



Tuolumne Wild and Scenic River

A wide-angle landscape photograph showing a river in the foreground, a dense forest of evergreen trees in the middle ground, and a large, rocky mountain range with patches of snow in the background under a blue sky with light clouds.

Draft Comprehensive Management Plan
and Environmental Impact Statement

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 Three

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

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Appendix A:

Existing Facilities Analysis for the Tuolumne Wild and Scenic River Corridor

The Wild and Scenic Rivers Act guidelines state that, “Major public use facilities such as developed campgrounds, major visitor centers and administrative headquarters will, where feasible, be located outside the river area. If such facilities are necessary to provide for public use and/or to protect the river resource, and location outside the river area is infeasible, such facilities may be located within the river area provided they do not have an adverse effect on the values for which the river area was designated.”¹

Pursuant to this guideline, NPS planners evaluated all existing facilities in the river corridor for whether they are necessary for public use or resource protection, feasible to locate or relocate outside the river corridor, and if they have effects on the river values, using the definitions of “necessary,” “feasible,” and “infeasible” provided below. A summary of the evaluation is presented in table A-1. Where it has been determined that existing developments are causing management concerns (no adverse impacts or degradation are present), the *Tuolumne River Plan* calls for removal, redesign, and/or relocation of those facilities. All impacts identified in the table below are discussed more fully in chapter 5, under the conditions assessment for each river value.

In addition to evaluating the effects of existing facilities on river values, extensive studies and site analyses have been conducted at the primary visitor service areas (Tuolumne Meadows, the Tioga Road corridor, and Glen Aulin) to identify the major site constraints that restrict development, redesign and/or relocation of facilities. Such constraints, include the locations of floodplains, wetlands, meadows, riparian habitat, rare plants, archeological sites, historic structures, and areas of known impact. A summary of that information for Tuolumne Meadows is shown on the Site Analysis map in chapter 7 (figure 7-3).

All the above mentioned studies and analyses, together with river segment classifications, informed the alternative site plans under consideration, particularly in terms of sensitive areas that need to be protected and resilient areas where needed facilities might be located.

In evaluating the facilities, NPS planners were guided by the context for the *Tuolumne River Plan* (see chapters 1 and 2). Tuolumne Meadows has long served as a focal point of visitation to the Yosemite high country; it has long been a primary visitor destination within Yosemite National Park. Consequently, beginning in the 1920s the National Park Service gradually constructed the facilities that it determined were necessary for visitor use and resource protection in the Tuolumne Meadows area. As noted in the historic properties discussion in Chapter 8, central to this planning effort was the creation of a public campground, with treated running water and a sewer system. Complementing the campground was the Tuolumne Meadows Lodge, which was constructed as part of the High Sierra Camp loop. In addition to these services, the NPS constructed a visitor contact station, a wilderness center, and the housing necessary for NPS and concessioner employees who would support the visitor services in the area.

Responding to these developments, the improvements to the Tioga Road in the 1930s and 1960s, California’s growing population, and other societal trends, visitation to the Tuolumne Meadows area gradually and

¹ 47 *Federal Register* 173: 39459, Sept. 7, 1982.

continuously grew. By the 1990s, visitation to the area far exceeded available support facilities. Instead of constructing additional facilities to meet increasing visitor demand, however, the NPS actually responded by reducing some development in order to control visitation and its impacts and to improve aspects of the visitor experience. The primary such action (one called for in the 1980 General Management Plan) was to halve the number of sites in the Tuolumne Meadows campground from about 600 (which made this campground the largest in the national park system at the time) to the present 304 sites (it is still one of the largest). Conversely, NPS constructed a new wilderness center to provide a place whereby wilderness travelers could be educated about proper camping techniques and for the NPS to enforce the wilderness trailhead quota system. These actions succeeded in protecting park resources and improving those visitor experiences, but day use has continued to increase, with associated impacts (as discussed in chapter 5). Visitor demand continues to far exceed available facilities (a situation carefully considered during the development of this plan).

Within this context (and for this plan), NPS planners decided that the Tuolumne Meadows area would continue to serve as a primary visitor destination within Yosemite National Park, one with overnight facilities for visitors. This decision is in harmony with the Wild and Scenic Rivers Act, which stipulates that “Each component of the national wild and scenic rivers system shall be administered in such manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values.”² In light of this decision, almost all facilities in the Tuolumne Meadows area would be expected to be necessary, as the NPS only developed those facilities that the agency had already determined, at some time between Yosemite National Park’s creation in 1890 and the Tuolumne River Wild and Scenic designation in 1984, were necessary for visitor use and resource protection. Similarly, within the context of any given alternative in this plan, most facilities are necessary, though they vary somewhat as regards some structures, largely due to the variations across alternatives in the use levels and visitor experiences envisioned in those alternatives (which adhere to dominant themes in public comment regarding the management of Tuolumne Meadows). Also, as explained in Chapters 5 and 7, the NPS constructed all the action alternatives to protect and enhance river values and to correct past and present adverse impacts or degradation on river values.

This leaves the question of whether it is feasible to locate facilities deemed to be necessary outside of the river corridor or to relocate them if they currently occur within the corridor. As indicated in figure 7-3, there are tight constraints on site development outside of the river corridor—but still within the Tuolumne Meadows area—due to the Yosemite Wilderness boundary and the locations of sensitive natural and cultural resources. The Wilderness Act precludes siting or relocating structures within designated Wilderness unless they are the minimum requirement necessary for administration of the Wilderness, and the Yosemite Wilderness boundaries were drawn very close to the Tioga Road in most areas. While those boundaries do not so closely approach the road in the Tuolumne Meadows area, NPS policy has long prohibited construction in the meadows themselves or on the north side of the Tioga Road, to prevent damage to the meadows (which are an outstandingly remarkable value of the river, see chapter 5) and incursion into the scenic views of the meadows (another outstandingly remarkable value). These constraints, then, leave just a small area suitable for development outside of the river corridor on the south side of the Tioga Road. That area is almost completely occupied by part of the campground. Consequently, there is no available space in the Tuolumne Meadows area that is both outside the river corridor and currently free from already necessary facilities.

The final question, then, is whether any facilities could be relocated elsewhere, such as to the west on the Tioga Road (like White Wolf) or to the east in Lee Vining. The only facilities that could be located in these places are

² U.S.C. 16, §1281 (a).

those that do not require proximity to the Tuolumne River and Meadows and the concentrated visitor use area there. A limited range of overnight accommodations at Tuolumne Meadows are needed under every alternative due to the remote location of this major visitor use area, and there are no suitable locations for overnight accommodations outside the corridor within a reasonable driving distance. Therefore, moving them outside of the corridor is not possible. The NPS put these facilities where they are so that visitors could experience and enjoy the Tuolumne River and adjacent meadows. The support facilities necessary to support visitor use include the wastewater and water treatment plants, the maintenance facilities, the visitor contact station, the wilderness center, the store and grill, the picnic area, and the stables. These are all additionally necessary on site for various reasons detailed in the table below. This leaves the housing for both NPS and concessioner employees. While it is theoretically possible to relocate some of this outside the corridor, site constraints at White Wolf preclude such development there (water is very limited) and other locations to the west on the Tioga Road are bound by Wilderness boundaries. To the east, locating such facilities in Lee Vining presents unacceptable management risks (the road is subject to unpredictable, but frequent, closures due to rockslides or snow) and unacceptable financial impacts on Meadows employees, the majority of whom would find housing in Lee Vining to be beyond reasonable commuting distance (many do not even own vehicles).

Within this context, then, NPS planners found the majority of facilities in Tuolumne Meadows to be necessary for visitor use and/or resource protection and infeasible to locate outside of the river corridor. The specific rationale for each structure is included below in Table A-1, which also lists river values currently being affected by existing structures. All of those impacts are corrected by the restoration plan (explained in brief in Chapter 5 and in detail in Appendix H), actions common to all alternatives (chapter 7), specific actions proposed under the four action alternatives (chapter 7), and/or the mitigation measures listed in Appendix N.

Definitions of necessary, feasible, and infeasible follow.

Necessary: For the purpose of this analysis, “necessary” is defined as being essential, indispensable, or requisite. A major facility is necessary in the river corridor if it is essential to support public use, or if it is essential to support NPS efforts to protect natural and cultural resources, as called for in an action alternative within this plan.

Feasible: For the purpose of this analysis, “feasible” is defined as capable of being done, effected, or accomplished. The NPS considered economic and technical considerations as well as resource considerations and hazards in the analysis.

