent methodology for assessing archeological site condition and impacts. Based on ASMIS evaluation criteria and standards, the collective character and significance of the archeological landscape remains well within the management standard of being fully protected. However, concerns about disturbances to sites caused by foot traffic and/or potential future facility development and maintenance remain.

Under the plan, sites will continue to be monitored through the ASMIS. The potential for effects associated with visitor foot traffic will be greatly reduced by eliminating roadside parking and removing informal trails. The potential for effects associated with future facility development, repair, and maintenance will be addressed by confining actions to nonsensitive areas wherever feasible and by mitigating unavoidable effects in compliance with section 106 of NHPA. Any future downward trend in site conditions associated with human use will trigger a required management response to counteract or minimize the effect before an adverse impact occurs.

Parsons Memorial Lodge

Parson Memorial Lodge National Historic Landmark was in good condition at the time of designation and remains in good condition, with no management concerns identified. The lodge will continue to be preserved in accordance with all applicable standards, guidelines, and agreements. If future monitoring under the NPS List of Classified Structures assessment program detects deterioration or damage, repairs will be undertaken to correct the deficiency while the structure is still in an overall good condition.

Scenery through Lyell Canyon, Dana and Tuolumne Meadows, and the Grand Canyon of the Tuolumne

The scenic values across all segments are found to be within the management standard, although management concerns are present at Glen Aulin (due to the visibility, if limited, of High Sierra Camp structures from the surrounding wilderness) and in Tuolumne Meadows (due to the roadside parking and lodgepole pine encroachment into the meadows). To remedy these concerns, a variety of actions are proposed, from replacement of the Glen Aulin tents to match the surrounding landscape more harmoniously, to the elimination of roadside parking. Lodgepole encroachment will be managed according to the restoration program discussed

under "Subalpine Meadow and Riparian Complex," above. To prevent concerns from redeveloping, the monitoring program will subject all new proposed structures to a contrast analysis, complemented by periodic monitoring, and a suite of actions to be taken should new concerns be identified.

Tioga Road Access to the River through Tuolumne and Dana Meadows

Tioga Road continues to provide access to a diversity of recreational and educational opportunities in the Tuolumne River corridor that are little changed since the time of designation. Access to the meadows and river within the Tuolumne Meadows area remains largely unrestricted, and visitors report satisfaction with their ability to go "where they want, when they want." However, visitors also report dissatisfaction with vehicle congestion and with crowding at popular spots along the river and in the meadows. Unrestricted access also contributes to impacts on other river values, as more than a third of all visitors currently park along the road shoulder and create informal trails across the meadows and along the riverbanks to reach popular attractions.

Under the plan the roadside parking along Tioga Road will be eliminated, reducing the traffic congestion, safety hazards, and intrusion of parked cars into the viewing experience of people traveling Tioga Road. Under most alternatives the amount of designated parking would be increased, making it possible for more visitors to find a space in designated parking areas. Also, under all alternatives a visitor capacity will be enforced to protect the quality of the visitor experience from increasing congestion, as well as protecting other river values from visitor use related impacts. The day use capacity will be managed through the availability of day parking and through the capacity of the buses that serve the Tuolumne corridor, while the overnight capacity will be managed by the number of lodging units, campsites, and wilderness permits.

The effectiveness of using the day parking supply at Tuolumne Meadows to manage the day use capacity in all the river segments above Hetch Hetchy Reservoir will be monitored through an indicator that compares the number of vehicles actually parking in the Tuolumne Meadows area with the supply of designated parking provided under the plan. Additional management actions to identify issues and enforce the designated user capacity will be triggered by the exceedance of standards developed for this indicator.

Wilderness Experience along the River

At the time of designation the wild segments of the Tuolumne River offered outstanding opportunities for river-related recreation characterized by self-reliance and solitude, and those opportunities continue today. Since the 1970s an overnight zone capacity and trailhead quota system has helped protect this river value, particularly in more remote portions of the corridor. However, increasing day use on wilderness trails within the first few miles of the Tuolumne Meadows trailheads now threatens to diminish opportunities for solitude on certain trail segments. The plan will address this management concern by managing day use levels in the river corridor and by monitoring the indicator of encounters with other groups on trails, which is a widely used indicator for a quality wilderness experience. Use on wilderness trails will be managed to remain within the management standard established for this indicator, through actions that could include changes to the overnight trailhead quota system and/or the implementation of a day use trailhead quota system if determined necessary.

Overview of the Alternatives

Five alternatives (no action plus four action alternatives) under consideration in the *Tuolumne River Plan/Draft EIS* involve primarily a reasonable range of variations in visitor use and user capacity. A table comparing the user capacities of the alternatives is included at the end of this section.

No-Action Alternative

The no-action alternative would preserve and sustain wilderness character, including natural ecosystem function and opportunities for primitive, unconfined recreation, in the more than 90 percent of the river corridor that is congressionally designated wilderness. In the Tuolumne Meadows area, opportunities for day and overnight use would continue to include a range of recreational activities supported by modest commercial services and overnight camping and lodging. The existing management would perpetuate the current resource conditions and landscape character at Tuolumne Meadows and Glen Aulin.

Wild Segments

Overnight use in wilderness would continue to be managed through established wilderness zone capacities and associated overnight trailhead quotas, which currently accommodate a maximum of 400 people per night (350 in zones above Hetch Hetchy Reservoir and 50 below O'Shaughnessy Dam). The Glen Aulin High Sierra Camp would be retained at the current capacity of 32 guests. Day use in wilderness would remain unrestricted and would be expected to continue to increase. Concessioner stock day rides would continue to serve a maximum of 62 people per day. Commercial use in wilderness would continue under current management; current levels of use for guided stock trips averaged 263 person-nights per season during the years 2005 to 2009, and for guided hiking trips averaged 188 person-nights per season. Commercial users and the general public currently have equal access to backcountry overnight permits.

Scenic Segments

A full range of orientation, interpretation, and education programs would continue to be conducted at the existing visitor center, wilderness center, and Parsons Memorial Lodge, and in the field. Current commercial services (store/grill, public fuel station, mountaineering shop and school, concessioner stock day rides) would be retained at Tuolumne Meadows. The campground and Tuolumne Meadows Lodge would be retained at current capacities.

Current maximum visitor day use in the Tuolumne Meadows area and adjacent wilderness is estimated at 1,762 people at one time. (This number has been calculated from the actual day use parking counts from 2011 and the estimated maximum number of visitors arriving by bus.) Day use would be expected to continue to increase. The visitor overnight capacity at Tuolumne Meadows is 2,310 people per night: 2,034 people are accommodated in the 304 campsites and 7 group campsites in the campground, and 276 people are accommodated in the 69 guest cabins at Tuolumne Meadows Lodge.

Currently 104 NPS employees are housed at Tuolumne Meadows, although this amount of housing is inadequate to accommodate the up to 150 employees who work in the Tuolumne Meadows area on full-time or intermittent work assignments. Currently 103 concessioner employees are housed at Tuolumne Meadow.

Action Alternative 1: Emphasizing a Self-Reliant Experience

Like all alternatives, alternative 1 would preserve and sustain wilderness character, including natural ecosystem function and opportunities for primitive, unconfined recreation, in the more than 90 percent of the river corridor that is congressionally designated wilderness. In the Tuolumne Meadows area and Glen Aulin, alternative 1 would focus on restoring conditions for primitive, unconfined recreation in an undeveloped natural area. Natural river values would be enhanced by greatly reducing the footprint of development, by greatly reducing demands for water supply and wastewater treatment, and by eliminating most potential risks to water quality.

Wild Segments

All commercial use would be discontinued in wild segments of the river corridor. This would include the Glen Aulin High Sierra Camp, all concessioner stock day rides, and all commercial day hikes, overnight hikes, and overnight stock trips. All other existing activities would continue.

The day use levels along popular wilderness trails within reach of day hikes from Tioga Road would be managed to achieve no more than four encounters with other parties per hour, making them more commensurate with use levels in remote wilderness and enhancing opportunities for solitude. This encounter rate would be more protective of solitude than the standard adopted for this river value (which would be no more than 10 encounters with other groups per hour), in keeping with the greater emphasis on solitude and self-reliance under this alternative. The overnight capacity for wild segments would be retained at 400 persons per night (350 persons per night above the reservoir and 50 persons per night below the dam).

Scenic Segments

To achieve a visitor experience characterized by self-reliance and unconfined exploration, all commercial services (including the Tuolumne Meadows Lodge, store, grill, fuel station, and mountaineering shop/school), would be discontinued. The campground would be retained at a reduced capacity, and the NPS would provide minimal camper supplies at the campground office.

The maximum visitor day use above the Hetch Hetchy Reservoir (which could disperse from scenic into wild segments) would be reduced from 1,762 people at one time to a maximum of 1,021 people at one time to reduce the effects of dispersed foot traffic on sensitive resources, including meadow and riparian areas and archeological sites, and to avoid perceptions of crowding along wilderness trails close to Tioga Road trailheads. At Tuolumne Meadows, the visitor overnight capacity would be reduced from 2,310 people per night to a maximum of 1,632 people per night (the reduced capacity of the campground), to reduce demands for water supply and wastewater disposal and to allow for the restoration of the campground A-loop road nearest the river without replacing the sites in another part of the campground.

Commensurate with the reduction in visitor use levels and the discontinuation of commercial services, the number of NPS employees housed in the river corridor would be slightly reduced (from 104 to 100 employees), and almost all the concessioner housing would be removed.

Action Alternative 2: Expanding Recreational Opportunities

Like all alternatives, alternative 2 would preserve and sustain wilderness character, including natural ecosystem function and opportunities for primitive, unconfined recreation, in the more than 90% of the river corridor that is congressionally designated wilderness. In the Tuolumne Meadows area, alternative 2 would focus on facilitating resource enjoyment and stewardship by a broad spectrum of visitors, including visitors with only a short time to spend in the area. All current activities and services would be retained, and some would be expanded.

Wild Segments

All ongoing uses would continue. The Glen Aulin High Sierra Camp would be converted to a seasonal outfitter camp with no permanent facilities except a vault toilet; the camp would continue to accommodate 32 visitors per night. Maximum day use along popular wilderness trails would be limited as necessary to achieve the standard of encounters with no more than ten parties per hour, 80% of the time. The overnight quota for backpacker camping in wilderness management zones that overlap wild segments of the river corridor would be retained at 400 persons per night. Concessioner stock day rides would be reduced to a maximum of 24 people per day. Commercial use would be restricted to no more than 2 groups per wilderness management zone per night and no more than 2 day groups per trail per day (these restrictions are described more fully in chapter 7 and appendix C). Under this alternative only, limited recreational kayaking would be allowed on portions of the river; this use would be limited to 6 trips per year, with a maximum of 8 people/boats per trip, to reduce risks to visitor safety and to protect shoreline river values.

Scenic Segments

To allow for a modest expansion of opportunities for recreational use in the Tuolumne Meadows area, visitor services, facilities, and management strategies would be adjusted to direct visitors to resilient locations where they could enjoy recreational activities without adversely affecting river values. For example, rather than dispersing across the meadows, visitors would be directed from trailheads at designated parking lots to trails and boardwalks, some with fencing or other forms of delineation to discourage dispersed foot traffic through these sensitive environments; rather than picnicking informally on the banks of the river, visitors would have access to new formal picnic areas. A full range of orientation, interpretation, and education programs would be conducted, and all commercial services except the mountaineering shop would be retained. Opportunities for day visitors with only a short time to spend would be enhanced by a new day parking and picnic area near the trailhead for Parsons Memorial Lodge. The campground would be expanded and the lodge would be retained.

The maximum visitor day use above Hetch Hetchy Reservoir (which could disperse from scenic into wild segments) would be increased from an estimated 1,762 to a maximum of 1,901 people at one time. At Tuolumne Meadows, the visitor overnight capacity would be increased to 2,556 people per night: 2,280 people accommodated by the 352 campsites in the campground, and 276 people accommodated by the 69 guest tent cabins at Tuolumne Meadows Lodge.

The number of NPS employees housed in the river corridor would be increased to 174 to meet the staffing needs for visitor and resource protection, interpretive and educational services, resource management and monitoring, and maintenance under this alternative. Concessioner housing needs would remain unchanged at 103 employees.

Action Alternative 3: Celebrating the Tuolumne Cultural Heritage

Like all alternatives, alternative 3 would preserve and sustain wilderness character, including natural ecosystem function and opportunities for primitive, unconfined recreation, in the more than 90% of the river corridor that is congressionally designated wilderness. In the Tuolumne Meadows and Glen Aulin areas, alternative 3 would focus on preserving the opportunity for a classic national park experience in a historic setting. Visitors who have developed deep personal connections with these areas through repeated experiences shared among generations would continue to have these opportunities in a setting that would appear little changed over time.

Wild Segments

All ongoing uses would continue. The overnight quota for wilderness management zones that overlap wild segments of the river corridor would be retained at 400 persons per night. The Glen Aulin High Sierra Camp would be retained at a reduced capacity of 28 persons per night. Concessioner stock day rides and commercial use would be managed the same as in alternative 2, with the following exception: Commercial use would be restricted to no more than 1 group per zone per night and no more than 1 day group per trail per day.

Scenic Segments

To enhance opportunities for visitors to connect with the history and traditional uses of the Tuolumne River, the historic setting would be preserved, and use levels would be reduced to allow for a mix of traditional park programs and relatively unstructured exploration at a level that would be protective of river values. A full range of orientation, interpretation, and education programs would be conducted, and the store and grill and concessioner day rides would be retained. The campground would be retained at its current capacity, and the lodge would be retained, but at half its current capacity.

The maximum visitor day use above the Hetch Hetchy Reservoir (which could disperse from scenic into wild segments) would be reduced from 1,762 people at one time to a maximum of 1,556 people at one time. At Tuolumne Meadows, the visitor overnight capacity would be reduced to 2,170 people per night: 2,034 people accommodated by the 311campsites in the campground, and 136 people accommodated by the 34 guest tent cabins at Tuolumne Meadows Lodge.

The number of NPS employees housed in the river corridor would be increased to 124 to meet the staffing needs for visitor and resource protection, interpretive and educational services, resource management and monitoring, and maintenance under this alternative. Concessioner housing needs would remain unchanged at 103 employees.

Action Alternative 4 (Preferred): Improving the Traditional Tuolumne Experience

Like all alternatives, alternative 4 would preserve and sustain wilderness character, including natural ecosystem function and opportunities for primitive, unconfined recreation, in the more than 90 percent of the river corridor that is congressionally designated wilderness. In the Tuolumne Meadows area, alternative 4 would seek to balance the retention of a traditional Tuolumne experience with the need to reduce the impacts of development and an opportunity to provide a more meaningful introduction to the Tuolumne River for the growing number of short-term visitors.

Wild Segments

All noncommercial uses would continue; however, concessioner stock day rides into wilderness would be discontinued, and commercial use would be restricted to no more than 2 overnight groups per zone and no more than 2 day groups per trail per day. The overnight quota for wilderness management zones that overlap wild segments of the river corridor would be retained at 400 persons per night. The Glen Aulin High Sierra

Camp would be retained at a reduced capacity of 20 visitors per night. Maximum day use along popular wilderness trails would be limited as necessary to achieve the standard of encounters with no more than ten parties per hour, 80% of the time.

Scenic Segments

Visitor facilities would be reoriented to protect river values while generally maintaining current kinds and levels of use. A full range of orientation, interpretation, and education programs would be provided, and opportunities for day visitors to connect with the river would be improved by providing a visitor contact station, picnic area, and trail connection to the river and Parsons Memorial Lodge. Existing opportunities for traditional overnight use would be retained. In order to accommodate current use levels while protecting and enhancing recovering meadow and riparian habitats, day use would generally be confined to formally maintained trails and specific destinations.