Infeasible: For the purpose of this analysis, “infeasible” is defined as impracticable, incapable of being put into practice with the available means, or unsuitable for practical use or purposes. Impracticability, in the context of facility relocations, involves economic and technical considerations as well as resource considerations and hazards. The Wild and Scenic Rivers Act guidelines state that, “Major public use facilities such as developed campgrounds, major visitor centers and administrative headquarters will, where feasible, be located outside the river area. If such facilities are necessary to provide for public use and/or to protect the river resource, and location outside the river area is infeasible, such facilities may be located within the river area provided they do not have an adverse effect on the values for which the river area was designated.”³

Pursuant to this guideline, all existing facilities in the river corridor have been evaluated for whether they are necessary for public use or resource protection, feasible to locate or relocate outside the river corridor, and if

³ 47 *Federal Register* 173: 39459, Sept. 7, 198s.

they have effects on the river values. A summary of the evaluation is presented in table A-1. Where it has been determined that river values are being affected by existing development, the *Tuolumne River Plan* calls for removal, redesign, and/or relocation of those facilities. All impacts identified in the table below are discussed more fully in chapter 5, under the conditions assessment for each river value.

In addition to evaluating the effects of existing facilities on river values, extensive studies and site analyses have been conducted at the primary visitor service areas (Tuolumne Meadows, the Tioga Road corridor, and Glen Aulin) to identify the major site constraints for potential future development, including the locations of floodplains, wetlands, meadows, riparian habitat, rare plants, archeological sites, historic structures, and areas of known impact. A summary of that information for Tuolumne Meadows is shown on the Site Analysis map in chapter 7 (figure 7-3).

All the above mentioned studies and analyses informed the alternative site plans under consideration, particularly in terms of sensitive areas that need to be protected and resilient areas where needed facilities might be located.

Table A-1. Evaluation of Existing Major Facilities**Scenic Segments (Tuolumne Meadows and Lower Dana Fork)**

All facilities noted below are consistent through their modest size and scale with the scenic classification.

Note that all concerns would be corrected by the proposed ecological restoration program, the actions contemplated under the action alternatives (including actions common to all), and/or the mitigation measures (see chapters 5 and 7, and appendix N).

Location and Facility (Location numbers correspond to numbers on Figure 7-2 in chapter 7)		River Value Affected by Facility	Current Management Concerns for River Values (no effects are significant enough to be adverse impacts or degradation as defined in chapter 5)	Determination of Need: Is the facility needed for public use or resource protection, and justification.	Feasibility Analysis: Is it feasible to relocate the facility outside the corridor, and justification.
1	Pothole Dome parking	Subalpine meadow/riparian complex	Informal trails from parking areas near Pothole Dome cause trampling of meadow soils and vegetation. Some areas are protected with signage and fencing.	Yes: trailhead parking is needed for visitors while hiking trails	No: topographic constraints require this trailhead to be in its existing location.
2	Tioga Road	Subalpine meadow/riparian complex	Inadequate culverts along Tioga Road cause localized disruptions to sheet flow into and across Tuolumne Meadows.	Yes: road provides access to the area, which is an ORV.	No: due to wilderness boundaries, and massive resource impacts if moved, and economic considerations.
	Shoulder parking	Scenic Subalpine meadow/riparian complex	Shoulder parking along Tioga Road results in informal trails across Tuolumne Meadows and along the banks of the Tuolumne River, causing trampling of soils and vegetation. Lines of vehicles parked along road intrude into views.	Yes: Parking is needed, but not along the roadsides	No: while off-shoulder parking is possible throughout the corridor (as shown in various alternatives), topographic constraints prevent relocation outside the corridor.
	Tioga Road bridge	River flow	Tioga Road bridge abutments may cause the river channel to back up during periods of high flows.	Yes: road must cross the river at some point, and moving the bridge and road would cause unnecessary resource disturbance and impacts to river values.	No: impact on resources from relocating the bridge and the road would be too substantial.
3	Cathedral Lakes trailhead	Subalpine meadow/riparian complex Prehistoric cultural value Rare plants (not part of an ORV, but necessary to protect)	Insufficient parking for the Cathedral Lakes trailhead results in roadside parking and informal trails across the adjacent wet meadow, causing trampling of soils and vegetation. Known archeological resources and rare plants occur in this area. Portable toilets protect water quality from human waste.	Yes: trailhead parking is needed for visitors while hiking trails.	No: topographic constraints require this trailhead to be in its existing location.

Table A-1. Evaluation of Existing Major Facilities**Scenic Segments (Tuolumne Meadows and Lower Dana Fork) - continued****All facilities noted below are consistent through their modest size and scale with the scenic classification.**

Note that all concerns would be corrected by the proposed ecological restoration program, the actions contemplated under the action alternatives (including actions common to all), and/or the mitigation measures (see chapters 5 and 7, and appendix N).

Location and Facility (Location numbers correspond to numbers on Figure 7-2 in chapter 7)		River Value Affected by Facility	Current Management Concerns for River Values (no effects are significant enough to be adverse impacts or degradation as defined in chapter 5)	Determination of need: is the facility needed for public use or resource protection, and justification.	Feasibility analysis: is it feasible to relocate the facility outside the corridor, and justification.
4	Sprayfield	Water quality Upland area with no sensitive resources or ORVs within developed site	Occasionally saturated conditions at the upland sprayfield pose potential risks to water quality. Water quality is monitored and conditions observed by SFPUC and NPS staff.	Yes: under all alternatives, sufficient visitor use continues to necessitate wastewater treatment.	No: no suitable locations occur outside the corridor, due to wilderness boundaries and other resource constraints (lower use levels in Alternative 1 allow the sprayfield to be located at the site of the existing wastewater plant).
	Wastewater containment ponds	Subalpine meadow/riparian complex Water quality Prehistoric cultural value	Wastewater containment ponds in the upland habitat above the meadow pose a potential risk to water quality and meadow and riparian habitat. Known archeological resources exist at site of uppermost pond.	Yes: under all alternatives, sufficient visitor use continues to necessitate wastewater treatment.	No: no suitable locations occur outside the corridor, due to wilderness boundaries and other resource constraints.
	Sewer line	Subalpine meadow/riparian complex Water quality	The sewer line between the wastewater treatment plant and the wastewater containment ponds runs beneath the meadow and the river. The potential for leakage is a risk to water quality and meadow and riparian habitat.	Yes: under all alternatives, sufficient visitor use continues to necessitate wastewater treatment.	As above, all wastewater locations are in the corridor. For Alts. 2 and 3, which retain sewage treatment at existing site, the sewer line is necessary. For Alt 1, and possibly Alt. 4, which move the treatment to the south side of the road, the line is not necessary.
5	Currently undeveloped area near Budd Creek	Upland area with rare plants identified immediately along Budd Creek ; rest of area contains no sensitive resources	No current adverse effects.	Yes: stock are necessary to supply High Sierra Camps, including those outside of the Tuolumne River Corridor. It is also necessary to be stable NPS stock in the Tuolumne area for wilderness patrol.	No facility currently present at this location. Alternative 2 proposes a stable in this area. It is not feasible to locate this outside the corridor, as stock must be kept near areas/trailheads of use.

Table A-1. Evaluation of Existing Major Facilities**Scenic Segments (Tuolumne Meadows and Lower Dana Fork) - continued****All facilities noted below are consistent through their modest size and scale with the scenic classification.**

Note that all concerns would be corrected by the proposed ecological restoration program, the actions contemplated under the action alternatives (including actions common to all), and/or the mitigation measures (see chapters 5 and 7, and appendix N).

Location and Facility (Location numbers correspond to numbers on Figure 7-2 in chapter 7)		River Value Affected by Facility	Current Management Concerns for River Values (no effects are significant enough to be adverse impacts or degradation as defined in chapter 5)	Determination of need: is the facility needed for public use or resource protection, and justification.	Feasibility analysis: is it feasible to relocate the facility outside the corridor, and justification.
6	Visitor Center, Road Camp, and administrative areas	Upland area with no sensitive resources or ORVs within developed site Known archeological resources near entrance road intersection with Tioga Road.	No effect	Yes. Visitor contact facilities help visitors plan their visit and are the primary place/means for NPS to educate visitors on resource protection.	No: no suitable locations occur outside the corridor, due to wilderness boundaries and other resource constraints.
7	Wastewater treatment plant	Water quality Upland area with no sensitive resources or ORVs within developed site	No immediate threat to river values. Aging wastewater treatment facility is in need of updating to be within state standards.	Yes: under all alternatives, sufficient visitor use continues to necessitate wastewater treatment.	No: no suitable locations occur outside the corridor, due to wilderness boundaries and other resource constraints.
8	Parsons Memorial Lodge and Soda Springs structures and trails	Subalpine meadow/riparian complex Parsons Memorial Lodge	Informal trails around the Soda Springs area cause trampling of soils and vegetation associated with the mineral spring habitat and adjacent subalpine meadow habitat. No effect on Parsons Memorial Lodge	Yes: the lodge is an ORV, the Soda Springs structures are historic and context sensitive, and the trails protect the springs and rare plant habitat in the area.	No: location is integral to ORV designation for the lodge and to its historic designation. Soda Springs structures must be located by Soda Springs.
	Footbridge	River flow	The Parsons Memorial Lodge footbridge abutments may cause the river channel to back up during periods of high flows.	Yes: bridge is integral to the trail that allows visitors access to the Parsons Lodge ORV.	No: bridge is integral to the trail to Parsons Lodge.

Table A-1. Evaluation of Existing Major Facilities

Scenic Segments (Tuolumne Meadows and Lower Dana Fork) - continued

All facilities noted below are consistent through their modest size and scale with the scenic classification.

Note that all concerns would be corrected by the proposed ecological restoration program, the actions contemplated under the action alternatives (including actions common to all), and/or the mitigation measures (see chapters 5 and 7, and appendix N).

Location and Facility (Location numbers correspond to numbers on Figure 7-2 in chapter 7)	River Value Affected by Facility	Current Management Concerns for River Values (no effects are significant enough to be adverse impacts or degradation as defined in chapter 5)	Determination of need: is the facility needed for public use or resource protection, and justification.	Feasibility analysis: is it feasible to relocate the facility outside the corridor, and justification.
<p>9</p> <p>Area near Unicorn Creek: Alt. 1: wastewater treatment facilities Alt. 2: day-use parking</p>	<p>Upland area with no sensitive resources or ORVs within developed site</p>	<p>No current adverse effects.</p>	<p>Wastewater plant: Yes: under all alternatives, sufficient visitor use continues to necessitate wastewater treatment. Day use parking: Yes: all alternatives need off-shoulder day-use parking to support visitor uses such as hiking.</p>	<p>Alt. 1: No: there are no suitable locations outside the corridor. Alt. 2: No: locating outside the corridor not feasible due to other facility requirements and topographic constraints; also, visitors need reasonably convenient parking in order to experience the river</p>
<p>10</p> <p>Campground A loop and portion of B loop (the only portions of the campground inside the quarter-mile river corridor boundary)</p>	<p>River flow Floodplain Subalpine meadow/riparian complex Rare plants</p>	<p>Boulder riprap installed to protect the campground A-loop road from flooding interferes with the free flow of the river. A-loop access road is in the floodplain. The A-loop campsites and overall access to the river near the shoreline of the Lyell Fork result in informal trails, causing localized trampling of soils and vegetation in riparian habitat. Rare plants mapped in the campground are potentially at risk from proposed campground rehabilitation work.</p>	<p>Yes: Tuolumne Meadows is a major visitor destination, far enough from most visitors' homes to necessitate necessitating camping opportunities.</p>	<p>No: complete relocation is not possible, as wilderness boundaries and other resource constraints preclude development of the amount necessary to completely relocate this much of the campground. However, the alternatives consider various ways of addressing the impacts identified.</p>

Table A-1. Evaluation of Existing Major Facilities

Scenic Segments (Tuolumne Meadows and Lower Dana Fork) - continued

All facilities noted below are consistent through their modest size and scale with the scenic classification.

Note that all concerns would be corrected by the proposed ecological restoration program, the actions contemplated under the action alternatives (including actions common to all), and/or the mitigation measures (see chapters 5 and 7, and appendix N).

Location and Facility (Location numbers correspond to numbers on Figure 7-2 in chapter 7)	River Value Affected by Facility	Current Management Concerns for River Values (no effects are significant enough to be adverse impacts or degradation as defined in chapter 5)	Determination of need: is the facility needed for public use or resource protection, and justification.	Feasibility analysis: is it feasible to relocate the facility outside the corridor, and justification.
11 Store and grill	Historic property (does not contribute to the cultural ORV)	No effect	Yes: a campground of 300 sites necessitates at least a basic store, to avoid excessive traffic to and from Lee Vining, Crane Flat, and/or Yosemite Valley.	No: locating outside the corridor not feasible due to other facility requirements and topographic constraints; and impacts to historic character preclude alteration.
11 Concessioner employee housing by store and grill	Subalpine meadow/riparian complex	The concessioner employee tent cabins behind the store and grill interrupt sheet flow through a wet meadow area.	Yes: housing for concessioner employees is necessary; viable options for service worker housing outside the corridor do not exist, and such employees are necessary on location or within reasonable commuting distance.	No: no locations exist outside the corridor. All alternatives relocate this housing to other locations also within the corridor.
11 Gas station and mountaineering shop	Water quality Historic property (does not contribute to the cultural ORV)	Past impacts from fuel leakage have been mitigated, but potential risk to water quality remains; ongoing monitoring will continue.	For Alternatives 1, 3 and 4: No: visitor use levels under these alternatives are not high enough to justify continued presence of a gas station. For Alternative 2: Yes; visitor use levels under this alternative are the highest of the alternatives, high enough that a gas station would be needed for visitor use. The mountaineering shop and school are not necessary under any alternatives.	For Alternatives 1, 3 and 4: Yes: gas is available in Lee Vining and at Crane Flat, both of which are less than 40 miles away. For Alternative 2: No, no site is available. For the mountaineering shop and school: yes; Lee Vining already contains at least one such store.
11 Campground reservation office	Historic property (does not contribute to the cultural ORV)	No effect	Yes: the facility is where visitors check in for their stay at the campground.	No: It is not feasible to relocate the campground reservation office away from the campground, which is in the corridor; additionally, there is insufficient space at the former loop D entrance to locate a campground entrance or reservation office.

Table A-1. Evaluation of Existing Major Facilities**Scenic Segments (Tuolumne Meadows and Lower Dana Fork) - continued**

All facilities noted below are consistent through their modest size and scale with the scenic classification.

Note that all concerns would be corrected by the proposed ecological restoration program, the actions contemplated under the action alternatives (including actions common to all), and/or the mitigation measures (see chapters 5 and 7, and appendix N).

Location and Facility (Location numbers correspond to numbers on Figure 7-2 in chapter 7)		River Value Affected by Facility	Current Management Concerns for River Values (no effects are significant enough to be adverse impacts or degradation as defined in chapter 5)	Determination of need: is the facility needed for public use or resource protection, and justification.	Feasibility analysis: is it feasible to relocate the facility outside the corridor, and justification.
12	Concessioner stable	Water quality Upland area with no sensitive resources or ORVs within developed site	Potential risk to water quality from stock use and manure. Current practices of regular manure removal help prevent impacts to water quality. Ongoing monitoring will continue.	Yes: the facility houses the stock necessary for High Sierra Camp support (even if Glen Aulin is removed, as in Alt. 1, other high camps would remain & need stocking, with the Meadows stable being the only location from which all can be supplied).	No: site constraints preclude relocation outside the corridor, and stock must be kept near their site of use.
13	Lembert Dome parking	Upland area with prehistoric cultural value	Foot traffic impacts known archeological resources in this area.	Yes: trailhead parking is needed for visitors while hiking trails.	No: topographic constraints require this trailhead to be in its existing location.
14	Old Tioga Road/Great Sierra Wagon Road trail	Subalpine meadow/riparian complex Prehistoric cultural value	The historic roadbed locally interrupts sheet flow, and associated foot traffic causes trampling of meadow soils and vegetation. Foot traffic impacts known archeological resources in this area.	Yes; the trail provides critical public access to the meadows and Parsons Memorial Lodge.	No; topographic constraints require this trail to be in its existing location.
15	Wilderness center, ranger station	<ul style="list-style-type: none"> ▪ Upland area with no sensitive resources or ORVs within developed site ▪ Adjacent subalpine meadow/riparian area 	Social trails radiate from the wilderness center and John Muir Trail to Puppy Dome (climbing areas) and river access. A nearly continuous social trail extends along Dana Fork from Tuolumne Meadows Lodge to the confluence with the Lyell Fork and Tioga Road.	Yes: facility is used by law enforcement and protection staff. It is necessary for wilderness management and protection, including enforcement of wilderness trailhead quotas.	No: this facility must be within the location of visitor use (Tuolumne Meadows), where no suitable locations exist outside the corridor.
	NPS stable	<ul style="list-style-type: none"> ▪ Water quality ▪ Upland area with no sensitive resources or ORVs within developed site ▪ Historic properties (do not contribute to the cultural ORV) 	Stock use and manure pose a potential risk to water quality. Current practices of regular manure removal help prevent impacts to water quality. Ongoing monitoring will continue.	Yes: NPS needs stock to maintain trails and provide visitor protection.	No: site constraints preclude relocation outside the corridor, and stock must be kept near their site of use.
16	NPS housing at Ranger Camp	<ul style="list-style-type: none"> ▪ Upland area with no sensitive resources or ORVs within developed site ▪ Historic properties (do not contribute to the cultural ORV) 	No effect	Yes: NPS staff are needed to protect resources, provide public safety, to manage and monitor visitor use of the corridor.	No: housing supply in Lee Vining is very limited, and no feasible locations exist elsewhere within reasonable commuting distance.