The maximum visitor day use above the Hetch Hetchy Reservoir (which could disperse from scenic into wild segments) would increase slightly, from 1,762 people at one time to a maximum of 1,827 people at one time. At Tuolumne Meadows, the current visitor overnight capacity of 2,310 people per night would be retained: 2,034 people accommodated by the 311 campsites in the campground, and 276 people accommodated by the 69 guest tent cabins at Tuolumne Meadows Lodge.

The number of NPS employees housed in the river corridor would be increased to 163 to meet the staffing needs for visitor and resource protection, interpretive and educational services, resource management and monitoring, and maintenance under this alternative. Concessioner housing needs would remain unchanged at 103 employees.

Environmentally Preferable Alternative

The Council on Environmental Quality (CEQ) regulations implementing NEPA and the National Park Service NEPA guidelines require that "the alternative or alternatives which were considered to be environmentally preferable" be identified (CEQ Regulations, section 1505.2). Environmentally preferable is defined as "the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources" (CEQ 1981).

Upon full consideration of the elements of NEPA section 101, alternative 4 was determined to represent the environmentally preferable alternative for the *Tuolumne River Plan/Draft EIS*. This conclusion is analyzed in chapter 7.

Summary Comparison of Alternatives

A comparison of user capacities under all the alternatives is shown in table ES-1.

Table ES-1.
Corridorwide Comparison of Visitor Use Capacities, by Alternative

Visitor Overnight Capacity					
River Segment	**Current Overnight Visitors**	**Maximum Overnight Visitors, Alternative 1**	**Maximum Overnight Visitors, Alternative 2**	**Maximum Overnight Visitors, Alternative 3**	**Maximum Overnight Visitors, Alternative 4 (Preferred)**
Scenic Segments					
Tuolumne Meadows Lodge	276	0	276	136	276
Tuolumne Meadows Campground	2,034	1,632	2,280	2,034	2,034
Wild Segments					
Glen Aulin HSC	32	0	32	28	20
Wilderness	400	400	400	400	400
Subtotal, Overnight	***2,742***	***2,032***	***2,988***	***2,598***	***2,730***
Visitor Day Use Capacity					
River Segment	**Maximum People At One Time, Based on 2011 Vehicle Count**	**Maximum People At One Time, Alternative 1**	**Maximum People At One Time, Alternative 2**	**Maximum People At One Time, Alternative 3**	**Maximum People At One Time, Alternative 4**
Scenic Segments					
Access from Tuolumne Meadows (designated parking)	986	796	1,676	1,331	1,467
Access from Tuolumne Meadows (undesignated parking)	551	0	0	0	0
Access from Tuolumne Meadows (arrival by bus)	225	225	225	225	360
Access from below O'Shaughnessy Dam	12	12	12	12	12
Subtotal, Day Use	***1,774***	***1,033***	***1,913***	***1,568***	***1,839***
Total Visitor Overnight and Day Use People At One Time	**4,516**	**3,065**	**4,901**	**4,166**	**4,569**
Administrative Capacity					
River Segment	**Maximum employees (existing)**	**Maximum employees, Alternative 1**	**Maximum employees, Alternative 2**	**Maximum employees, Alternative 3**	**Maximum employees, Alternative 4**
Wild Segments					
Concessioner	9	0	9	9	8
Scenic Segments					
NPS	150	100	174	124	163
Concessioner	103	2	103	103	103
Total Administrative People At One Time	**262**	**102**	**286**	**236**	**274**
Total People At One Time	**4,778 (existing)**	**3,167 (proposed)**	**5,187 (proposed)**	**4,402 (proposed)**	**4,843 (proposed)**

Organization of this Draft Plan and Environmental Impact Statement

The information in this document is organized as follows:

Chapter 1. The Tuolumne Wild and Scenic River describes the purpose of the nation's wild and scenic rivers system and what the designation of the Tuolumne River as part of that system means in terms of river planning and management.

Chapter 2. Purpose of and Need for the Tuolumne River Plan describes the purpose and organization of the plan, the major planning issues identified during internal and public scoping, and the interrelationships with other plans and projects.

Chapter 3. Wild and Scenic River Corridor Boundaries and Segment Classifications explains the legal requirements for establishing a river corridor boundary and classifying its segments, and describes the boundary and segment classifications for the Tuolumne River in Yosemite National Park.

Chapter 4. Determination Process for Water Resource Projects explains the legal requirements for protecting the river's free-flowing condition and describes the process that will be used to fulfill that requirement.

Chapter 5. River Values and Their Management is the heart of the *Tuolumne River Plan*. The chapter presents detailed discussions of the conditions, management concerns, actions for addressing management concerns, and continuing monitoring and protective actions for each river value. The actions presented in this chapter to ensure protection of river values will be common to all alternatives.

Chapter 6. Visitor Use and User Capacity describes the process used to address the WSRA user capacity requirement. The major differences among the plan alternatives (presented in chapter 7) have to do with the kinds and amounts of use the river corridor could receive in the future. Once an alternative is selected, the decisions about visitor use and user capacity will be incorporated into this chapter.

Chapter 7. Alternatives for River Management presents the five alternatives (no action plus four action alternatives) currently under consideration in the *Tuolumne River Plan/Draft EIS*. The differences among the alternatives revolve primarily around possible differences in visitor use and user capacity. Most of the actions needed to protect and enhance river values are common to all the action alternatives, although some differences exist and are described in this chapter.

Chapter 8. Affected Environment and Environmental Consequences identifies and describes the natural and sociocultural resources and values that could be affected by the alternatives presented in chapter 7, and evaluates and compares the potential effects of the alternatives. This chapter looks comprehensively at the components of the human environment that might be affected by the plan and assesses how they might be affected by actions intended to protect and enhance river values.

Chapter 9. Consultation and Coordination summarizes all consultation and coordination efforts undertaken for the *Tuolumne River Plan/Draft EIS* to date. It outlines the project scoping history and the much broader public involvement history that extended through every step of the development of the plan alternatives. It describes specific consultations with the culturally associated American Indian tribes and the federal, state, and local agencies having jurisdiction or particular interests in the Tuolumne River corridor. This chapter also includes a list of the agencies, organizations, and businesses that received the *Tuolumne River Plan/Draft EIS*.

Chapter 1: The Tuolumne Wild and Scenic River

The upper Tuolumne Valley is the widest, smoothest, most serenely spacious, and in every way the most delightful summer pleasure park in all the high Sierra …. Down through the open sunny levels of the valley flows the bright Tuolumne River, fresh from many a glacial fountain in the wild recesses of the peaks…. There are four capital excursions to be made from here….All of these are glorious, and sure to be crowded with joyful and exciting experiences; but perhaps none of them will be remembered with keener delight than the days spent in sauntering in the broad velvet lawns by the river, sharing the pure air and light with the trees and mountains, and gaining something of the peace of nature in the majestic solitude. (John Muir, 1890)

Since the early days of Yosemite National Park, visitors have valued the Tuolumne River and Tuolumne Meadows for their quieter, wilder setting in contrast to the popular Merced River and iconic Yosemite Valley. The Tuolumne provides park visitors with a place for recreation, rejuvenation, and connecting with nature. Many return year after year, demonstrating its importance in their lives. The river also plays a significant role in maintaining cultural and religious traditions among groups of American Indian people. Artifacts dating back at least 6,000 years attest to the prehistoric importance of the river corridor as a seasonal hunting and gathering ground and a trans-Sierra trade and travel route.

NPS PHOTO BY RANDY FONG.

"Keep it Wild. Keep it Simple. Keep it Natural. Don't spoil the magic of Tuolumne!" (Individual Public Scoping Comment)

The Tuolumne helped inspire a conservation movement that led to the creation of the national park system, and the river was protected early in one of the first national parks. From its alpine headwaters through its steep descent into the Sierra Nevada foothills, the river and its landscape provide an ecologically and scientifically important refuge that sustains a rare diversity of interconnected and largely intact ecosystems. Most of the river corridor is located in designated wilderness, which helps to further protect the ecological integrity of these systems.

What Is a Wild and Scenic River?

Recognizing that the nation's rivers were being dredged, dammed, diverted, and degraded at an alarming rate, the U.S. Congress passed the Wild and Scenic Rivers Act (WSRA) in October 1968. The purpose of the act was to protect some rivers in their free-flowing state, along with the water quality and the outstandingly remarkable values that set these rivers apart from all others in the nation and made them deserving of special protection. Yosemite National Park contains two wild and scenic rivers: the Tuolumne, designated in 1984, and the Merced, designated in1987. In recognizing such rivers, Congress pronounced the following intention:

> *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.* (Wild and Scenic Rivers Act, 16 USC 1271)

While inclusion in the national wild and scenic rivers system increases protection for a river, it does not forbid all use or development. WSRA permits some public use so long as the river values are not harmed. When a river is designated, individual segments are classified as "wild," "scenic," or "recreational," based on the level of development at the time of designation, and this classification determines the level of development, such as roads and buildings, that may be allowed in the segment in the future. In order to determine the permitted levels of use, a river manager must prepare a comprehensive management plan specifying the steps that the agency will take to protect and enhance the river and its immediate environment.

"What happens in Tuolumne is important in so many ways to so many people. And it feels as if it matters especially to us. I suspect many people feel the same way." (Individual Public Scoping Comment)

Today, more than 12,500 miles of rivers and creeks are protected in the United States as units of the wild and scenic rivers system. Managing agencies include state governments, the National Park Service (NPS), the U.S. Forest Service (USFS), the Bureau of Land Management (BLM), the U.S. Army Corps of Engineers (USACE), and the U.S. Fish and Wildlife Service (USFWS). WSRA protects not only the designated waterways, but also part of the nation's heritage.

Designation of the Tuolumne Wild and Scenic River

The Tuolumne River originates high in the Sierra Nevada on the eastern side of Yosemite National Park. The river has two principal sources: the Dana Fork, which drains the west-facing slopes of Mount Dana, and the Lyell Fork, which begins at the base of the glacier on Mount Lyell. The two forks converge at the eastern end of Tuolumne Meadows, one of the largest subalpine meadows in the Sierra Nevada. The Tuolumne River meanders through Tuolumne Meadows, then cascades through the Grand Canyon of the Tuolumne, and then enters the eastern end of Hetch Hetchy Reservoir (which is within the park, but not part of the national wild and scenic rivers system). Below O'Shaughnessy Dam, the river continues through Poopenaut Valley (a low-elevation meadow) to the park boundary (see figure 1-1).

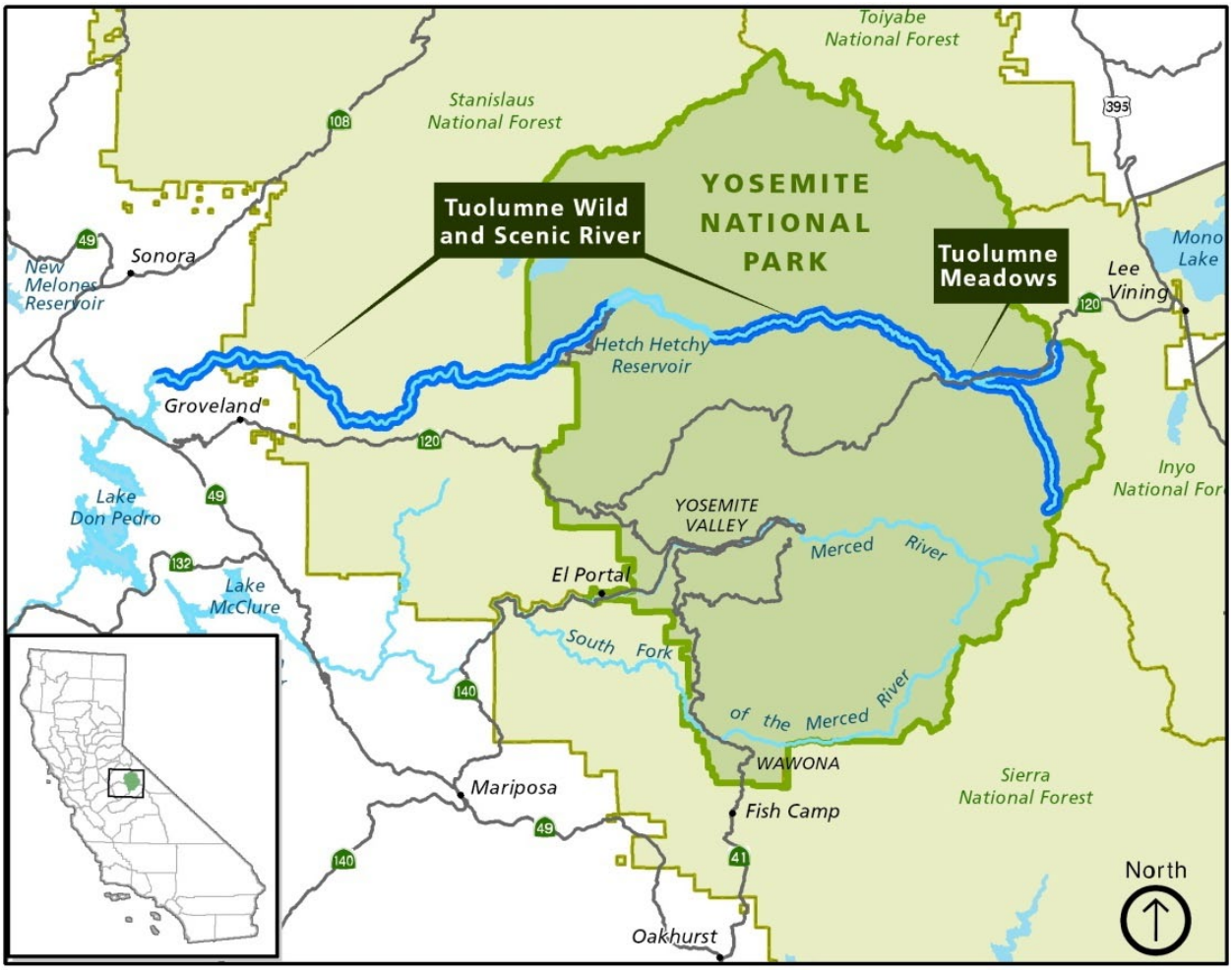
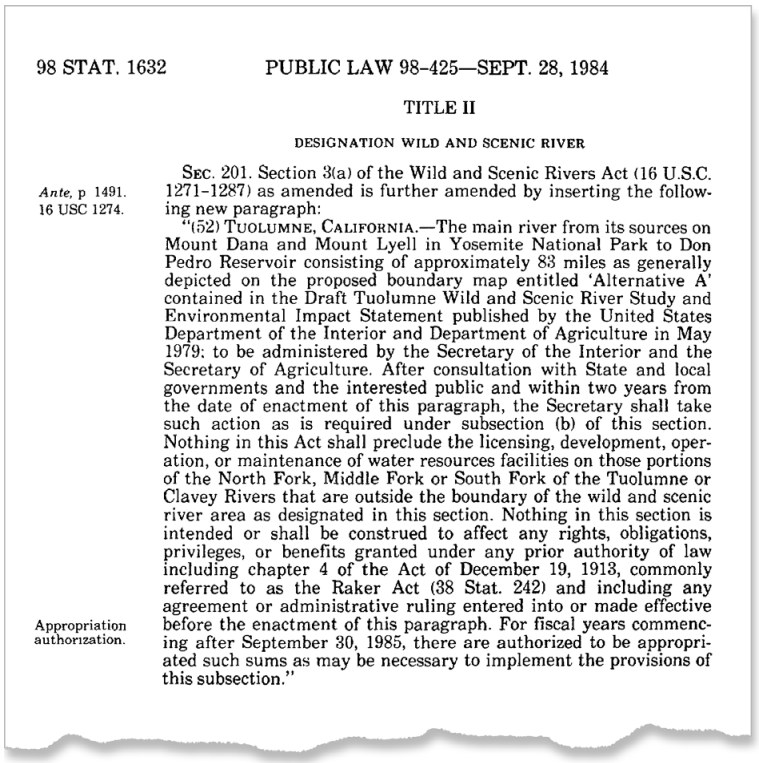


Figure 1-1. Tuolumne Wild and Scenic River and Vicinity.

Certain segments of the Tuolumne River in both Yosemite National Park and Stanislaus National Forest were designated a national wild and scenic river through a provision of the 1984 California Wilderness Act (98 Stat. 1632) (see figure 1-2). The eligibility of the Tuolumne River for inclusion in the national wild and scenic rivers system had been established by the 1979 *Tuolumne Wild and Scenic River Study: Final Environmental Impact Statement and Study Report* (Tuolumne Final Study), prepared cooperatively by the USFS and NPS (1979b). The designated segments of the river include 54 of the 62 miles of the river within the boundaries of Yosemite National Park (excluding the 8-mile segment through Hetch Hetchy Reservoir) and 29 of the 30 miles of the river on USFS and BLM lands downstream of the park and upstream of Lake Don Pedro. This plan addresses only the segments within the boundaries of Yosemite National Park.



98 STAT. 1632 PUBLIC LAW 98-425—SEPT. 28, 1984

TITLE II

DESIGNATION WILD AND SCENIC RIVER

Ante, p 1491. 16 USC 1274.

SEC. 201. Section 3(a) of the Wild and Scenic Rivers Act (16 U.S.C. 1271-1287) as amended is further amended by inserting the following new paragraph:

"(52) TUOLUMNE, CALIFORNIA.—The main river from its sources on Mount Dana and Mount Lyell in Yosemite National Park to Don Pedro Reservoir consisting of approximately 83 miles as generally depicted on the proposed boundary map entitled 'Alternative A' contained in the Draft Tuolumne Wild and Scenic River Study and Environmental Impact Statement published by the United States Department of the Interior and Department of Agriculture in May 1979; to be administered by the Secretary of the Interior and the Secretary of Agriculture. After consultation with State and local governments and the interested public and within two years from the date of enactment of this paragraph, the Secretary shall take such action as is required under subsection (b) of this section. Nothing in this Act shall preclude the licensing, development, operation, or maintenance of water resources facilities on those portions of the North Fork, Middle Fork or South Fork of the Tuolumne or Clavey Rivers that are outside the boundary of the wild and scenic river area as designated in this section. Nothing in this section is intended or shall be construed to affect any rights, obligations, privileges, or benefits granted under any prior authority of law including chapter 4 of the Act of December 19, 1913, commonly referred to as the Raker Act (38 Stat. 242) and including any agreement or administrative ruling entered into or made effective before the enactment of this paragraph. For fiscal years commencing after September 30, 1985, there are authorized to be appropriated such sums as may be necessary to implement the provisions of this subsection."

Appropriation authorization.

Figure 1-2. 98 Stat. 1632 of the 1984 California Wilderness Act.

Requirements of the Wild and Scenic Rivers Act

Under WSRA, 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 WSRA most pertinent to this plan for the Tuolumne River.

Section 1: Congressional Declaration of Policy

Section 1 explains the intent of the act, as quoted above.

Section 2: Classifications

Section 2 requires that the river be classified and administered as 'wild,' 'scenic,' or 'recreational' river segments, based on the condition and level of development of the river corridor at the time of 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. The classification of the Tuolumne Wild and Scenic River has been reviewed as part of this planning effort and is described in chapter 3, "Wild and Scenic River Corridor Boundaries and Segment Classifications."

Section 3: Congressionally Designated Components, Establishment of Boundaries, Classifications, and Management Plans

Section 3 lists the rivers that are congressionally designated as components of the national wild and scenic rivers system. The Tuolumne Wild and Scenic River is listed under section 3(a)(53). Section 3 also requires the administrating agency to identify river corridor boundaries and to prepare a comprehensive management plan to "provide for the protection of the river values." This plan for the Tuolumne River is being prepared in compliance with that requirement. The Tuolumne River corridor boundaries have been reviewed as part of this plan for the Tuolumne River and are described in chapter 3.

Section 7: Restrictions on Hydro and Water Resource Development Projects

Section 7 (16 USC 1278) 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 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. It additionally includes procedures to determine whether projects above or below the designated river or on its tributary streams would invade the area or unreasonably diminish the outstandingly remarkable scenic, recreational, and fish and wildlife values present in the designated corridor. This process for the Tuolumne River has been developed as part of this plan and is described in chapter 4, "Section 7 Determination Process for Water Resources Projects."

Section 10: Management Direction

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

(1) WSRA shall be administered to *protect and enhance* a river's outstandingly remarkable values. Insofar as possible, 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]).

> Protect has been interpreted by the Interagency Wild and Scenic Rivers Coordinating Council as elimination of adverse impacts. Enhance has been defined as improvement in conditions (IWSRCC 2002).

(2) In administration of a wild and scenic river, "primary emphasis shall be given to protecting its aesthetic, scenic, historic, archaeologic, 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) WSRA states that wild and scenic river segments inside congressionally designated wilderness are subject to both WSRA and the Wilderness Act. Where the two conflict, the more restrictive (i.e., protective of resources) regulation will apply (16 USC 1281[b]).

(4) Any component of the national wild and scenic rivers system that is administered by the National Park Service shall become part of the national park system and be subject to both WSRA and the acts under which the national park system is administered. In the case of conflict among these acts, the more restrictive provisions will apply (16 USC 1281[c]).

Section 10(e) 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

Section 12 directs the managing agency to 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 WSRA. The managing agency shall also work with other 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, that might occur outside of the corridor but affect the outstandingly remarkable values of the designated river segments.

Joint Secretarial Final Revised Guidelines

In 1982, at the direction of the President, the Secretaries of Interior and Agriculture jointly promulgated guidelines (hereafter referred to as the Secretaries' Guidelines for River Areas) for implementing WSRA[1]. The guidelines interpret the act as stating a "nondegradation and enhancement mandate for all designated river areas, regardless of classification." Based on that interpretation, the guidelines advise agencies to address the kinds and amounts of public recreation, public facilities, and resource uses that the river area can sustain without adverse impact or degradation of river values.[2]

1 National Wild and Scenic River System; Final Revised Guidelines for Eligibility, Classification and Management of River Areas, 47 *Federal Register* (FR) 39454 (1982).

2 Id. at 39458-9. In order to be located within the river area, major public use facilities such as visitor centers, administrative facilities, and developed campgrounds, must be (1) necessary for public use or resource protection; and (2) infeasible to move outside the river area; and (3) have no adverse effects on river values.

THIS PAGE IS INTENTIONALLY BLANK

Chapter 2: Purpose of and Need for the Tuolumne River Plan

How This Document Is Organized

This *Draft Tuolumne Wild and Scenic River Comprehensive Management Plan and Draft Environmental Impact Statement* (*Tuolumne River Plan/Draft EIS*) addresses all the elements required by the Wild and Scenic Rivers Act (WSRA) for the management of a designated river. It also analyzes these elements by following and documenting the planning processes required by the National Environmental Policy Act (NEPA), the National Historic Preservation Act (NHPA), and other legal mandates governing decision making by the National Park Service (NPS).

Because of its length, the *Tuolumne River Plan/DEIS* is presented in two volumes (with a third volume of appendices). All the planning elements required by WSRA are addressed in volume 1. Chapters 1 and 2 introduce the plan and its purpose, and provide an overview of issues and concerns brought forth in the public scoping and plan development process. Chapters 3 through 6 address the basic elements of a wild and scenic river plan. Chapter 7 describes a range of reasonable alternatives for managing river values, visitor use, and user capacity. Chapter 8 describes the environmental impacts of the alternatives. Once an alternative has been selected in a formal *record of decision* (the final step in the decision-making process under NEPA), the actions included in that alternative will be incorporated into chapters 5 and 6 to complete the final *Tuolumne River Plan*.

The required sections of the draft environmental impact statement are split between volumes 1 and 2 as shown in figure 2-1.

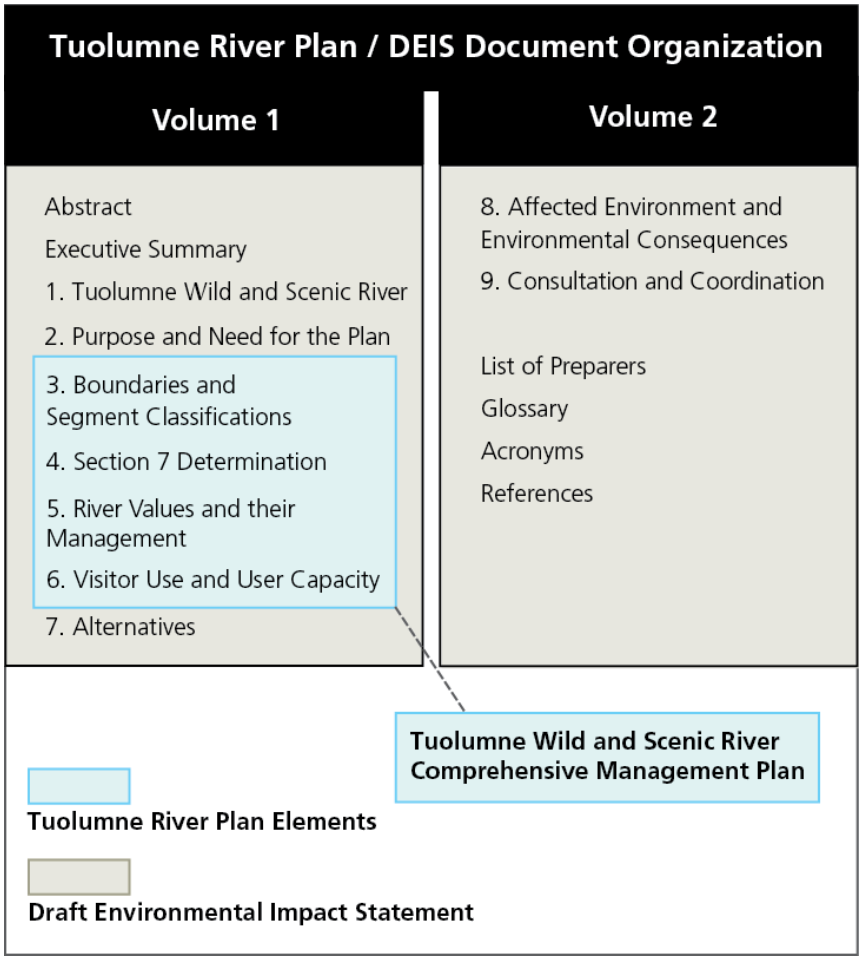


Figure 2-1. Tuolumne River Plan and Draft Environmental Impact Statement Document Organization

Purpose of the Tuolumne River Plan

WSRA requires comprehensive planning for designated rivers to provide for the protection of (1) the river's free-flowing condition, (2) its water quality, and (3) the outstandingly remarkable values that make it worthy of designation (collectively these three categories are referred to as river values). This is the fundamental purpose of the *Tuolumne River Plan*: to develop a plan for the protection of the Tuolumne's river values. The act further directs, in section 3(d), that the comprehensive management plan for each river "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." It also states that "for rivers designated before January 1, 1986, all boundaries, classifications, and [existing] plans shall be reviewed. . .through regular agency planning processes."

"My best advice is to seek out and listen to the people who live and work in Tuolumne." (Individual Public Scoping Comment)

The "Final Revised Guidelines for Eligibility, Classification and Management of River Areas," published by the U.S. Department of the Interior and the U.S. Department of Agriculture in the *Federal Register* in 1982 (hereafter referred to as the Secretaries' Guidelines for River Areas, USDI and USDA 1982) elaborate on the guidance in WSRA by specifying that management plans should state (1) principles for land acquisition (not applicable to the *Tuolumne River Plan*, since all lands in the corridor are federally owned); (2) the kinds and amounts of public use the river can sustain without adversely affecting the river's outstandingly remarkable values; and (3) specific management measures that will be taken to implement management objectives. Additional guidance about wild and scenic rivers is provided by the Interagency Wild and Scenic Rivers Coordinating Council (IWSRCC or Interagency Council), through which representatives of the federal agencies that administer wild and scenic rivers coordinate the management of designated rivers and the criteria for potential additions to the system. The Interagency Council has issued a series of technical papers, one of which (IWSRCC 2010) addresses the contents of a river management plan.

Consistent with the guidance provided by WSRA, the Secretaries' Guidelines for River Areas, and the technical papers prepared by the Interagency Council, the *Tuolumne River Plan* specifically addresses the elements listed in table 2-1.

Table 2-1.
Plan Elements Consistent with the Wild and Scenic Rivers Act and Other Guidance

Plan Element	Primary Reference	Location in the Tuolumne River Plan
Review, and if necessary revise, the boundaries and segment classifications (as wild, scenic, or recreational) of the Tuolumne Wild and Scenic River.	WSRA, section 3 (d), and USDI and USDA 1982, section II	Chapter 3
Provide a clear process for protection of the river's free-flowing condition in keeping with section 7 of WSRA.	WSRA, section 7	Chapter 4
Refine descriptions of the river's outstandingly remarkable values, which are the unique, rare, or exemplary, river-related characteristics that make the river eligible for inclusion in the national wild and scenic rivers system.	WSRA, section 3(d), and IWSRCC 2010	Chapter 5
Identify management standards for river values and an ongoing monitoring strategy, specifically related to protecting the river's free-flowing condition, water quality, and outstandingly remarkable values, to ensure that the standards are met and maintained over the long term.	WSRA, section 3(d), USDA and USDI 1982, section III, and IWSRCC 2010	Chapter 5
Identify management actions that will be taken to protect and enhance river values. Address resource protection, development of lands and facilities, user capacities, and other management practices necessary or desirable to achieve the purposes of WSRA.	WSRA, section 3(d), and USDA and USDI 1982, section III	Chapters 5 and 6 Chapter 7 (Alternatives) Alternatives under consideration at this draft stage of planning are included in chapter 7.The selected alternatives for resource protection, user capacities, and development will be added to chapters 5 and 6 once a decision has been made and documented in the record of decision.
Establish a user capacity program that addresses (1) the kinds and amounts of visitor use appropriate to the corridor, (2) the facilities, services, and management strategies needed to support that use, and (3) the management needed to achieve and maintain the that use.	WSRA, section 3(d), and USDA and USDI 1982, section, III, and IWSRCC 2010	Chapter 6 Chapter 7 (Alternatives)

As a comprehensive plan for the river corridor, the *Tuolumne River Plan* will make appropriate revisions to the *Yosemite National Park General Management Plan* (*Yosemite General Management Plan* [NPS 1980b]). While the focus of this river management plan is on the Tuolumne River as a unit of the national wild and scenic rivers system, the plan also provides long-term, comprehensive guidance for protecting the values of the Tuolumne River that support its inclusion in the national park system and the national wilderness preservation system (see "Interrelationships with Other Plans and Projects," below).