Table A-1. Evaluation of Existing Major Facilities**Scenic Segments (Tuolumne Meadows and Lower Dana Fork) - continued****All facilities noted below are consistent through their modest size and scale with the scenic classification.**

Note that all concerns would be corrected by the proposed ecological restoration program, the actions contemplated under the action alternatives (including actions common to all), and/or the mitigation measures (see chapters 5 and 7, and appendix N).

Location and Facility (Location numbers correspond to numbers on Figure 7-2 in chapter 7)		River Value Affected by Facility	Current Management Concerns for River Values (no effects are significant enough to be adverse impacts or degradation as defined in chapter 5)	Determination of need: is the facility needed for public use or resource protection, and justification.	Feasibility analysis: is it feasible to relocate the facility outside the corridor, and justification.
17	NPS housing at Bug Camp, JMT/PCT trailhead parking	<ul style="list-style-type: none"> Upland area with no sensitive resources or ORVs within developed site Historic properties (do not contribute to the cultural ORV) 	No effect	Yes: NPS staff are needed to protect resources and enhance the recreational ORV.	No: housing supply in Lee Vining is very limited, and no feasible locations exist elsewhere within reasonable commuting distance.
18	Tuolumne Meadows Lodge and associated employee housing	<ul style="list-style-type: none"> Subalpine meadow/riparian complex Historic properties (do not contribute to the cultural ORV) 	No effect from the lodge. The concessioner employee tent cabins and three guest tent cabins near the river at Tuolumne Meadows Lodge are located in a wet riparian area with social trails along the Dana Fork.	Yes: some level of affordable accommodations are necessary for visitors who choose not to camp or who cannot camp. (Alternative 1 calls for the lodge to be removed, to create a more wilderness-oriented and self-reliant visitor experience. Although the lodge is not necessary to the type of visitor experience envisioned in Alternative 1, a lodge that provides modest accommodations is necessary to support the visitor experiences envisioned in the other action alternatives.)	No: locating outside the corridor not feasible due to other facility requirements and topographic constraints.
19	Water treatment facility	<ul style="list-style-type: none"> River flow Upland area with no ORVs within developed site 	The Dana Fork water intake and diversion has a minimal effect on the free-flowing condition of the river during periods of low flows.	Yes: NPS is required to provide potable water for visitors and park staff.	No: the sole water source in Tuolumne Meadows is the river, and resource or wilderness constraints preclude relocation elsewhere in the meadows.
20	Gaylor Pit: Alt. 1: helipad Alt. 2: Helipad & housing Alt. 3 & 4: Helipad & informal day use parking	<ul style="list-style-type: none"> Upland area with no known sensitive resources or ORVs 	No effect	Helipad: Yes: a helipad is required for public health and safety (e.g., fire suppression, rescues). Housing: Yes: within the context of any alternative, NPS staff are needed to protect resources to manage and monitor visitor use of the corridor. Informal parking: Yes: day use parking is necessary for visitors to enjoy the area.	Helipad: No: no other helipad locations are possible in the area. Housing: No: housing supply in Lee Vining is very limited, and no feasible locations exist elsewhere within reasonable commuting distance. Informal parking: No: other suitable locations exist for such parking, but all are within the corridor.
	Mono Pass trailhead (parking lot, vault toilet)	<ul style="list-style-type: none"> Adjacent to meadow and riparian complex 	No effect	Yes: trailhead parking is needed for visitors while hiking trails	No: resource constraints preclude relocation elsewhere.

Table A-1. Evaluation of Existing Major Facilities**Wild Segment: Grand Canyon**

All facilities noted below are consistent through their trail-only access with the wild classification.

Note that all concerns would be corrected by the proposed ecological restoration program, the actions contemplated under the action alternatives (including actions common to all), and/or the mitigation measures (see chapters 5 and 7, and appendix N).

Location and Facility	River Value Affected by Facility	Current Management Concerns for River Values (no effects are significant enough to be adverse impacts or degradation as defined in chapter 5)	Determination of need: is the facility needed for public use or resource protection, and justification.	Feasibility analysis: is it feasible to relocate the facility outside the corridor, and justification.
Glen Aulin High Sierra Camp tent structures	No known ORVs	No effect	Yes: The High Sierra Camp is essential for providing a diverse and accessible type of experience for visitors who do not or cannot camp.	No: The Glen Aulin High Sierra Camp was not included in Yosemite's designated wilderness. The camp is surrounded by designated wilderness. The Wilderness Act precludes construction of new facilities such as this.
Glen Aulin water treatment system	Scenic quality	Photovoltaic panels on small treatment shed can be seen from some locations in the view corridor.	Yes: consistent with NPS DO-83, NPS must provide treated and filtered water.	No: all suitable locations for this are within the river corridor. The Wilderness Act precludes construction of new facilities such as this
Glen Aulin wastewater treatment	Water quality	Septic tank and mounded leachfield are within 150 feet of Conness Creek. Leach mound is at capacity with the flow currently limited to 600 gpd to protect water quality.	Yes: to protect water quality, NPS must treat wastewater.	No: all suitable locations for this are within the river corridor. The Wilderness Act precludes construction of new facilities such as this.
Glen Aulin corrals	Water quality	Potential risk to water quality from stock use and manure. Current practices of regular manure removal help prevent impacts to water quality; Ongoing monitoring will continue.	Yes: the camp is supplied by packstock, so a means of containing their impacts is necessary.	No: all suitable locations for this are within the river corridor. The Wilderness Act precludes construction of new facilities such as this.
Glen Aulin backpacker campground	Water quality	Composting toilet is undersized for current demand and poses a potential risk to water quality.	Yes: camping is necessary to allow backpackers to experience this part of the river corridor.	No: few suitable camping locations with access to water exist outside of this location.
Footbridges above Glen Aulin, at Glen Aulin, and in Pate Valley	River flow	No effect	Yes: varying water levels require safe river crossings.	No: such bridges are integral to the trails they are located upon.
Trail to Pate Valley	Scenic value	No effect. Trail enhances viewing opportunities.	Yes: the trail is integral to enjoying the ORVs in this area.	No: due to topographic constraints, the trail must be located near the river.

Table A-1. Evaluation of Existing Major Facilities

Scenic Segment: O'Shaughnessy Dam Administrative Area				
All facilities noted below are consistent with the scenic classification.				
Note that all concerns would be corrected by the proposed ecological restoration program, the actions contemplated under the action alternatives (including actions common to all), and/or the mitigation measures (see chapters 5 and 7, and appendix N).				
Location and Facility	River Value Affected by Facility	Current Effect on River Values	Determination of need: is the facility needed for public use or resource protection, and justification.	Feasibility analysis: is it feasible to relocate the facility outside the corridor, and justification.
Dam operation facilities and administrative road	Prehistoric cultural value	One archeological site has been impacted by development.	Yes: the Raker Act allows such facilities to be located in Yosemite.	No: such facilities must be near the dam.
Wild Segment: Poopenaut Valley				
No known facilities				
Wild Segment: Lyell Fork				
All facilities noted below are consistent with the wild classification				
Note that all concerns would be corrected by the proposed ecological restoration program, the actions contemplated under the action alternatives (including actions common to all), and/or the mitigation measures (see chapters 5 and 7, and appendix N).				
Location and Facility	River Value Affected by Facility	Current Effect on River Values	Determination of need: is the facility needed for public use or resource protection, and justification.	Feasibility analysis: is it feasible to relocate the facility outside the corridor, and justification.
John Muir/Pacific Crest Trail	Meadow/riparian complex Prehistoric cultural value Scenic value	Subalpine meadow/communities are impacted by foot and stock traffic in localized areas. Archeological resources are impacted by foot and stock traffic in localized areas. No effect on scenic values. Trail enhances viewing opportunities.	Yes: the trail makes it possible for visitors to enjoy the wilderness recreation ORV.	No: topographic constraints make it necessary to locate this trail near the river.
Footbridges over McClure Creek, & Twin Bridges	River flow	No effect	Yes: safe crossings of the river require bridges at this location.	No: the bridges are integral to the trail through the Grand Canyon of the Tuolumne.
Wild Segment: Upper Dana Fork				
All facilities noted below are consistent with the wild classification				
Note that all concerns would be corrected by the proposed ecological restoration program, the actions contemplated under the action alternatives (including actions common to all), and/or the mitigation measures (see chapters 5 and 7, and appendix N).				
Location and Facility	River Value Affected by Facility	Current Effect on River Values	Determination of need: is the facility needed for public use or resource protection, and justification.	Feasibility analysis: is it feasible to relocate the facility outside the corridor, and justification.
Snow survey instruments	Meadow/riparian complex	No known negative effects	Yes: the facility is an important part of predicting snowmelt runoff and water flow.	No: safe access, particularly in winter, necessitates location of this facility near a road or ski trail.

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Appendix B: The Tuolumne River Corridor in Yosemite National Park: A Brief History of Legislation and Planning

Introduction

The Tuolumne River originates high in the Sierra mountains at the eastern side of Yosemite National Park and flows westward across the park for 62 miles, where it continues into the Stanislaus National Forest, which borders the park on the west. There are two source forks to the river, the Dana Fork and the Lyell Fork, the headwaters of which are on the mountains of the same names. These two forks join at Tuolumne Meadows, the largest subalpine meadow in the Sierra Nevada. The Tioga Road, the only road in the park connecting the eastern and western slopes of the Sierra, parallels the Dana Fork and also passes through Tuolumne Meadows. Rustic facilities for visitors to Yosemite National Park have long been located in the Tuolumne Meadows area. Glen Aulin High Sierra Camp, accessible only by trail, is located on the Tuolumne River northeast of Tuolumne Meadows. Beyond Tuolumne Meadows, the river flows through the steep-walled Grand Canyon of the Tuolumne, and then into Hetch Hetchy Valley, which is now under Hetch Hetchy Reservoir. Below O'Shaughnessy Dam on Hetch Hetchy Reservoir, the river continues for another 6 miles to the park boundary.

Aside from the development associated with the reservoir, Tioga Road, and visitor facilities in Tuolumne Meadows and at Glen Aulin High Sierra Camp, the Tuolumne River in Yosemite National Park is very remote and surrounded by wilderness.

Summary of Legislation, Guidelines, and Plans

Legislation

- 1890 Yosemite Act
- 1913 Raker Act
- 1968 Wild and Scenic Rivers Act
- 1984 California Wilderness Act

Guidelines

- 1982 "Final Revised Guidelines for Eligibility, Classification and Management of River Areas" (USDI and USDA 1982)
- 1999 "The Wild and Scenic River Study Process" (part of the *Wild and Scenic Rivers Act Reference Guide* developed by the Interagency Wild and Scenic Rivers Coordinating Council [IWSRCC 1999])
- 2009 "Compendium of Superintendent's Orders for Yosemite National Park" (NPS 2009e)

Plans

- 1979 *Tuolumne Wild and Scenic River Study: Final Environmental Impact Statement and Study Report* (Tuolumne Final Study [USFS and NPS 1979b])
- 1980 *Yosemite National Park General Management Plan* (NPS 1980b)

1989 *Yosemite National Park Wilderness Management Plan* (NPS 1989b)

1995 *Environmental Assessment for the Tuolumne Meadows Design Concept Plan; Comprehensive Design Plan; and Management of the Tuolumne River Scenic Classified Segments* (NPS 1995a)

Legislative and Planning History

Yosemite Act of 1890

The Yosemite Act of 1890 established what would become Yosemite National Park. Technically titled, “An act to set apart certain tracts of land in the State of California as forest reservations,” the Yosemite Act of 1890 set aside over 1,500 square miles of “reserved forest lands,” including the Tuolumne River headwaters and the river corridor through Hetch Hetchy Valley. Yosemite Valley and the Mariposa Grove of Big Trees had previously been set aside in an 1864 grant to the State of California. In 1906, President Theodore Roosevelt signed legislation that brought the state-controlled Yosemite Valley and Mariposa Grove under federal jurisdiction with the rest of the park.

1913 Raker Act

In 1913, the Hetch Hetchy Reservoir Site Act, commonly known as the Raker Act, granted the City and County of San Francisco certain lands in Yosemite National Park, Stanislaus National Forest, and California public lands, for the purpose of building reservoirs and associated infrastructure, in order to generate a municipal water supply and hydroelectric power for the city. The act also gave the City of San Francisco the necessary rights-of-way for the infrastructure associated with the construction and operation of the facilities.

In addition, the Raker Act stipulated sanitary regulations for the reservoir’s watershed, which amounts to the Tuolumne River watershed in Yosemite. In particular, the act states that no human excrement, garbage, or refuse may be placed within 300 feet of the reservoir or watercourses that flow into it, all sewage within the watershed must be adequately filtered and purified, and no bathing, washing, watering stock, or other polluting activity may take place in waters within one mile of the reservoir. Park management actions must comply with these regulations. The Raker Act gives the responsibility of the cost of inspections to ensure compliance with these regulations to the City of San Francisco.

The Raker Act also recognizes the prior rights of the Modesto and Turlock Irrigation Districts to receive water from the Tuolumne, and limits the amount of water that can be diverted. A certain volume of water is required to be released from the reservoir, depending on the ‘natural daily flow’ of the river.

1968 Wild and Scenic Rivers Act

In 1968, Congress enacted the Wild and Scenic Rivers Act (Public Law 90-542), recognizing that the practice of constructing dams and other infrastructure on rivers of the United States needs to be balanced by a policy preserving some rivers or sections of rivers in their free-flowing condition, to protect water quality and to “fulfill other vital national conservation purposes.” The act requires that certain selected rivers possessing “outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values” 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.” To be eligible for protection under the act, a river section must be ‘free-flowing’ and must possess at least one ‘outstandingly remarkable value.’

The act identified eight rivers as initial components of the wild and scenic rivers system, identified other rivers as potential additions, and laid out procedures to add rivers to the system. The act mandated that river corridor

boundaries and segment classifications must be established within a year of designation of the river, unless otherwise specified, and that a notice of availability of boundaries and classifications be published in the *Federal Register*. The act states that the study boundaries of a river corridor are generally $\frac{1}{4}$ mile on either side of the river. If the river is designated, the study boundaries remain in effect until the publication of the final detailed boundaries.

1975 Amendment to the Wild and Scenic Rivers Act

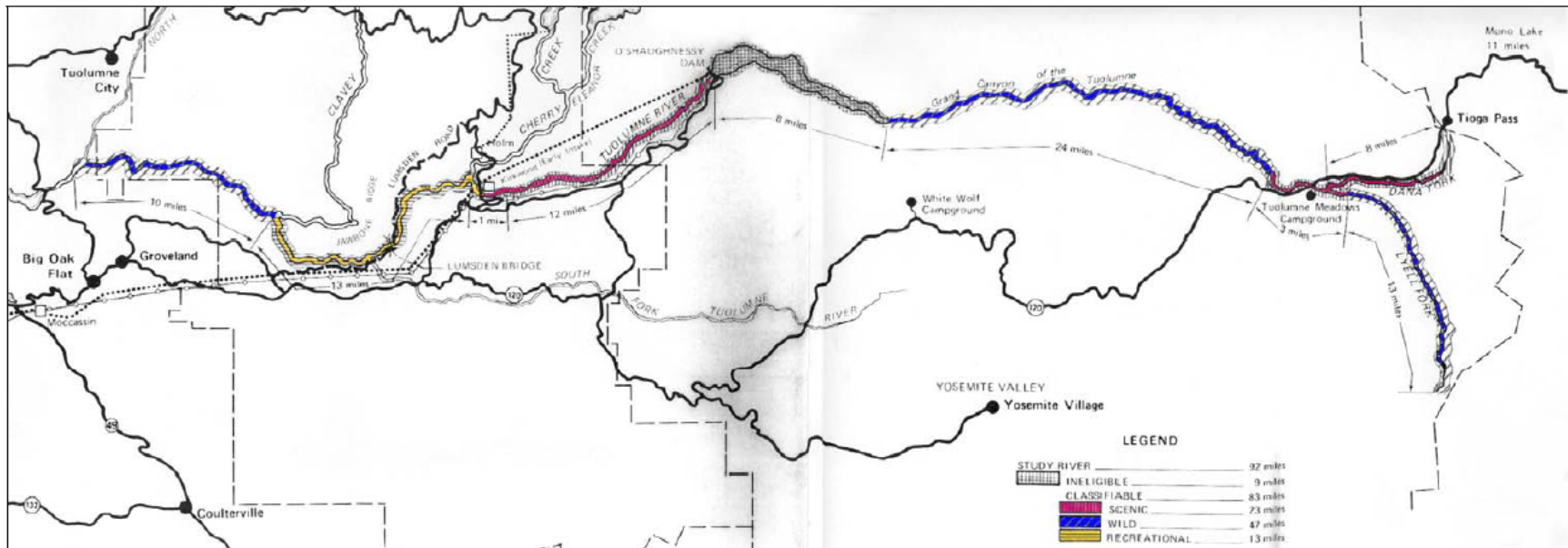
In 1975 Public Law 93-621 amended the Wild and Scenic Rivers Act to add 29 rivers, including the Tuolumne River, to the list of potential additions to the wild and scenic rivers system. The amendment mandated that these rivers be evaluated for inclusion and the reports of these studies be submitted to Congress by October 1979.