Because it is a comprehensive, long-term plan, the *Tuolumne River Plan* does not address all the details of actions needed to manage resources and visitor use and development in the Tuolumne River corridor; rather, it provides general guidance for actions that will be further developed through a number of program- and project-specific implementation plans. However, this plan includes some implementation planning, including specific proposals for ecological restoration of subalpine meadow and riparian areas at Tuolumne Meadows and Lyell Canyon and specific proposals for site planning at Tuolumne Meadows and Glen Aulin.

Need for the Tuolumne River Plan

This is the first comprehensive management plan for the portion of the Tuolumne Wild and Scenic River inside Yosemite National Park. A 1986 amendment to WSRA required managers of rivers designated before 1986 to complete a comprehensive management plan for the river by 1996, adding that the management plan "may be incorporated into resource management planning for adjacent Federal lands" (WSRA 3(d)(1)). The NPS responded to this directive in a 1986 *Federal Register* notice (51 FR 180) that classified the river segments within the park and declared that the Tuolumne River would be managed through (1) the *Yosemite National Park Wilderness Management Plan* (*Yosemite Wilderness Management Plan* [NPS 1989]) for the segments of the river classified as wild and (2) a forthcoming Tuolumne Meadows comprehensive design plan for the segment of the river in the Tuolumne Meadows area classified as scenic.

The 1989 *Yosemite Wilderness Management Plan* included guidelines for the management of the Tuolumne River; however, it did not fully address the planning requirements of WSRA. A draft *Environmental Assessment for the Tuolumne Meadows Design Concept Plan; Comprehensive Design Plan, NPS Employee Housing Element; and Management of the Tuolumne River Scenic Classified Segments* (*Draft Tuolumne Meadows Plan* [NPS 1995a]) addressed those requirements for the Tuolumne Meadows segment of the river corridor; however, that plan was never approved or adopted.

This *Tuolumne River Plan* considers the corridor as a whole and will make long-term decisions about the resource conditions and opportunities for visitor experiences that will best fulfill the purposes of WSRA. These decisions will be made after considering the full range of concerns about the Tuolumne River, as expressed by park managers, culturally associated American Indian tribes and groups, other public agencies, and the public. This range of concerns is reflected in the alternatives identified and evaluated in the draft environmental impact statement. A summary of the major planning issues identified during internal, tribal, and public scoping is presented below.

The final *Tuolumne River Plan* will be published after the public has the opportunity to comment on this draft. When the plan is final, it will guide management activities in the Tuolumne River corridor for approximately the next 20 years. Whenever park managers consider work and funding priorities, they will look to the *Tuolumne River Plan* and assess what still needs to be done to carry out the decisions and direction specified in the plan. Based on these assessments, they will propose more detailed plans, programs, or projects which, when funded, will become part of the annual work assignments of park resource managers, interpreters, rangers, scientists, facility managers, concession managers, planners, and other staff.

Before any project can proceed within the Tuolumne Wild and Scenic River corridor boundary, it must be determined to be consistent with the *Tuolumne River Plan* directives and shared with the public as part of a transparent process. If future projects require additional site-specific environmental compliance, they will take as their starting point the final environmental impact statement prepared in conjunction with the final version of the *Tuolumne River Plan*.

Identification of Planning Issues: Internal and Public Scoping

Site visit at Lembert Dome trail.

Over the course of the past six years, as the planning alternatives were being developed through a step-by-step process, the interests and concerns of a number of groups were solicited and considered through a series of meetings, workshops, and other opportunities to comment. These groups included NPS managers; culturally associated American Indian tribes and groups; other federal, state, and local agencies; and the public.

Internal scoping, including consultation with culturally associated tribes and other public agencies, began in the summer of 2005 with a comprehensive review of the river's outstandingly remarkable values. The interests and concerns of the tribes and other government agencies continued to be gathered concurrently with the general public scoping process.

The NPS initiated public scoping for the *Tuolumne River Plan* on June 27, 2006. The public scoping period lasted 73 days, closing on September 7, 2006. During the public scoping period, the NPS planning team solicited and compiled ideas, interests, and concerns from members of the public to help determine the future management of the Tuolumne River. People were asked specifically what they loved about the Tuolumne River and Tuolumne Meadows; what they do there; what they would like to see protected; and what kinds of services or facilities they would like to see offered, improved, or removed. People were encouraged to submit comments at one of 13 public scoping meetings held at Tuolumne Meadows, in communities adjacent to the park, and in San Francisco. Park rangers at Tuolumne Meadows incorporated the topic of planning for Tuolumne's future into most of the summer's interpretive programs.

In all, more than 4,000 distinct comments were captured on flip charts at public meetings; submitted on comment forms available at the park; sent via e-mail, fax, or letter; or entered electronically on the park's website. These comments were sorted and synthesized into approximately 1,000 concern statements, each expressing a particular (and sometimes controversial) action the NPS might take in managing the river corridor. This information was compiled into the *Tuolumne Wild and Scenic River Comprehensive Management Plan and Tuolumne Meadows Plan EIS Public Scoping Report* (*Public Scoping Report* [NPS 2006m]). Hundreds of hours of analysis, a series of workshops for the NPS planning team and other NPS staff members, and one public workshop were devoted to reviewing the Public Scoping Report and discussing the range of public interests and concerns. This report remains a vital reference document, featuring prominently in all team planning deliberations.

"Tuolumne is my favorite part of Yosemite and is the main reason I got involved in the planning effort." (Individual Public Scoping Comment)

Public scoping was only the beginning of public involvement in Tuolumne River planning. The park staff committed to involving the public at many key points in the decision-making process, explaining the rationale for each step leading up to the development of the alternatives and inviting the public to complete the individual exercises within the same time frame as

the park staff. Park staff conducted numerous "planner-for-a-day" workshops in 2007, 2008, and 2009 and distributed workbooks in 2007 and 2008. Both efforts were ways of soliciting public input early in the decision-making process. Throughout the planning process, park staff held meetings in gateway communities to discuss the plan and potential effects on local economies. In 2009 and 2010, park staff shared draft alternatives at numerous public meetings held in Tuolumne Meadows and at public open houses in Yosemite Valley to give the public a preview of the alternatives that would be assessed in the draft environmental impact statement.


Tuolumne River Plan *public discussion.*

In all, more than 120 public meetings and presentations on the *Tuolumne River Plan* have taken place during the plan's development. Volume 2, chapter 9, "Consultation and Coordination," provides a complete listing of all the meetings and additional details about the public involvement during each step of this process.

Major Planning Issues

This plan will make decisions about (1) the best management strategies for protecting and enhancing river values; (2) recreational and other public use and associated user capacity for the river corridor; and (3) the types, sizes, and suitable locations of facilities needed to support public use. The major planning issues that will be addressed by the plan are summarized below and discussed in depth in chapters 5-7. Chapter 5 describes each river value, its condition and management concerns, the actions proposed to address the concerns, and a monitoring program to ensure that the value is protected over the life of the plan. Chapter 6 presents the process used to address user capacity, and chapter 7 describes the action alternatives, which primarily address different approaches to management of visitor use and user capacity.

Protection and Enhancement of River Values

The following discussion of issues related to protection and enhancement of river values is a summary of more detailed information presented in chapter 5. References for statements about resource conditions and concerns are provided in chapter 5.

Free-Flowing Condition

The designated river segments are in a largely free-flowing condition, with no major changes since the time of designation. Natural flow regimes below O'Shaughnessy Dam are altered by the dam; however, dam releases are being managed in an attempt to more closely mimic natural flows.

Recent research has documented that erosion in excess of natural rates, with the potential for channel widening, is occurring on the outside meanders of the river at Tuolumne Meadows. This issue will be addressed as part of the ecological restoration of the Tuolumne Meadows area (see "Subalpine Meadow and Riparian Complex," below).

Water is withdrawn from the river to provide potable water for visitors and employees at both Tuolumne Meadows and Glen Aulin. While the current withdrawals have been found to have only a minimal impact on downstream habitats, researchers have cautioned that ongoing periods of drought might necessitate reductions in future withdrawals during low-flow periods, which generally coincide with the peak visitor season.

Some structures associated with roads and trails interfere with flow in localized areas. These structures include a section of boulder riprap that was installed to protect the campground A-loop road, abutments for the Tioga Road vehicle bridge, and abutments for the footbridge at Parsons Memorial Lodge. The latter two may be causing the river channel to back up during high-flow periods.

"We would like to see watershed and water quality management improved—keeping water quality consistently high throughout the Tuolumne River corridor." (California Conservation Organization Public Scoping Comment)

Water Quality

While water quality remains exceptionally high throughout the river corridor, localized risks are associated with wastewater treatment systems at Tuolumne Meadows and Glen Aulin, stock use, fuel storage, and sedimentation from an unstable road cut near the Dana Fork. With the exception of the road cut, these risks are currently managed to ensure that there is no adverse impact on water quality.

Wastewater treatment facilities at Tuolumne Meadows include an aging treatment plant on the south side of Tioga Road, from which partially treated wastewater is pumped beneath the road, meadows, and river to two containment ponds and sprayfields above the meadows on the north side of Tioga Road. Risks include potential seepage from the lines beneath the meadow, overflow from the ponds, and saturation of the sprayfields. At Glen Aulin, the mound septic system and leachfield has failed in the past, thereby prompting restrictions on water use. Water quality is frequently monitored. Since the current restrictions on water use have been in place, no effects on water quality at or below Glen Aulin have been detected. However, as at Tuolumne Meadows, a risk of leakage from the mound into the river remains at Glen Aulin. The water treatment systems at Tuolumne Meadows and Glen Aulin are also aging and need to be upgraded.

Erosion potential at the unstable road cut (the "little blue slide") east of Tuolumne Meadows on Tioga Road continues to pose a risk of increased turbidity in the Dana Fork.

Subalpine Meadow and Riparian Complex

Recent research suggests that Tuolumne Meadows is undergoing a shift in vegetation (Cooper et al. 2006). This shift is believed to have begun in response to historic actions, such as drainage of ponded areas, road building across the meadows, and extensive sheep grazing. More recent activities, including heavy foot traffic and siting of facilities in sensitive areas, are also suspected of influencing this shift. Global climate change may also be a factor.

Restoring more natural hydrologic processes is considered fundamental to the long-term health of Tuolumne Meadows. Localized interruptions to the seasonal sheetflow across the meadows are posed by historic features, such as the remnants of historic roadbeds and drainage projects, as well as by contemporary features, such as inadequate culverts along Tioga Road. These features intercept and channelize surface flows, resulting in incised channels, eroded cuts, and ponded areas. Disruptions to surface flows, which under natural conditions provide both water and nutrients to the meadows, also lower the groundwater levels, which are critical to meadow vegetation during low-flow periods.

Decreasing riparian vegetation along riverbanks, likely influenced by historic and contemporary trampling, as well as heavy browsing by deer, is resulting in channel widening (Cooper et al. 2006), which also affects groundwater levels in the meadows

Understanding the complex influences on meadow vegetation composition, below-ground biomass, and soil-forming processes will require additional research, and mitigation of adverse effects might require additional management actions.

Tuolumne Meadows remains highly susceptible to impacts on vegetation, soils, and soil organisms associated with foot traffic, and especially the foot traffic and informal trails that radiate out from roadside parking.

Meadows along the Lyell Fork are being affected by stock use. Recent studies found significantly higher levels of bare ground in Lyell Fork meadows, compared with meadows with low stock use and no stock use (NPS, Ballenger et al. 2010j)Evidence of hoof-punching suggests that these meadows are receiving stock use when soils are still wet and more susceptible to impacts.

Prehistoric Archeological Sites

Archeological sites in developed areas continue to be at risk for ongoing visitor- and construction-related impacts. Nearly half the sites in the Tuolumne Meadows Archeological District have already sustained development-related impacts. Almost all the sites in the meadows and along the river are affected by informal trails that bring visitors near the sites, and several sites have evidence of camping and campfires. Many sites in Dana and Tuolumne Meadows are at risk of losing some of their integrity from ongoing visitor use impacts.

Scenic Values

Views into and away from Tuolumne Meadows are being encroached upon by roadside parking and by woody vegetation, primarily lodgepole pine. Woody vegetation is encroaching into some traditional vista points within the river corridor.

Recreational and Other Public Use and User Capacity

Wild Segments (Designated Wilderness)

The majority of the designated wilderness provides abundant opportunities for solitude. Wilderness areas that are closer to roads receive a greater proportion of day use and higher use levels than in more remote places.

The issue of the appropriate level of permissible stock use in the river corridor was raised during scoping for this plan. Stock use is an ongoing activity that extends far beyond the river corridor and involves many kinds of activities, including guided trail rides offered by the concessioner, use of pack stock by NPS and concession employees (including trail maintenance and stocking the High Sierra Camps), guided commercial rides into the park, and individual visitors bringing their own private stock into the park. Recent studies show significantly higher levels of bare ground in subalpine meadows with currently high levels of pack stock use, such as meadows along the Lyell Fork. Pack stock use is one of the factors suspected of contributing to changing ecological conditions in these subalpine meadows. Also, signs of stock use were identified as a relatively important negative factor by wilderness overnight users participating in a survey of the quality of their experience. The parkwide management of stock in the Yosemite Wilderness is addressed in the 1989 *Yosemite Wilderness Management Plan*. The management of stock as it relates to the protection and enhancement of river values in the wilderness and nonwilderness portions of the Tuolumne River corridor will be addressed in this *Tuolumne River Plan*.

The issue of allowing kayaking was also raised during and after scoping. It is current park policy to prohibit recreational boating on all park rivers except a short segment of the Merced in Yosemite Valley and a segment of the South Fork of the Merced downstream of the Wawona Swinging Bridge. An alternative that permits kayaking on the Tuolumne River will be assessed for potential impacts on river values as part of this plan.

The historic Glen Aulin High Sierra Camp is located in a wild segment of the river. This area was designated by Congress in the California Wilderness Act of 1984 as a potential wilderness addition. Public scoping raised the concern about the possible effects of the Glen Aulin High Sierra Camp on river values. This plan will ensure that there are no adverse impacts or degradation of river values as a result of the Glen Aulin High Sierra Camp.

Scenic Segments (Tuolumne Meadows and Tioga Road Corridor)

"Define uses at different areas to better identify parking and use issues." (Individual Public Scoping Comment)

"We need to determine how many people can use the Tuolumne area without damaging its health, and we need to find effective ways to hold visitor use to this level." (Individual Public Scoping Comment)

Use patterns throughout Yosemite National Park are changing, with a smaller percentage of visitors spending the night in the park, and a larger percentage staying for only part of a day, compared to historic use. Although the majority of visitors to Tuolumne Meadows still spend at least one night in the area, the NPS staff has noted an increase in day visitors. Since the Tuolumne River was designated a Wild and Scenic River by Congress in 1984, there has been a 44% increase in visitation to Yosemite National Park. Between 2006 and 2010, visitation in the Tuolumne River corridor increased by about 3% per year, but the rate of increase leveled off in 2011. Vehicle congestion and crowding have begun to change the quality of the visitor experience. Unchecked, this increase in visitation may pose a threat to river values. Because parking demand during peak visitation times exceeds the capacity of the designated parking areas, about a third of all visitors now park in informal, undesignated locations along road shoulders or around the edges of designated parking areas. Of the estimated 870 vehicles parked in the Tuolumne Meadows area during peak use periods in 2011, only 533 parked in designated spaces.