1979 Tuolumne Wild and Scenic River Study

A congressionally authorized study was undertaken to evaluate the eligibility and suitability of 92 miles of the Tuolumne River for inclusion in the wild and scenic rivers system. The evaluated portion of the river extended from its headwaters in Yosemite National Park, through Stanislaus National Forest and public lands managed by the Bureau of Land Management, to Don Pedro Reservoir. The U.S. Forest Service and the National Park Service were the lead agencies, with the Bureau of Land Management and the Heritage Conservation and Recreation Service acting as cooperating agencies.

The *Draft Tuolumne Wild and Scenic River Study and Environmental Impact Statement*, prepared by the U.S. Forest Service and the National Park Service, outlined five Wild and Scenic River designation alternatives for the Tuolumne River (USFS and NPS 1979a). The draft EIS was distributed to the public for comment in June 1979. The preferred alternative recommended designation of all eligible segments of the river, a total of 83 miles, 54 of them within the boundaries of Yosemite National Park. Because the Hetch Hetchy Reservoir segment of the Tuolumne River did not meet the ‘free-flowing’ requirement of a wild and scenic river, it was ineligible for inclusion in the wild and scenic rivers system and was excluded from the recommendation. The study also recommended specific classifications for the river (i.e., ‘wild,’ ‘scenic,’ and ‘recreational’ segments) and defined outstandingly remarkable values for each segment. The study used the standard $\frac{1}{2}$ -mile-wide river corridor as the study boundary.

The *Tuolumne Wild and Scenic River Study: Final Environmental Impact Statement and Study Report* was published in October 1979. Since it was not necessary to significantly revise the draft EIS, the final EIS consisted of the draft EIS, public comments and responses, errata and revisions to the draft EIS, and agency consultation correspondence (USFS and NPS 1979b). The final EIS confirmed the preferred alternative as detailed in the draft EIS. The report and EIS were submitted to the president by the secretaries of agriculture and the interior, who then made a recommendation to Congress regarding the potential designation of portions of the Tuolumne River (USFS and NPS 1979b).



MAP 1

1979 Proposed Tuolumne Wild and Scenic River and Suggested Classification

(map source: 1979 Draft Tuolumne River Study and EIS)





-  River segments classified as 'scenic'
-  River segments classified as 'wild'
-  River segments classified as 'recreational'
-  River segments ineligible for designation

Figure B-1. 1979 Proposed Tuolumne Wild and Scenic River and Suggested Classification. Source: Draft Planning Status Report for the Tuolumne Wild and Scenic River (2001), adapted from Draft Tuolumne Wild and Scenic River Study and Environmental Impact Statement (USDA & USDI 1979a).

1980 Yosemite General Management Plan

In 1980 the National Park Service approved a general management plan for Yosemite National Park. This plan provides guidance for all developed areas in the park, including Tuolumne Meadows. The plan states that facilities in the Tuolumne Meadows area should “continue to provide staging areas for backcountry and high mountain experiences,” but that development should be “redesigned to eliminate intrusions on the fragile subalpine ecosystem.” Specific goals of the plan include permitting only types and levels of use that do not significantly impair subalpine ecosystems, and orienting development to the lodgepole pine ecosystem. Specific actions prescribed in the plan included relocating or removing roads, trails, a footbridge, parking areas, employee housing, campsites, shops, and stables (NPS 1980b:63-66).

The plan also proposes that the National Park Service seek title to “all city of San Francisco lands except those directly associated with primary day-to-day water and power operations”. Were the park to acquire these lands, it would allow up to 240 acres of detached backcountry parcels to be reclassified as wilderness (NPS 1980b:26,28).

1982 Final Revised Guidelines for Eligibility, Classification and Management of River Areas

During the first years of implementing the Wild and Scenic Rivers Act, it became apparent that its mandates and definitions were subject to some differing interpretations by the Departments of the Interior and Agriculture. Because of this, the two departments decided to write guidelines detailing specific requirements concerning the evaluation, classification and management of wild and scenic rivers, in order to have a uniform evaluation and management approach. The first “Guidelines for Evaluating Wild, Scenic and Recreational River Areas Proposed for Inclusion in the National Wild and Scenic Rivers System under Section 2, Public Law 90-542” were written in 1970. A decade later the guidelines were revised to reflect new laws and regulations, and in response to a 1979 presidential directive to consider river ecosystems in river evaluation and to shorten river study time. The “Final Revised Guidelines for Eligibility, Classification and Management of River Areas,” published in the *Federal Register* by the Departments of the Interior and Agriculture in 1982, included clarification on eligibility of free-flowing rivers and river segments, elimination of a minimum length guideline, revision of the definition of sufficient flow, revision of water quality guidelines to allow inclusion of rivers where restoration of high water quality is planned, revised management guidelines, and an accelerated schedule for congressionally authorized studies (USDI and USDA 1982).

1984 California Wilderness Act and Designation of the Tuolumne as a Wild and Scenic River

In 1984 Congress passed the California Wilderness Act (Public Law 98-425), which amended the Wilderness Act by designating over 680,000 acres of land in Yosemite National Park as wilderness (Title I, Section 106).

The California Wilderness Act (Title II, Section 201) also amended section 3(a) subparagraph (53) of the Wild and Scenic Rivers Act to designate all eligible segments of the Tuolumne River (as generally shown in figure B-1) as a unit of the national wild and scenic rivers system. The designation specified that the amendment would not affect the provisions of any previously enacted legislation, including the Raker Act, or any agreements or administrative rulings previously enacted under authority of law. The amendment specified that corridor boundaries and segment classifications for the Tuolumne River must be established within two years of the designation.

1985 Amendment to the Wild and Scenic Rivers Act

A 1985 amendment to the Wild and Scenic Rivers Act required managing agencies of previously designated rivers to complete comprehensive river management plans before 1996, to provide for the protection of river values. Management plans must address “resource protection, development of lands and facilities, user capacities and other management practices necessary or desirable to achieve the purposes” of the act, and may be incorporated into other resource management plans (WSRA 3(d)(1)).

1986 *Federal Register* Notice

In September 1986 the National Park Service announced in a *Federal Register* notice that “in lieu of a specific management plan for the Tuolumne River in Yosemite . . . [it] will be managed in accordance with the 1986 Yosemite Wilderness Stewardship Plan and the forthcoming Comprehensive Design Plan.” According to the *Federal Register* notice, the Wilderness Stewardship Plan¹ would provide adequate guidance for management of the ‘wild’ river segments of the Tuolumne. A comprehensive design plan for Tuolumne Meadows, scheduled to come out in 1989, would provide guidance for management of the 11 miles of ‘scenic’ river in Tuolumne Meadows. Furthermore, the notice stated that “Pending the completion of the [comprehensive design] plan, development in the Tuolumne Meadows area will be limited to minimal improvements to housing and facilities necessary to meet health, safety and housing codes. There will be no expansion of existing housing or facilities, and no relocation of major facilities.”

The notice fulfilled the requirement of the Wild and Scenic Rivers Act to establish segment classifications for the Tuolumne by confirming the segments and classifications proposed in the 1979 Tuolumne Final Study with one exception: It reclassified 5 of the 6 miles of river west of the O’Shaughnessy Dam, which had all previously been classified as ‘scenic.’ The 5 miles of this segment within wilderness, from 1 mile west of the dam to the park boundary, were reclassified as ‘wild.’ The 1-mile segment directly west of the dam retained its ‘scenic’ classification. The notice did not, however, address the Wild and Scenic Rivers Act directive to define a river corridor for the Tuolumne in Yosemite.

1989 Wilderness Management Plan

The 1989 Wilderness Management Plan provides broad guidance for management of the wild segments of Yosemite’s wild and scenic rivers by specifying four planning guidelines:

- All wild and scenic river segments within Yosemite wilderness are classified as ‘wild.’
- The boundaries for the wild segments coincide with wilderness boundaries.
- Within wilderness a specified river corridor is unnecessary and will not be specified.
- The park will attempt to acquire an 80-acre parcel in the Poopenaut Valley owned by the City of San Francisco, which extends across a wild segment of the Tuolumne River. The parcel is designated as potential wilderness and would become wilderness when acquired by the park (NPS 1989:10).

The plan 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 (NPS 1989:15). In addition the plan specifies that footbridges in wilderness should be replaced only where “long tradition and high hazard to wilderness visitor safety requires them” (NPS 1989:34).

¹ The *Federal Register* notice references the 1986 Wilderness Stewardship Plan, however, while this plan was written in 1986, it was not finalized until 1989. The plan should be correctly referenced as the 1989 *Wilderness Management Plan* (see below).

1989 – 1995 Tuolumne Meadows Planning

In 1989 a briefing paper announcing a revised management plan for Tuolumne Meadows was released to the public to gather scoping comments. The briefing paper described the purpose and need, affected environment, objectives, and five alternatives to meet the goals and objectives of the plan. A total of 754 comments were received from the public, organizations, and government agencies. Specific comments suggested the National Park Service protect resources, protect river values, eliminate development, relocate or reduce development, improve services, maintain current level of services, and decrease vehicle use.

In 1990 a second briefing paper described the purpose and need, affected environment, planning objectives, and five alternatives with advantages and disadvantages of each. The alternatives were (1) Status Quo/No Action, (2) Implement the Approved 1980 General Management Plan, (3) Provide Only Minimum Activities and Services - Eliminate Overnight Use, (4) Retain the Present Scope and Range of Facilities and Services but Reduce and Consolidate Them Out of View from the River, and (5) Approach Problem as a Regional Issue, Reduce Impacts by Consolidating Essential Functions on Existing Impacted Sites and Relocate Non-Essential Functions Outside Park.

In 1991 the park management team reviewed the alternatives and scoping comment letters and developed a sixth alternative. A briefing paper was distributed internally that described the planning objectives, six alternatives, and the advantages and disadvantages of each alternative.

In October 1995 the 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) was completed. This plan aimed to resolve a lack of adequate employee housing and visitor facilities due to a significant increase in visitor use of Tuolumne Meadows since the Yosemite General Management Plan was written. The 1986 *Federal Register* notice had put a moratorium on development until a comprehensive design plan for Tuolumne Meadows that addressed wild and scenic river management was completed, and a design concept plan for the area had to be in place before the comprehensive design plan could be finalized. These three related planning efforts were combined in a single document (NPS 1995).

Though copies of the Draft Tuolumne Meadows Plan were circulated to some interest groups and members of the public, a February 1996 press release stated that these copies should be considered “draft” and that the plan was delayed due to “minor inconsistencies and errors within the document.” The plan was never released for further public review, approved, or adopted.

1999 Wild and Scenic Rivers Study Process

The Interagency Wild and Scenic Rivers Coordinating Council, established in 1993, periodically issues updates to the *Wild and Scenic Rivers Act Reference Guide*. The “Wild and Scenic Rivers Study Process,” added to the guide in 1999, provides managing agencies guidelines for determining a river’s outstandingly remarkable values. The study process criteria were used to update and elaborate on the outstandingly remarkable values of the Tuolumne River as part of the *Tuolumne River Plan*.

2009 Superintendent’s Compendium

The *Compendium of Superintendent’s Orders for Yosemite National Park* (NPS 2009e) is a compilation of designations, closures, permit requirements, and other restrictions made by the superintendent, in addition to systemwide regulations contained in the *Code of Federal Regulations* (36 CFR 1: 1- 7 and 34), and other applicable federal statutes and regulations. The compendium is updated regularly and can be accessed at <<http://www.nps.gov/yose/parkmgmt/upload/compendium.pdf>>.

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Appendix C: Determination of Extent Necessary for Commercial Services in the Wilderness Segments of the Tuolumne Wild and Scenic River Corridor

Part 1: Introduction

The vast majority of Yosemite National Park (95%) was designated as federally protected wilderness by the California Wilderness Act of 1984.¹ Congress directed that Yosemite's wilderness be set aside for recreational, scenic, scientific, educational, conservation, and historical use purposes. Congress delegated management responsibility for Yosemite Wilderness to the National Park Service (NPS). In furtherance of its wilderness management responsibilities, the NPS has adopted a trailhead quota system to limit overnight visitation, implemented an extensive educational program to teach visitors how to minimize their impacts, promulgated a variety of specific regulations that mandate low impact practices, and instituted numerous monitoring programs to assess wilderness character and track potential threats to that character.

To date, the National Park Service has not determined the extent to which commercial services are necessary in Yosemite's designated wilderness. The need for this type of specialized finding stems from a 2004 decision by the U.S. Court of the Appeals for the Ninth Circuit in the case *High Sierra Hikers Association v. Blackwell*. In the *Blackwell* decision, the Ninth Circuit ruled that agencies that manage wilderness areas must complete a specialized finding of necessity prior to authorizing commercial services in wilderness. This finding must be made after considering the extent to which commercial services are necessary to achieve the purposes for which the wilderness area was set aside. This document evaluates the necessity for commercial services for the portion of the Tuolumne Wild and Scenic River corridor that is located within designated wilderness.

Yosemite National Park has appropriated funding for updating its *Wilderness Stewardship Plan*, and has begun the initial steps in the planning process. When completed, that plan will make a specialized finding of the extent necessary for commercial services within the entire Yosemite Wilderness. The plan, however, will not be ready for public review for several more years. Rather than await the development of a new *Yosemite Wilderness Stewardship Plan*, the NPS elected to analyze commercial services in the designated wilderness portions of the Tuolumne River corridor at this time and to provide the public with an opportunity to comment.

Part 2: Purpose of this Determination of Extent Necessary and Relationship to Other Plans

The purpose of this document is to determine the maximum allowable amount of commercial services in the wilderness portion of the Tuolumne River corridor in accordance with the requirements of the Wilderness Act and NPS wilderness management policies.

As noted above, the NPS is in the early stages of updating the *Yosemite Wilderness Stewardship Plan*. Limits adopted in this Determination of Extent Necessary will be revisited as part of the planning process for the *Yosemite Wilderness Stewardship Plan*, which will determine the extent of commercial services necessary

¹ California Wilderness Act, Public Law No. 98-425 (1984)

throughout all of Yosemite’s designated wilderness. There will be many opportunities for public involvement in the development of the *Yosemite Wilderness Stewardship Plan*, including the ability to provide additional input on the amount of commercial services that should be authorized.

Under the Wild and Scenic Rivers Act, the NPS must adopt specific, measurable limits on use within the river corridor in order to ensure that the kinds and amounts of visitor use protect and enhance the river’s outstandingly remarkable values, free flowing condition, and water quality. The capacity determinations found in chapter 7, Alternatives, of this Plan represent the maximum amount of use that can be allowed without adverse impact to river values. The user capacities that were established in the TRP planning process were incorporated into this Determination of Extent Necessary. Sections 7 and 8 of this appendix determine the extent to which any portion of the TRP’s numeric use limits may be allocated to commercial service users in accordance with Section 4(d) of the Wilderness Act. This Determination of Extent Necessary therefore tiers from the capacity determinations in the TRP.

Part 3: Legal Framework for Evaluating Commercial Services in Wilderness

The Wilderness Act

The Wilderness Act was passed in 1964 to “secure for the American people of present and future generations the benefits of an enduring resource of wilderness.”² Section 4(c) of the Wilderness Act explicitly bars “commercial enterprises within designated wilderness areas.”³ An exception to this ban, subject to limitations, is provided for commercial services such as guides and outfitters in section 4 (d) 6, which states that “commercial services may be performed within the wilderness areas designated by this Act to the extent necessary for activities which are proper for realizing the recreational or other wilderness purposes of the areas.”⁴ “Wilderness purposes” are defined in section 4 (b) of the Act as “recreational, scenic, scientific, educational, conservation, and historical use.”⁵

The National Park Service has not issued regulations or formal policy guidance outlining the process for authorizing commercial services under Section 4(d) of the Act. However, the U.S. Court of Appeals for the Ninth Circuit has issued several decisions interpreting the restrictions on commercial activities found in Sections 4(c) and (d) of the Act. These decisions have informed the analysis in this Determination of Extent Necessary.

In 2003, the Ninth Circuit, ruling *en banc* in *The Wilderness Society v. U.S. Fish & Wildlife Service*, examined the overall structure of the Act and found that the Act’s broad mandate to protect wilderness areas was furthered by the prohibition provision found in Section 4(c), which among other things, prohibits commercial enterprises in wilderness. That prohibition, however, is qualified by the introductory language of Section 4(c) which states, “*Except as specifically provided for* in this [Act] . . . there shall be no commercial enterprise” within any wilderness area (emphasis added). The exceptions to Section 4(c)’s prohibitions are found in Section 4(d), which is entitled “Special Provisions.” One exception provides that the agency may allow commercial services. The commercial services exception is limited in scope. Because of the Act’s structure, in which there is a broad prohibition on commercial enterprise in Section 4(c) followed by a list of “special provisions” in Section 4(d),

² Wilderness Act, 16 USC 1131 (a).

³ Wilderness Act, 16 USC 1133 (c).

⁴ Wilderness Act, 16 USC 1133 (d) (5).