Informal parking not only affects resources at the parking location, but also leads to the creation of informal trails across the meadows. Visitor use is essentially unmanaged at Tuolumne Meadows. Visitors park wherever they can, often along the shoulders of Tioga Road and other access roads, and from their cars tend to walk directly out into the meadows and along the river banks. People play games, such as soccer, in the meadows, and picnickers spread blankets over meadow vegetation. Recent research has shown that the meadow vegetation, soils, and soil organisms are highly susceptible to impacts from foot traffic and that areas of concentrated visitor use are experiencing disturbance which should be monitored and reduced (Holmquist and Schmidt-Gengenbach 2008).

Identifying the kinds and amounts of use appropriate to and desired for the Tuolumne Wild and Scenic River began at the initial stages of the planning process and has continued throughout—from public scoping, to the

identification of the river's outstandingly remarkable values, to developing alternatives for protecting and enhancing those values. A key difference among the alternatives is the kinds and amount of visitor use that would occur under each alternative. However, each alternative would increase the management of visitor use through some combination of visitor education, site management (such as formal parking areas and trails), and caps on or reductions in total numbers of visitors.

Although most visitors who commented during scoping felt strongly that overnight use, such as camping and staying in the lodge, was most important to their Tuolumne experience, the fact that day use has been increasing as a percentage of total use raises the question of whether the plan should call for an increase in opportunities for day use recreation. The plan alternatives explore various combinations of opportunities for day and overnight use. Some alternatives expand or enhance opportunities for day visitors by providing new picnic areas and short interpretive trails. Although relatively few people requested an increase in levels of service and facilities, the great majority of comments supported either (1) retaining the existing visitor opportunities and levels/types of facilities or (2) providing opportunities that would require less development overall within the river corridor.

Some people would like to see Tioga Road and other facilities remain open during some or all of the winter. However, for compelling reasons (see "Alternatives Dismissed from Further Consideration," in chapter 7) it is Yosemite National Park policy to manage the Tuolumne Meadows area as de facto wilderness during the winter. All the alternatives in this plan would continue this winter management policy. Therefore, the decisions that need to be made by this plan revolve around the most appropriate visitor experiences during the summer and fall seasons and the kinds of facilities needed to support those experiences while protecting and enhancing river values.

Facility Site Planning

Given that WSRA does not allow for "grandfathering" of facilities, all existing development in the river corridor has been evaluated for its effects on water quality, the free flow of the river, and the outstandingly remarkable values (see table A-1 in appendix A). Where it has been determined that river values are being affected by existing development, the *Tuolumne River Plan* will call for removal, redesign, and/or relocation of those facilities. In accordance with the Secretaries' Guidelines for River Areas, the only major public use facilities that may remain in the corridor under this plan are those (1) that are necessary; (2) that would be infeasible to move outside the corridor; and (3) that do not negatively affect river values. The plan will determine the appropriate kinds and levels of facilities needed to support visitor use while protecting and enhancing river values, and it will identify locations for those facilities that are protective of river values.

Issues that Will Not Be Addressed by the Tuolumne River Plan

Management of Resources that Are Not River Values

As a plan to protect and enhance the free-flowing condition, water quality, and outstandingly remarkable values of the Tuolumne Wild and Scenic River, the *Tuolumne River Plan* will address these values in detail, but it will not address the management of natural or cultural resources that do not contribute to these values, except indirectly, as they might be affected by an action targeted at a river value. For example, the management of natural resources and processes in upland areas of Tuolumne Meadows, or of historic landscape elements in the Tuolumne Meadows Historic District (except Parsons Memorial Lodge), will not be directed by this plan. Many actions taken to protect natural and cultural resources are part of the natural resource management, cultural resource management, and wilderness management programs conducted by the park staff. This plan acknowledges the importance of those activities; however, it will not directly address how they should be conducted. It leaves those decisions to the park program managers, who are responsible for ensuring that all

actions in the Tuolumne River corridor are consistent with the broad guidance provided by this comprehensive plan for the Tuolumne Wild and Scenic River.

Management and Use of the Portion of the Tuolumne River through Hetch Hetchy Reservoir

In 1979 the U.S. Forest Service (USFS) and the NPS conducted a joint study to determine how much of the Tuolumne River was eligible for inclusion in the national wild and scenic rivers system. The study determined that the 8-mile portion of the river impounded by O'Shaughnessy Dam at the Hetch Hetchy Reservoir, which is managed by the City and County of San Francisco as part of the city's water supply, was ineligible for inclusion in the system because it was not free flowing (a fundamental requirement of WSRA). This study was reviewed and accepted by the U.S. Congress, which designated all eligible portions of the Tuolumne Wild and Scenic River in 1984. Based on that decision the Hetch Hetchy Reservoir lies between two of the eligible segments of the Tuolumne Wild and Scenic River within Yosemite National Park, but it is not, itself, included in the designated river corridor. Therefore, the management of the reservoir and O'Shaughnessy Dam is not addressed in the *Tuolumne River Plan*.

While O'Shaughnessy Dam is an impoundment on a wild and scenic river, the issue of possibly removing it and designating an additional wild and scenic river segment is beyond the scope of this plan and environmental impact statement. Any major change in the status of the dam would require an act of Congress. Additional planning and NEPA compliance would be triggered by such congressional action.

Interrelationships with the planning and management of the reservoir are described below under "Hetch Hetchy Reservoir Planning and Management."

Legal Framework for the Tuolumne River Plan

Management of the Tuolumne River is directed by law, policy, and plans, in that order. Law and policy direct those things that must happen because they have been mandated by Congress or the NPS. Planning is a decision-making process used by managers when they have the discretion to choose among available options.

The Tuolumne Wild and Scenic River is a broadly recognized national treasure, and its management is guided by multiple federal laws and systems. It is included in the national wild and scenic rivers system and thus subject to the requirements of WSRA. It is an integral part of Yosemite National Park, a unit of the national park system. Much of the river corridor is within the national wilderness preservation system. Certain properties within the corridor are listed on the National Register of Historic Places. Each of these designations recognizes particular nationally significant qualities of the Tuolumne River, which it shares in common with the other areas included in these national systems, and each requires particular management and planning. (See "Appendix B: A Brief History of Legislation and Planning" for additional discussion of the legislative and administrative history of the river corridor.)

National Wild and Scenic Rivers Act

See chapter 1 for a detailed discussion of the requirements of WSRA.

National Park System Organic Act and National Parks and Recreation Act

The segments of the Tuolumne River covered by the *Tuolumne River Plan* were part of Yosemite National Park when they were designated as part of wild and scenic river system in 1984. As part of the national park, these

river segments are also managed under the provisions of the laws, policies, and regulations applicable to all units of the national park system. Section 10(c) of WSRA specifies that in case of conflicts between the mandates of the two systems, the more restrictive provisions apply.

The NPS was created by the National Park Service Organic Act of 1916 (USC 2-4) for the purpose of promoting and regulating a system of national parks "to conserve the scenery and the natural and historic objects and the 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 broad mandate has been translated into an extensive set of management policies, which direct all aspects of park management (NPS 2006g).

In addition to contributing to the overarching purpose of the national park system, each national park must achieve its own particular purpose, established in its enabling legislation or the presidential proclamation that created the park area.

Since 1978 the NPS has been required under the National Parks and Recreation Act (16 USC 1a-7) to prepare general management plans for all units of the national park system. The relationship between the *Tuolumne River Plan* and the *Yosemite General Management Plan* is described below under "Interrelationships with Other Plans and Projects."

Wilderness Act

The Yosemite Wilderness was added to the national wilderness preservation system by the 1984 California Wilderness Act, the same legislation that designated the Tuolumne Wild and Scenic River. More than 90% of the Tuolumne Wild and Scenic River corridor within Yosemite National Park is included within this congressionally designated wilderness. The non-wilderness portions of the river corridor, including Tuolumne Meadows and the segment directly below O'Shaughnessy Dam, are surrounded by lands within the national wilderness preservation system. The California Wilderness Act designated the Glen Aulin High Sierra Camp and an 80-acre inholding in Poopenaut Valley as potential wilderness additions.

WSRA specifies that where a designated wild and scenic river is located in wilderness that both laws will apply:

> *Any portion of a component of the national wild and scenic rivers system that is within the national wilderness preservation system, as established by or pursuant to the Act of September 3, 1964 (78 Stat. 890; 16 U.S.C., ch. 23), shall be subject to the provisions of both the Wilderness Act and this Act with respect to preservation of such river and its immediate environment, and in case of conflict between the provisions of these Acts the more restrictive provisions shall apply.*

The national wilderness preservation system was established by the Wilderness Act of 1964 (PL 88-577, 16 USC 1131-1136) to secure for present and future generations the benefits of an enduring resource of wilderness. The Wilderness Act requires that areas of designated wilderness be managed in ways that preserve their wilderness character. A wilderness area, as defined by the act, is

> *an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean… an area… retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable, and (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation.*

Congress has delegated the management of the Yosemite Wilderness to the NPS. The *NPS Management Policies 2006* requires the superintendent of each park containing wilderness resources to develop a wilderness management plan or equivalent planning document to guide the preservation, management, and use of these resources. The relationship between the *Tuolumne River Plan* and the *Yosemite Wilderness Management Plan* is described below under "Interrelationships with Other Plans and Projects."

The NPS is required to consider the effects of commercial use in the Yosemite Wilderness as part of its delegated responsibility to maintain the wilderness character of the lands under its charge. A "Determination of Extent Necessary for Commercial Services in the Wilderness Segments of the Tuolumne Wild and Scenic River Corridor" has been prepared as part of this planning for the Tuolumne River (see appendix C). This determination is addressed in greater detail under "Interrelationships with Other Plans and Projects," below.

Raker Act

O'Shaughnessy Dam and the Hetch Hetchy Reservoir are authorized under the 1913 Hetch Hetchy Reservoir Site Act, commonly known as the Raker Act, which grants the City and County of San Francisco certain lands and rights-of-way in Yosemite National Park for the purpose of building a reservoir and associated infrastructure, in order to generate a municipal water supply and hydroelectric power for the city. In addition, the act stipulates sanitary regulations for the reservoir's watershed, which amounts to the Tuolumne River watershed in Yosemite. (See "Hetch Hetchy Reservoir Planning and Management," below.)

National Environmental Policy Act

Pursuant to section 102(2) (C) of the National Environmental Policy Act of 1969 (NEPA [42 USC 4341 et seq.]), the NPS has prepared a draft environmental impact statement identifying and evaluating five alternatives for the *Tuolumne River Plan*. Regulations governing NEPA compliance are set by the President's Council on Environmental Quality (CEQ) (40 CFR Parts 1500-1508). CEQ regulations establish the requirements and process for agencies to fulfill their obligations under the act. This draft environmental impact statement documents compliance with two fundamental NEPA requirements: One is the requirement to make a careful, complete, and analytical study of the impacts of any proposal, and alternatives to that proposal, if it has the potential to affect the human environment, well before decisions are made. The other is to be diligent in involving any interested or affected members of the public in the planning process.

Compliance with the National Historic Preservation Act (see below) is integrated into the NEPA compliance process, using NHPA criteria for the analysis of impacts on cultural resources. The NEPA process is also used to coordinate compliance with other federal laws and regulations applicable to the decisions to be made as part of the *Tuolumne River Plan*, including but not limited to the following:

- Americans with Disabilities Act (42 USC 12101 et seq.)
- Clean Air Act (as amended, 42 USC 7401 et seq.)
- Clean Water Act (33 USC 1241 et seq.)
- Endangered Species Act (16 USC 1531 et seq.)
- Executive Order 11593: Protection and Enhancement of the Cultural Environment
- Executive Order 11988: Floodplain Management
- Executive Order 11990: Protection of Wetlands
- Wilderness Act

National Historic Preservation Act

Section 106 of the National Historic Preservation Act of 1966 (NHPA [16 USC 470]) directs federal agencies to take into account the effect of any undertaking (a federally funded or assisted project) on historic properties. A 'historic property' is any district, building, structure, site, or object, including resources that are considered by American Indians or other communities to have cultural and religious significance, that is eligible for listing in the National Register of Historic Places (NRHP) because the property is significant at the national, state, or local level in American history, architecture, archeology, engineering, or culture. Section 106 also provides the Advisory Council on Historic Preservation (ACHP) and the state historic preservation officer (SHPO) an opportunity to comment on assessment of effects by the undertaking. The Yosemite National Park section 106 review process is governed by national and park-specific programmatic agreements among the NPS, the Advisory Council for Historic Preservation, and the National Council of Historic Preservation Officers or the California state historic preservation officer (NPS, ACHP, and NCSHPO 2008; NPS, SHPO, and ACHP 1999). Both agreements are included in appendix D. As stated above, compliance with NHPA section 106 is integrated into the NEPA compliance process, using NHPA criteria for the analysis of impacts on cultural resources.

The section 106 review process is also used to coordinate compliance with the following federal laws and regulations applicable to the decisions to be made as part of the *Tuolumne River Plan*.

Archaeological Resources Protection Act

The Archeological Resources Protection Act of 1979 (ARPA [16 USC 470aa- 470ll]) prohibits unauthorized excavation of archeological sites on federal land, as well as other acts involving cultural resources, and implements a permitting process for excavation of archeological sites on federal or Indian lands (see regulations at 43 CFR 7). The act also provides civil and criminal penalties for removal of, or damage to, archeological and cultural resources. Historic properties are addressed in volume 2, chapter 8.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA [25 USC 3001 et seq. and its implementing regulations at 43 CFR 10]) provides for the protection and repatriation of Native American human remains and cultural items and requires notification of the relevant Native American tribe upon accidental discovery of cultural items. Resources covered by NAGPRA are addressed in volume 2, chapter 8, and the process for handling these resources is included in the national and park-specific programmatic agreements included in appendix D.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act of 1979 (AIRFA [42 USC 1996]) preserves for American Indians and other indigenous groups the right to express traditional religious practices, including access to sites under federal jurisdiction. Regulatory AIRFA guidance is lacking, although most land-managing federal agencies have developed internal procedures to comply with the act. Access to American Indian traditional religious practice sites is addressed in the programmatic agreements included in appendix D.

Executive Order No. 13007: Indian Sacred Sites

Executive Order 13007 directs federal agencies with statutory or administrative responsibility for the management of federal lands, to the extent practicable and permitted by law, to accommodate access to and ceremonial use of Indian sacred sites by American Indian religious practitioners and avoid adversely affecting the physical integrity of such sacred sites. Access to and ceremonial use of American Indian sacred sites is addressed in the programmatic agreements included in appendix D.

Interrelationships with Other Plans and Projects

Interrelationships with Other Yosemite National Park Plans and Management Activities

The *Tuolumne River Plan* is a comprehensive, long-term plan for the river corridor that will be implemented over time. Many of the actions included in the plan can be implemented without additional planning and analysis; however, some the actions will require more detailed implementation planning. Any implementation planning and analysis will tier off this plan and its environmental impact statement and will include a transparent public involvement process.

The relationship with other closely related park plans is summarized below.

Yosemite General Management Plan

Similar to the comprehensive management plan required for the Tuolumne Wild and Scenic River, the general management plan required for Yosemite National Park addresses measures for the preservation of resources, types and general intensities of development, visitor carrying capacities, and potential boundary modifications. WSRA states that comprehensive river management plans must be coordinated with, and may be integrated into, the administering agency's planning. The most current *Yosemite General Management Plan* was completed before the Tuolumne River was designated in 1984 and therefore does not consider protection and enhancement of river values in accordance with WSRA. The *Tuolumne River Plan* will amend the *Yosemite General Management Plan* to include those considerations. The specific amendments to the *Yosemite General Management Plan* resulting from the *Tuolumne River Plan* are outlined in appendix E.

Yosemite Wilderness Management Plan and Implementing Management Actions

The *Yosemite Wilderness Management Plan*, approved in 1989 and soon to be revised by an upcoming stewardship plan for the Yosemite Wilderness, tiers off the *Yosemite General Management Plan* and provides guidance for specific management activities and facilities within designated wilderness. The plan provides parkwide guidance for implementing wilderness policies and programs, including the minimum requirement policy and an overnight trailhead quota system, in the Yosemite Wilderness.

The *Yosemite Wilderness Management Plan*, as well as the *Tuolumne River Plan*, addresses management and use within those portions of the Tuolumne River corridor that are also designated wilderness. Section 10(b) of WSRA specifies that in case of conflicts between the mandates of the national wild and scenic rivers system and the national wilderness system, the more restrictive provisions apply. The following actions related to wilderness mandates and policies currently restrict use within the river corridor. Specific actions applicable to the Tuolumne River corridor may be revised as part of the upcoming wilderness stewardship plan so long as they remain protective of river values, as specified in the *Tuolumne River Plan*.

Wilderness Zone Capacities

Overnight zone capacities and associated trailhead quotas have been established to protect wilderness character throughout Yosemite National Park, including zones and trailheads in the Tuolumne River corridor (see table 8-1 in chapter 8). Zone capacities and associated trailhead quotas may be revised as necessary to reflect changing visitor patterns and resource sensitivities under the overall guidance provided by the current *Yosemite Wilderness Management Plan* or upcoming wilderness stewardship plan. However, in the future all capacities within the river corridor must remain within the maximum levels allowed under this *Tuolumne River Plan*.

Extent Necessary for Commercial Services in Wilderness

A "Determination of Extent Necessary for Commercial Services in the Wilderness Segments of the Tuolumne Wild and Scenic River Corridor" has been prepared as part of this planning for the Tuolumne River (see appendix C). As discussed in the determination, both the text of the Wilderness Act and its legislative history indicate that commercial services in wilderness were intended by Congress to be subject to limits. Since the adoption of the Wilderness Act, courts have repeatedly emphasized that the law requires that commercial services may be allowed, but only to the extent necessary to realize the wilderness purposes of the act. The purpose of the "extent necessary determination" for the *Tuolumne River Plan* is to determine limits on commercial use in the wilderness sections of the Tuolumne River corridor in accordance with the requirements of the Wilderness Act, the Concessions Management Improvement Act of 1998, and NPS management policies. When Yosemite completes a new wilderness stewardship plan, that plan will determine the extent necessary for commercial services for the entire Yosemite Wilderness.

No-Camping Zones

The *Yosemite Wilderness Management Plan* currently designates no-camping zones in the watersheds of Parker Pass Creek, the Dana Fork of the Tuolumne, and Gaylor Creek, to protect the Tuolumne Meadows water supply.

Merced Wild and Scenic River Comprehensive Management Plan

The NPS is currently preparing a comprehensive management plan for the 81 miles of the Merced Wild and Scenic River that flow through Yosemite National Park. The *Merced Wild and Scenic River Comprehensive Management Plan* and this *Tuolumne River Plan* will use similar methods and management strategies to the extent practicable.

Scenic Vista Management Plan

The purpose of the *Scenic Vista Management Plan* is to develop a systematic program for protecting and restoring Yosemite's important viewpoints and vistas. The plan does not propose any actions in designated wilderness. While the *Scenic Vista Management Plan* suggests locations for management within the Tuolumne River corridor, the *Tuolumne River Plan* will provide the overall direction and guidance based on an evaluation of all river values. Upon its completion, the *Tuolumne River Plan* will amend the *Scenic Vista Management Plan* for the scenic segments within the Tuolumne River corridor.

Interrelationships with Other Agency Plans and Management Activities

Hetch Hetchy Reservoir Planning and Management

The Hetch Hetchy Reservoir remains a drinking water source for the City and County of San Francisco. The San Francisco Public Utilities Commission (SFPUC) maintains a watershed control program in the Hetch Hetchy watershed to ensure water quality and limit contamination, in accordance with the federal and state requirements for unfiltered water supplies (40 CFR 141(H) and the *California Code of Regulations* 22:64652.5(e)(3)). The Raker Act stipulates sanitary regulations for permanent facilities within the reservoir's watershed, stating that no human excrement, garbage, or refuse may be placed within 300 feet of the reservoir or watercourses that flow into it; all sewage generated from permanent camps or hotels within the watershed must be adequately filtered and purified; and no bathing, washing, watering stock, or other polluting activity may take place in the reservoir or waters within 1 mile of the reservoir. The NPS and the City and County of San Francisco work as partners to protect the Tuolumne River watershed in Yosemite National Park.

In 2006 the SFPUC adopted a policy that establishes a management direction to protect and rehabilitate ecosystems affected by dam operations, within the context of meeting water supply, power generation, water quality, and existing minimum in-stream flow requirements that were first established in 1985. These flow requirements focused primarily on maintaining habitat for trout, a species that is not believed to be native above Preston Falls on the Tuolumne River. The policy adopted in 2006 also directs the nature of SFPUC in-stream flow releases such that they mimic to the extent feasible the variation of the seasonal hydrology in order to sustain the aquatic and riparian ecosystems upon which native wildlife species depend.

The NPS is collaborating with the SFPUC, the USFS, and the U.S. Fish and Wildlife Service (USFWS) on the Upper Tuolumne River Ecosystem Project. This project is conducting research to determine the effects of water temperature and flow regime on ecological conditions below the dam. The ultimate goal of this project is to make informed recommendations for water releases from the dam that would provide maximum ecological benefits to the river-dependent ecosystems between the O'Shaughnessy Dam in Yosemite National Park and the Early Intake in the Stanislaus National Forest. Draft recommendations have been reviewed by stakeholders, but the final recommendations have not yet been completed, nor have they been adopted by the SFPUC.

Planning and Management for the Tuolumne River Segments Administered by the U.S. Forest Service and Bureau of Land Management

The current comprehensive plan for the 29 miles of the Tuolumne Wild and Scenic River outside Yosemite National Park (see figure 1-1) was prepared by the USFS (1988). That plan, similarly titled *Tuolumne Wild and Scenic River Management Plan,* covers river segments administered by both the USFS and the Bureau of Land Management (BLM), which cedes its management authority to the USFS through a cooperative agreement.

Similar to the NPS *Tuolumne River Plan/Draft EIS*, the overall objective of the USFS plan is to provide recreational opportunities within the capability of the resource, protect the free-flowing condition of the river, and preserve and enhance the values for which the river was designated. The Yosemite National Park staff works cooperatively with Stanislaus National Forest staff to protect the river values of the entire Tuolumne Wild and Scenic River.

Nonfederal Lands

The 54 miles of the Tuolumne Wild and Scenic River in Yosemite National Park is solely under the jurisdiction of the NPS, with the exception of a single parcel below Hetch Hetchy Reservoir and an 80-acre inholding partially within the Poopenaut Valley segment, both of which are owned by the City and County of San Francisco. There is no private landownership within the Tuolumne River corridor in Yosemite National Park.

Federal, State, Local, Tribal, and other Partnership Responsibilities

As the NPS moves forward with various management actions approved through this plan, consultation will continue with a number of federal, state, and local agencies, as well with culturally-associated American Indian tribes and others. The nature of those relationships and responsibilities are summarized below.

Federal Agencies

U.S. Army Corps of Engineers

Under section 404 of the Clean Water Act (33 USC 1344), permit approval is required for projects which may result in the discharge of dredged or fill material into waters of the United States. This includes all navigable

waters, their tributaries, impoundments of these waters, and adjacent wetlands. Section 404 permits are administered by the U.S. Army Corps of Engineers.

U.S. Fish and Wildlife Service

The Endangered Species Act of 1973, as amended (16 USC 1531 et seq.), requires all federal agencies to consult with the USFWS 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. Consultation with the USFWS will be ongoing as the *Tuolumne River Plan* is completed and implementation continues.

U.S. Forest Service

The NPS shares management responsibility for the Tuolumne Wild and Scenic River with the USFS, which manages the segments west (downstream) of the Yosemite National Park boundary.

Culturally Associated Tribes and Groups

Yosemite National Park currently maintains consultation relationships with seven American Indian tribes and groups that claim ancestral cultural association with park lands and resources, including five federally recognized American Indian tribes (Bridgeport Paiute Indian Colony of California, Bishop Paiute Tribe, North Fork Rancheria of Mono Indians of California, Picayune Rancheria of Chukchansi Indians, and the Tuolumne Band of Me-Wuk Indians) and two federally non-recognized American Indian groups (American Indian Council of Mariposa County [also known as the Southern Sierra Miwuk Nation] and the Mono Lake Kutzadikaa).

Consultation with federally recognized tribes is on a government-to-government basis, which means that Yosemite National Park officials work directly with appropriate tribal government officials whenever plans or activities might directly or indirectly affect tribal interests, practices, and/or traditional use areas such as sacred sites. The Yosemite National Park American Indian Consultation Program facilitates regulatory compliance with the NHPA, NEPA, NAGPRA, and other statutes, policy, and guidance related to American Indian resources, issues, and concerns. Formal and informal consultations are conducted with culturally associated American Indian tribes and groups about proposed NPS plans and actions that might affect the treatment and use of, and access to, cultural and natural resources with documented or potential cultural meaning for the groups.

State Agencies

California State Historic Preservation Officer

A programmatic agreement among the NPS at Yosemite, the California SHPO, and the ACHP regarding planning, design, construction, operation, and maintenance was developed in consultation with American Indian tribes and groups having cultural association with Yosemite National Park, and was executed in October 1999 (NPS, ACHP, and SHPO 1999). Consultation with the SHPO will continue throughout implementation of this *Tuolumne River Plan*.

State and Regional Water Quality Control Board

The NPS works with state and local government agencies to maintain the highest possible water quality standards and to take action to restore substandard waters, as directed by NPS Management Policies 2006 and Directors Order 84, Public Health (2004).

Yosemite National Park is under the jurisdiction of Regional Board 5, Central Valley, of the California Environmental Protection Agency and therefore consults with and obtains any necessary permits and/or certifications for construction activities from that board. The board derives its authority from section 401 of the Clean Water Act and section 13020 of the California Water Code. The U.S. Environmental Protection Agency sets water quality standards for all contaminants in surface waters and implements pollution control programs such as the National Pollution Discharge Elimination System permit program, which regulates point source water pollution (EPA 1972). The state board allocates rights to the use of surface water and, along with nine regional boards, is charged with protecting surface, ground, and coastal waters throughout the state. The regional boards issue permits that govern and restrict the amount of pollutants that can be discharged into the ground or surface water, which includes regulating stormwater during construction activities.

Local Governments

Gateway Communities

Yosemite National Park is bordered by four primary gateway communities: Lee Vining, Groveland, Oakhurst, and Mariposa. While the park contributes to the cultural, environmental, and economic well-being of the region, the local communities play an important role in the preservation of the park and its resources. In recognition of this interdependent relationship, the NPS cofounded with gateway community members and organizations the Yosemite Gateway Partners in 2003. Through quarterly meetings, the Yosemite Gateway Partners facilitate dialogue between the gateway communities and the NPS. In addition to Yosemite Gateway Partners, NPS representatives regularly attend and participate in gateway community tourism boards, chambers of commerce, boards of supervisors, and other community agencies, councils, and organizations.

City of San Francisco and Tuolumne River Watershed Agreement

The relationship between Yosemite National Park and the City and County of San Francisco began with passage of the Raker Act on December 6, 1913. Over the years, the NPS and the city have worked together to ensure that the provisions of the Raker Act are followed to preserve park resources in the Tuolumne River and Eleanor Creek watersheds.

The primary city agencies involved in the Hetch Hetchy partnership are the SFPUC and its subsidiary, Hetch Hetchy Water and Power. At present, six of Yosemite's nine administrative divisions contribute directly to watershed protection, under the guiding leadership of the Yosemite management team. The most current Memorandum of Agreement for the Comprehensive Management of Watersheds Supplying the San Francisco Regional Water System within Yosemite National Park was signed on November 2, 2010. The agreement formalizes the commitment from Yosemite and the SFPUC to work in concert to protect the watershed for a five-year planning horizon.

The agreement serves as the mechanism for the SFPUC to fund the following NPS activities:

- Provide watershed controls to preserve the watershed as a high-quality drinking water source, including source water protection and Raker Act water quality provisions.
- Improve environmental stewardship of the Tuolumne River ecosystem.
- Provide security for facilities that are essential to the SFPUC within Yosemite National Park.

Other Partnerships

Yosemite Conservancy

Yosemite Conservancy is the nonprofit philanthropic partner formed by a merger of the Yosemite Association and The Yosemite Fund. Their mission is to inspire people to support projects and programs that preserve and protect Yosemite National Park's resources and enrich the visitor experience. The Yosemite Conservancy has funded more than 380 projects through $71 million in grants to help preserve and protect the park. The Yosemite Conservancy restores trails, provides bear-proof lockers, issues wilderness permits, conducts wildlife preservation and outdoor education programs, and more. Annually the Yosemite Conservancy recruits over 400 volunteers to work in the park to repair trails, remove invasive species, and provide visitor information.

NatureBridge

Since 1971 thousands of school-aged children have benefited from learning in "nature's classroom" through the residential field science programs offered by NatureBridge. NatureBridge also offers professional development for teachers, summer youth programs, backpacking adventures, community outreach programs, and service learning projects.

Concessioners

Consistent with law (36 CFR 51.23) and agency policies (Directors Orders 48A and 48B), the NPS contracts with private businesses that offer a range of commercial services to park visitors. Currently, the primary hospitality contract is held by Delaware North Companies Parks and Resorts at Yosemite. Delaware North Companies operates lodging, restaurants, sightseeing tours, recreational activities, interpretive programs, stores, shuttles, and fuel stations in the park under a contract with the U.S. Department of the Interior. Under the terms of the concession contract, it also engages in an agreement with the U. S. Postal Service to provide incoming/outgoing mail service at the Tuolumne Meadows store. Future concession contracts will be written to incorporate the terms and conditions of approved plans, including the Tuolumne River Plan.

Commercial Use Authorizations

As authorized by law (36 CFR 5.3) and NPS Management Policies 2006 and Directors Order 53, the NPS issues commercial use authorizations to business entities that offer services to visitors that are not typically provided by the concessioner. Commercial bus operators, wilderness outfitters and guides, and other small businesses operate in the park under the terms of commercial use authorizations. Commercial use in designated wilderness is limited in accordance with the requirements of the Wilderness Act, the Concessions Management Improvement Act of 1998, and NPS management policies (see the "Determination of Extent Necessary for Commercial Services in the Wilderness Segments of the Tuolumne Wild and Scenic River Corridor" in appendix C).

Yosemite Area Regional Transportation System

Under a formal agreement between the NPS and the Yosemite Area Regional Transportation System (YARTS) Joint Powers Authority, YARTS administers a contract for transportation services to and through Yosemite National Park, including along the Tioga Road in the Tuolumne River corridor.

Chapter 3: Wild and Scenic River Corridor Boundaries and Segment Classifications

The Wild and Scenic Rivers Act (WSRA) allows for the review and revision of river corridor boundaries and segment classifications as part of the comprehensive management planning process. Accordingly, the river corridor boundary and classifications have been reviewed as part of this planning effort. The review process considered the definitions included in WSRA and the further interpretations of these definitions provided by the Secretaries' Guidelines for River Areas (USDI and USDA 1982).

River Corridor Boundaries

Section 3 of WSRA calls for the establishment of river corridor boundaries 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. (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 of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.")

The 1984 designation of the Tuolumne Wild and Scenic River established a boundary extending 0.25 mile on either side of the river (which equates to 320 acres per river mile), the maximum allowed WSRA. The National Park Service (NPS) has been managing the river corridor pursuant to this boundary, pending a review as part of this *Tuolumne River Plan*.

This plan makes one technical correction to the river corridor boundaries. In the 1979 study, the NPS and the U.S. Forest Service (USFS) identified two tributaries as the primary headwaters of the Tuolumne River: the Lyell Fork and the Dana Fork. The map accompanying the verbal description of the headwaters incorrectly illustrated the Dana Fork as descending from the area near the Tioga Pass entrance station. The Dana Fork actually originates between Mount Dana and Mount Gibbs. When Congress designated the Tuolumne as a wild and scenic river in 1984, the enabling legislation referred to the 1979 eligibility study description and map for the location of the headwaters. The map error resulted in an unnamed tributary descending from Tioga Pass being incorrectly labeled the headwaters of the Tuolumne River.

Based on consultation with park hydrologists and members of the planning team from the original 1979 study, the *Tuolumne River Plan* corrects the 1979 map error and incorporates the proper Dana Fork headwaters into the wild and scenic river boundary. This headwaters section of the river corridor will be assigned a wild classification, as the portion of the Dana Fork between Mount Dana and Mount Gibbs flows through congressionally designated wilderness. Based on this correction, the river will be divided into seven segments (see below).

The original and corrected Tuolumne Wild and Scenic River corridor boundaries are shown in figure 3-1.

The river corridor boundaries are based on the existing river channel. Although the river is a dynamic natural system, boundaries depicted in the *Tuolumne River Plan* 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 NPS 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 ability of the NPS to protect and enhance outstandingly remarkable values is inhibited. If changes are deemed necessary, an environmental compliance process will be initiated (including opportunities for additional public involvement), and the plan will be amended or updated as appropriate.

"The Dana Fork is shown incorrectly starting at Tioga Pass instead of between Mt. Dana and Mt. Gibbs."(Individual Public Scoping Comment)

Segment Classifications

The classification of each segment of the Tuolumne River is based on the level of development at the time of designation (1984) using the following criteria from section 2(b) of WSRA and its implementing regulations:

- 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. These represent vestiges of primitive America.
- 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.

All actions within the river corridor must be consistent with these classifications.

In 1979, the Tuolumne Final Study proposed that all segments of the Tuolumne Wild and Scenic River within Yosemite National Park were either wild or scenic. The 1984 designation specified that segment classifications for the Tuolumne River must be established within two years of the designation. In a 1986 *Federal Register*

notice, the park adopted the river segments and classifications that had been proposed in the 1979 Tuolumne Final Study with one exception: the 6-mile segment below the dam identified as scenic in the Tuolumne Final Study was split into two segments, a 1-mile scenic segment directly below the dam and a 5-mile wild segment beginning at the wilderness boundary and extending to the park boundary. With this change, the length of the river within Yosemite National Park was divided into six segments. The subsequent technical correction to the river corridor boundaries as part of this plan, described above, will result in the river being divided into seven segments.

As part of the review process, the NPS and the USFS noted that the Glen Aulin High Sierra Camp was too minor a presence within the 24-mile segment extending from Tuolumne Meadows to the headwaters of the Hetch Hetchy Reservoir for that segment to be classified as anything other than wild. Specifically, the agencies wrote, "The only man-made developments along this stretch of the river, with the exception of several foot bridges, are the facilities of the High Sierra Camp at Glen Aulin. Any detraction caused by the camp is minor when compared with the over-all primitive character of this section of the river. This segment of the river meets criteria for a 'wild' classification" (USFS and NPS 1979a: 30).

Revised Segment Classifications

The seven river segments and classifications are identified in figure 3-1 and are listed in table 3-1.

Table 3-1.
Tuolumne Wild and Scenic River Segments and Classifications

Segment	Classification	Name	Description	Approximate Length
Segment 1	Wild	Lyell Fork	From the headwaters of the Lyell Fork to the confluence of the Dana and Lyell Forks	13 miles
Segment 2 (technical correction)	Wild	Upper Dana Fork	From the headwaters of the Dana Fork to Dana Meadows	3 miles
Segment 3	Scenic	Lower Dana Fork	From Dana Meadows to the confluence of the Dana and Lyell Forks	6 miles
Segment 4	Scenic	Tuolumne Meadows	From the confluence of the Dana and Lyell Forks to the downstream wilderness boundary	3 miles
Segment 5	Wild	Grand Canyon	From the western end of Tuolumne Meadows (the downstream wilderness boundary of segment 4) to Hetch Hetchy Reservoir	24 miles
Segment 6	Scenic	Below O'Shaughnessy Dam	From the wild and scenic river boundary 500 feet below O'Shaughnessy Dam to the wilderness boundary approximately 1 mile downstream	1 mile
Segment 7	Wild	Poopenaut Valley	From the wilderness boundary to the western park boundary	5 miles

Relationship between Wilderness and the Wild and Scenic River Segments

The river segment classifications approximate, but do not exactly follow, the boundaries of the Yosemite Wilderness (see table 3-2). Based on federal policies established for the management of congressionally designated wilderness (NPS 2006f), the *Tuolumne River Plan* addresses future management of the river corridor according to three broad management overlays that apply to (1) congressionally designated wilderness, (2) Glen Aulin (a potential wilderness addition), and (3) Tuolumne Meadows and the Tioga Road corridor to the east (non-wilderness).

Table 3-2.
Relationship between Tuolumne River Segment Classifications and Yosemite Wilderness

Segment	Classification	Name	Relationship to Congressionally Designed Yosemite Wilderness
Segment 1	Wild	Lyell Fork	The entire segment is included in the Yosemite Wilderness.
Segment 2 (technical correction)	Wild	Upper Dana Fork	The entire segment is included in the Yosemite Wilderness.
Segment 3	Scenic	Lower Dana Fork	The Tioga Road corridor east of Tuolumne Meadows (extending 200 feet from the centerline on both sides of the road) is excluded from the Yosemite Wilderness. The remainder of the segment, extending 0.25 mile from the center on both sides of the river, is included in the Yosemite Wilderness.
Segment 4	Scenic	Tuolumne Meadows	Some portions of the segment, mostly north of Tioga Road, are included in the Yosemite Wilderness.
Segment 5	Wild	Grand Canyon	Almost all the segment is included in the Yosemite Wilderness. The Glen Aulin High Sierra Camp is a potential wilderness addition.
Segment 6	Scenic	Below O'Shaughnessy Dam	The Hetch Hetchy Road corridor and administrative area are excluded from the Yosemite Wilderness. The remainder of the segment is included in the Yosemite Wilderness.
Segment 7	Wild	Poopenaut Valley	Almost all the segment is included in the Yosemite Wilderness. An 80-acre inholding owned by the City and County of San Francisco that lies partially within this segment is a potential wilderness addition.

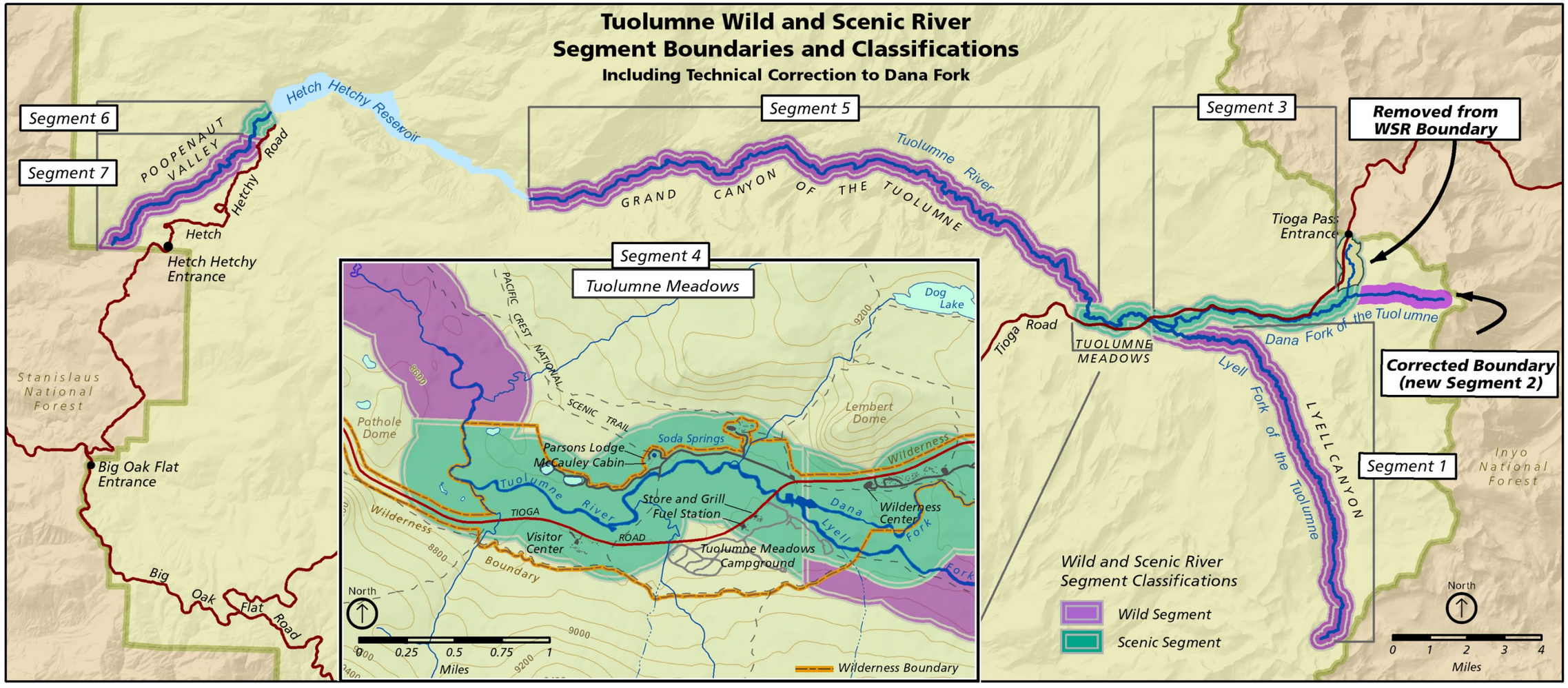


Figure 3-1. Tuolumne Wild and Scenic River Boundary and Segment Classifications.

THIS PAGE IS INTENTIONALLY BLANK

Chapter 4: Section 7 Determination Process for Water Resources Projects

Background

When Congress enacted the Wild and Scenic Rivers Act (WSRA) in 1968, it sought to prevent decades of damming, dredging, and diversion from spreading to some of the nation's most spectacular waterways. Section 7 of the act specifies restrictions on hydro and water resource development projects and directs the managing agency to specify a process that will be followed in determining whether or not a proposed water resources project is appropriate.

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.

Water resources projects include, but are not limited to, dams, water diversion projects, fisheries habitat and watershed restoration/enhancement projects, bridge 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 section 404 permit from the U.S. Army Corps of Engineers (USACE). While no new dams will be proposed on the Tuolumne River, other potential water resources projects along the Tuolumne Wild and Scenic River could come up for decision, including projects with the purpose of improving the free-flowing condition of the river or enhancing a particular outstandingly remarkable value.

Standards

The need for a section 7 review is determined based on the standards shown in figure 4-1.

IF	IF
The project is proposed in the *bed or banks* of a designated river or congressionally authorized study river	The project is proposed in the bed *or banks of a river below, above, or on a stream tributary* to a designated river or congressionally authorized study river
AND	**AND**
The project is proposed by a federal agency or it requires some type of federal assistance such as a permit, license, grant, or loan	The project is proposed by a federal agency or it requires some type of federal assistance such as a permit, license, grant, or loan
	AND
	The project is likely to result in effects within a designated river or congressionally authorized study river
THEN	**THEN**
When both of the above conditions exist, a determination is required under section 7.	When all of the above conditions exist, a determination is required under section 7.

Figure 4-1. Determining the Need for a Section 7 Review under the Wild and Scenic Rivers Act.

Federally Assisted Projects on the Wild and Scenic River

The law prohibits any federally assisted water resources project that would have a "direct and adverse effect" on the values for which a river was added to the wild and scenic rivers system. For the portion of the Tuolumne River within Yosemite National Park, the National Park Service (NPS) is responsible for making the final determination as to whether a proposed water resources project will have a direct and adverse impact on river values. The agency coordinates 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 might include the U.S. Fish and Wildlife Service (USFWS), the U.S. Environmental Protection Agency, the U.S. Forest Service, the Bureau of Land Management, and the USACE. Review of WSRA section 7 projects are also coordinated with other environmental review processes, such as those required by the National Environmental Policy Act (NEPA) and the National Historic Preservation Act, as appropriate. Potential water resources projects that are found to have a direct and adverse effect on the values of a designated river must be either redesigned and resubmitted for a subsequent section 7 determination, abandoned, or reported to the Secretary of the Interior and the United States Congress, in accordance with the act.

Federally Assisted Projects Below, Above, or on Tributaries of a Wild and Scenic River

For federally assisted projects below, above, or on tributaries of a wild and scenic river, the river-administering agency evaluates non-hydroelectric project proposals under an 'invade the area or unreasonably diminish' standard. Typical projects that meet this definition are water resources projects visible from the designated river, dams, and upstream diversion structures because they have the potential to affect scenic, recreational, and fish and wildlife values in the designated river.

Compliance and Agency Responsibilities

The Interagency Wild and Scenic Rivers Coordinating Council's (Interagency Council) technical paper on section 7 (IWSRCC 2004) provides the following guidance for compliance:

> *A separate environmental document is not required for a Section 7 determination. Rather, the federal official proposing or permitting the project* [in Yosemite, this would only be the National Park Service] *typically includes analysis of what, if any, impact the proposal would have on a designated or potential wild and scenic river in their respective environmental and/or permitting processes. The river-administering agency is responsible for conducting the Section 7 analysis and making a determination under the statute. This responsibility does not preclude utilizing staff expertise of the proposing/permitting agency in the evaluation process. The Section 7 determination is signed and transmitted to the proposing/ permitting agency via respective river-administering agency processes.*
>
> *For proposed water resources projects "assisted" by other federal agencies, the Section 7 determination would be conducted in response to draft and final environmental documents, respectively (i.e., when sufficient alternative detail and discussion of environmental consequences is available in a NEPA document). The river-administering agency should identify wild and scenic river concerns early in the scoping process and should cooperate with the proposing agency to the greatest extent possible. Section 7 creates a requirement for consultation between the river-administering agency and the federal agency assisting the construction of the project. Project proponents, if not federal agencies, are not required to consult directly with the federal river-administering agency, and no new permits are required under Section 7. However, project proponents should be encouraged to consult informally with the river-administering agency early*

in the siting and project design process, in order to avoid delays or costs associated with projects that are unacceptable under Section 7.

The river-administering agency should, as appropriate, coordinate its evaluation process with other agencies that are required to review and comment on the project. Depending on the type of proposed project, this may include: USFWS (Fish and Wildlife Coordination Act, Endangered Species Act, and other statutes); Environmental Protection Agency (Clean Water Act, Clean Air Act); and state fish, wildlife, water quality, and other agencies. Coordination with these other agencies should begin as early as possible in the process, preferably in the first stages of project planning. For a water resources project proposed by a river-administering agency, the Section 7 analysis should be documented in, or appended to, the environmental analysis.

Draft Determination Process

The description of the WSRA section 7 determination process contained in this section is adapted from a technical report by the Interagency Council (IWSRCC 2004). In conformance with the guidance contained in that report, the NPS will undertake the following steps as part of its section 7 determination process for nonemergency projects:

- Describe the purpose and need of the proposed project and its location, duration, magnitude, and relationship to past and future management activities.
- Analyze the potential impacts of the proposed project on the values for which the river was designated wild and scenic. This analysis will follow the guidelines provided by the *Wild and Scenic Rivers Act, Section 7 Technical Report* of the Interagency Council (2004), and other applicable guidance.
- Define the likely duration of the projected impacts.
- Assess the effects of the projected impacts on the achievement or timing of achievement of the management objectives of the *Tuolumne River Plan* (based on WSRA).
- Use this analysis to make a WSRA 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 as wild and scenic.
- Redesign and resubmit any water resources projects found to have a direct and adverse effect on the values of this designated river for a subsequent section 7 determination. 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 NPS 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.
- Follow WSRA 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.

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 resource 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.

This process is based on the guidance provided by the Interagency Council, which has developed three flowcharts to illustrate the process. The first is a "Process" flowchart, which provides a general guide to determine if a proposal is subject to review under section 7(a) and, if so, which standard and evaluative procedure applies. Users follow either the track for water resources projects *within* a wild and scenic river or *outside* (upstream, downstream or on a tributary) of a wild and scenic river. This page may be used

independently because it provides all the necessary information from which to analyze a project proposal. "Within" and "Outside" flowcharts are also provided to give more detail about the standards and evaluative procedures for water resources projects.

Footnotes to WSRA Section 7(a) Flowcharts:

[1] **A wild and scenic river (WSR)** means a river and the adjacent area within the boundaries of a component of the National Wild and Scenic Rivers System pursuant to section 3(a) or 2(a)(ii) of the Wild and Scenic Rivers Act (WSRA).

[2] **Water resources project (FERC-Hydropower)** means construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the hydropower provisions (license and exemption) of the Federal Power Act (FPA, Part I), as amended (41 Stat. 1063; 16 U.S.C. 791a et seq.). Other facilities licensed under the FPA by FERC (e.g., interstate power transmission lines or natural gas pipelines) are not prohibited outright. They are subject to review under Section 7(a) only if they include construction as described in footnote 6.

[3] **Water resources project** means any federally assisted construction that would affect free-flowing characteristics, as defined in Section 16(b) of the WSRA (see footnote 6). Examples of water resources projects include, but are not limited to: fisheries habitat and watershed restoration/enhancement projects; water diversion projects; transmission lines and pipelines; bridge and other roadway construction/reconstruction projects; dams; water conduits; bank stabilization projects; channelization projects; powerhouses; levee construction; reservoirs; recreation facilities, such as boat ramps or fishing piers; or dredge and fill projects that require a Federal permit, such as from the U.S. Army Corps of Engineers as required by Section 404 of the Clean Water Act (33 U.S.C. 1344).

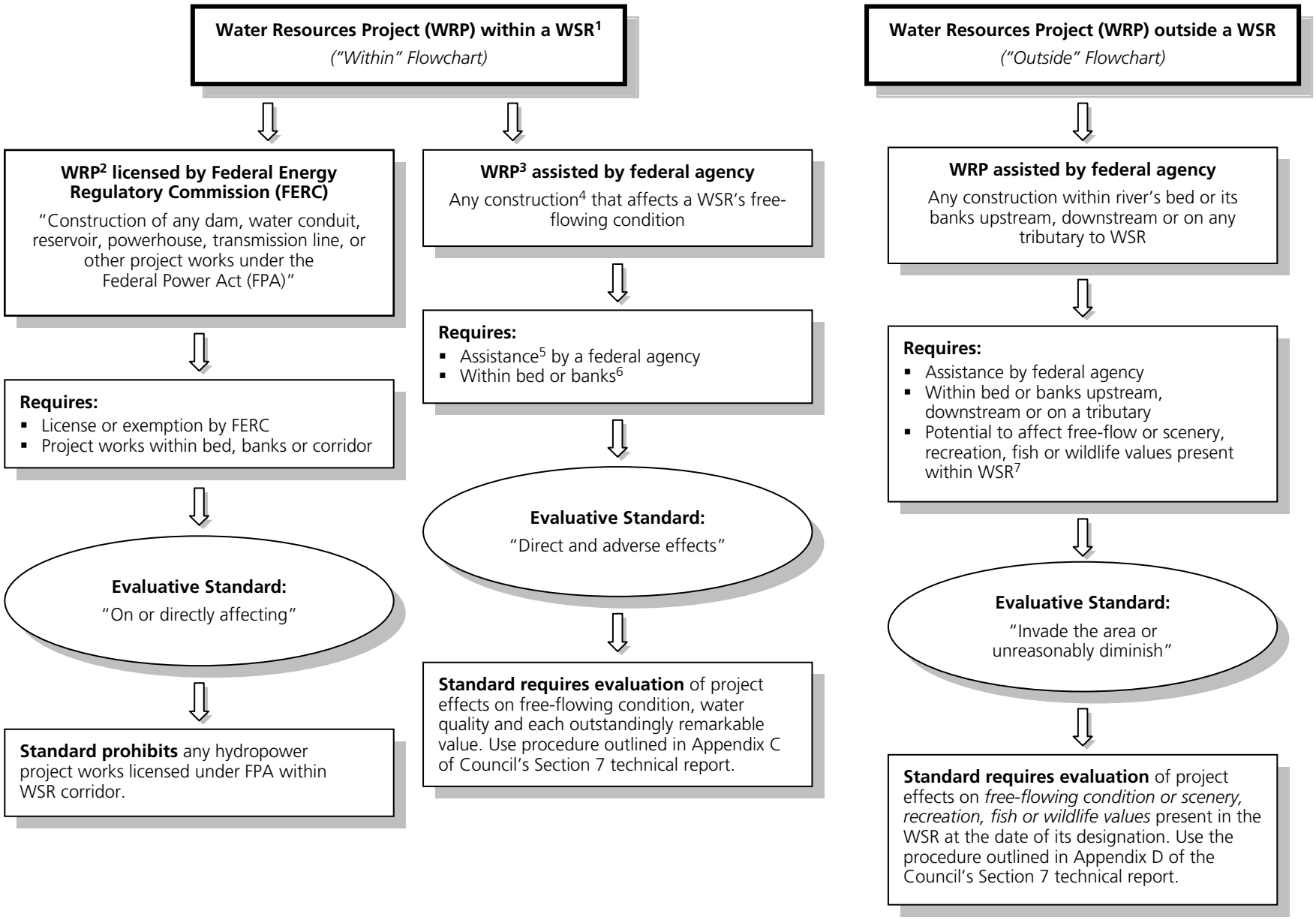
[4] **Construction** means any action carried on with Federal assistance affecting the free-flowing characteristics of a WSR.

[5] **Assistance** is defined as a loan, grant, license, or other assistance in the construction of any water resources project.

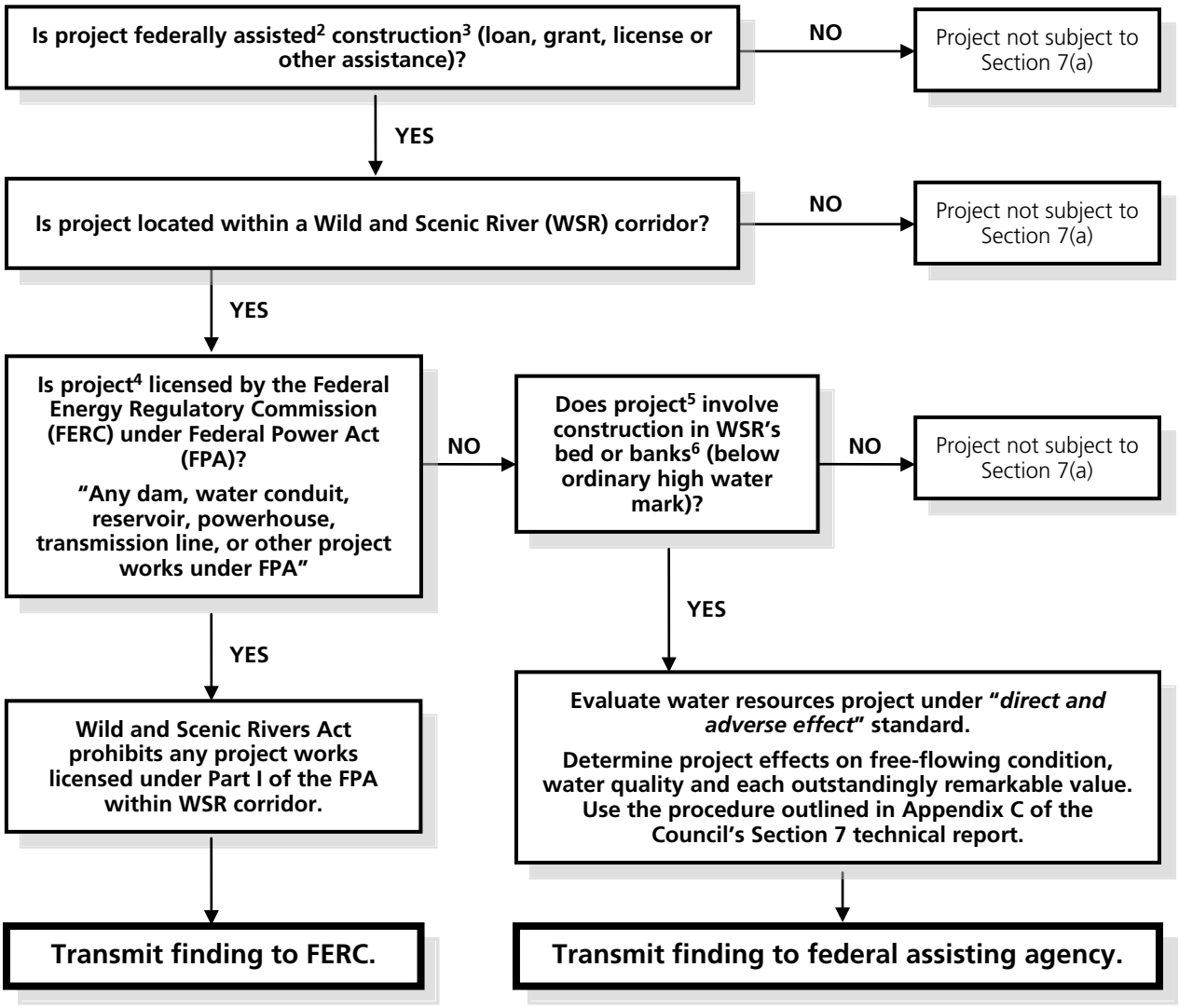
[6] **Bed or banks** is an interpretation of Section 16(b) of the WSRA, which defines free-flowing, in part, as "existing or flowing in natural condition without impoundment, diversion, straightening, riprapping, or other modification of the waterway." Generally the applicability of Section 7(a) is limited to the area within the ordinary high water mark (OHWM) of the river. OHWM is defined in 33 CFR Part 328.3(e) as "…that line on the shore established by 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."

[7] Requires a **nexus** between the proposed upstream, downstream or tributary project and the WSR or such project is not a water resources project for purposes of a Section 7(a) determination. Projects that have the potential to affect *free-flow, or scenery, recreation, fish or wildlife values* of the WSR are dams, upstream diversion structures and projects that can be seen from the WSR as they have the potential to affect these characteristics and values in the WSR.

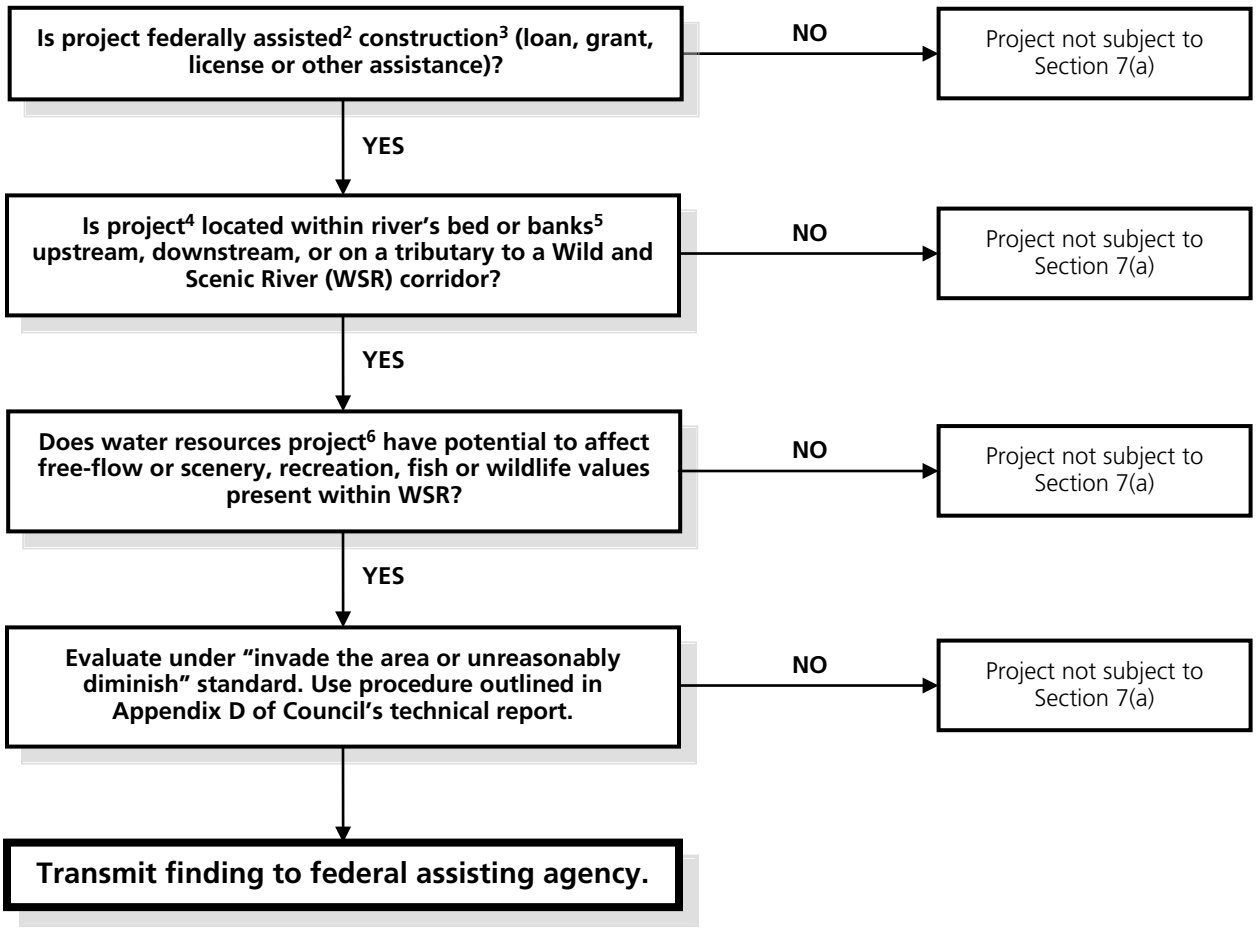
WSRA Section 7(a) "Process" Flowchart



Section 7(a) Flowchart for a Water Resources Project "Within" a Wild and Scenic River Corridor[1]



Section 7(a) Flowchart for a Water Resources Project "Outside" a Wild and Scenic River Corridor[1]



THIS PAGE IS INTENTIONALLY BLANK