⁵ Wilderness Act, 16 USC 1133 (b).

the Ninth Circuit concluded that the exceptions found in Section 4(d) are most properly read as a series of limited and express exceptions to the general prohibition found in Section 4(c) on commercial enterprises in wilderness.⁶

In 2004, the Ninth Circuit issued an opinion, *High Sierra Hikers Assn. v. Blackwell*, interpreting the commercial services exception found in Section 4(d)(6) of the Act. The Court examined the specific language of Section 4(d)(6), and in particular the language stating that commercial services may only be authorized “to the extent necessary,” as well as relationship between Section 4(d)(6) and other provisions of the Wilderness Act. The Ninth Circuit held that the phrase “to the extent necessary” imposed a requirement on wilderness managing agencies to make a “specialized” finding of necessity before authorizing commercial services in wilderness. In this specialized finding, the agency must “show that the number of permits [or other authorizations] granted was no more than was necessary to achieve the goals of the Act.”⁷

Although it determined that a specialized finding is required, the *Blackwell* Court recognized that the Wilderness Act is “framed in general terms and does not specify any particular form or content” for this finding (see *Wilderness Watch v. U.S. Fish and Wildlife Service*), 629 F.3d 1024, 1036 (9th Cir. 2010) (reaffirming the holding in *Blackwell* that the agency has discretion as to the particular form and content of its analysis of the necessity for commercial services). This Determination of Extent Necessary follows the direction provided by these Ninth Circuit opinions. In the sections that follow, the NPS identifies the types of “activities which are proper for realizing recreational and other wilderness purposes” and then determines the maximum amount of commercial services that may be authorized in order realize these purposes. This specific finding ensures that the amount of commercial services authorized is no more than necessary so that wilderness character will be preserved.

The language of Section 4(d)(6) is permissive, rather than mandatory. It provides that commercial services may, but not shall, be provided. Under the law, NPS may allow some commercial services, but “no more than necessary to achieve the goals of the act” *Blackwell*, 390 F.3d at 647. Thus, such services may only be allowed up to a maximum of that amount determined to be necessary for “realizing the recreational or other wilderness purposes” of the Yosemite Wilderness.

Any determination to allow or restrict commercial services by necessity involves a balancing of interests and concerns. As the Ninth Circuit has recognized, wilderness managing agencies are charged with diverse and sometimes conflicting mandates under the Act (see *Blackwell*, 390 F.3d at 647-48; *Wilderness Watch*, 629 F.3d at 1033). Some reasons that NPS may disallow commercial services in a given location include the different weights (or levels of importance) that may be given to certain purposes. For example, the NPS may choose to give more weight to the conservation purpose in an area with sensitive wildlife, or greater weight to providing opportunities for solitude rather than providing for formal education in especially crowded areas (see *Wilderness Watch*, 629 F.3d at 1033-34, 1036, holding that agency acted reasonably in balancing conflicting purposes of the Wilderness Act and determining that the conservation of bighorn sheep took precedence over other wilderness values under the specific facts in that case).

Accordingly, this Plan considers a broad range of alternatives with respect to the amount of commercial services, ranging from none up to the maximum allowable amount as determined by this analysis. The

⁶ *The Wilderness Society v. U.S. Fish & Wildlife Service*, 252 F.3d 1051, 1062 (en banc) (2003).

⁷ *High Sierra Hikers Assn. v. Blackwell*, 390 F.3d 630 (9th Cir. 2004) pg 16398.

commercial services provisions for each Alternative are detailed in Chapter 7, Alternatives, and summarized in Table C-1, below.

Table C-1. Summary Comparison of Management of Commercial Use in Wilderness, TRP/DEIS Alternatives 1-4

Alternative 1	Alternatives 2 and 4	Alternative 3
<p>Discontinue all commercial use (except as needed to allow for disabled access and to supply the High Sierra Camps outside the river corridor) to reduce impacts on subalpine meadow/riparian areas in Lyell Canyon.</p>	<p>Allow commercial use in wilderness, with restrictions on types and levels of use based on a determination of extent necessary that gives priority to noncommercial use and restricts commercial use to no more than 2 overnight groups per zone per night and no more than 2 day groups per trail per day. Additional restrictions would include the following:</p> <ul style="list-style-type: none"> ▪ <i>Restrictions on types of use, Glen Aulin zone, peak months only:</i> During the peak use months of July and August, commercial groups having only a recreational purpose would no longer have access to the Glen Aulin zone; groups having an educational or scenic, as well as recreational, purpose (as defined in appendix C) would continue to have access consistent with limitations on total use levels, described above. ▪ <i>Restrictions on types of use, Lyell Canyon zone, peak months only:</i> Commercial use in the Lyell Canyon zone by groups with only a recreational purpose would be restricted to Monday–Thursday only; groups having an educational or scenic, as well as a recreational, purpose would continue to have access to the Lyell Canyon zone on weekends, as well as weekdays, consistent with limitations on total use levels, described above. 	<p>Same as alternatives 2 and 4, except this alternative restricts commercial use to no more than 1 overnight group per zone per night and no more than 1 day group per trail per day.</p>

NPS Wilderness Management Policies

Commercial services must be consistent with the application of the minimum requirement concept and with the objectives of the park’s Wilderness Stewardship Plan.⁸ See Section 9 of this document for the application of the minimum requirement concept for commercial allocation.

Yosemite Wilderness Management Plan

The 1989 Yosemite Wilderness Management Plan states that commercial packers “. . .may be restricted to designated park areas.”⁹

Part 4: User Capacity in Wilderness

In the Yosemite Wilderness, wilderness character is preserved in part through the use of the trailhead quota system, which limits the amount overnight visitation through the use of a wilderness permit system. In order to preserve wilderness character, NPS must ensure that natural resources are protected from damage that can result from overuse, and that outstanding opportunities for solitude are preserved.

The Yosemite trailhead quota system was developed in the 1970s, prior to wilderness designation.¹⁰ The backcountry area of the park was divided into travel zones. For each zone a capacity was set based on the number of acres and miles of trails and desired sociological densities for campsites and trails. The capacities were then adjusted to protect ecological resources. For example, capacities were adjusted in zones with

⁸ NPS Management Policies 2006 6.4.4.

⁹ National Park Service, Wilderness Management Plan, 1989, pg. 21.

¹⁰ van Wagtenonk, J. W. 1979. A conceptual backcountry carrying capacity model. *Proc. 1st. Conf. Sci. Res. in the Nat'l. Parks*. USDI, Nat'l. Park Serv. Trans. and Proc. Series 5:1033-1038.

ecosystems that were rare or vulnerable (such as those with subalpine meadows), or that exhibit fragility or limited resilience following impacts (such as those with alpine meadows). Zone capacities have been adjusted periodically to reflect new or changed scientific findings regarding ecosystem health and the effect of patterns of visitor use on resources.

In concert with these zone capacities, the NPS has implemented a trailhead quota system. This type of system requires backcountry users to begin a trip at a certain trailhead on a certain day, but otherwise does not restrict travel plans. Since establishing this quota system, park managers have studied visitor travel patterns to determine the relationship between the various trailheads and the travel zones.¹¹ By studying wilderness visitation travel patterns, managers have been able to determine the percentage of visitors to each zone that are attributable to each trailhead. By limiting the number of individuals who may enter the wilderness from a given trailhead on a given day, managers limit the number of visitors to each zone such that the wilderness character of the zone, including both the physical resources and the outstanding opportunities for solitude, are maintained in accordance with law.

As part of the *Tuolumne River Plan*, the NPS reevaluated the trailhead quotas within the Tuolumne River corridor in light of the Wild and Scenic Rivers' Act mandate to protect and enhance river values. In addition to the use limits set by the trailhead quota system additional limits that relate to wilderness will be in place under this Plan. A capacity on grazing nights for pack stock has been established for the meadows in upper Lyell Canyon. As described in chapter 5, a capacity for day use in wilderness has been established based largely on identifying an acceptable encounter rate along trails. Both of these capacities will help protect wilderness character as well as river values.

Part 5: Definitions

A. Definition of Proper Activities

Section 4(d)(6) of the Wilderness Act allows only those commercial services that are “proper for realizing the recreational or other wilderness purposes of the areas.” Not all activities are proper or allowable in wilderness areas. Section 4(c) of the Wilderness Act prohibits public use of motor vehicles, other forms of mechanical transport, motorized equipment, and landing of aircraft.¹² The 2006 *Management Policies* provide additional guidance on the types of activities that are proper in park wilderness areas. NPS policy states that recreational uses in wilderness will be of a nature that:

- Enables the areas to retain their primeval character and influence;
- Protects and preserves natural conditions;
- Leaves the imprint of man’s work substantially unnoticeable;
- Provides outstanding opportunities for solitude or primitive and unconfined types of recreation; and
- Preserves wilderness in an unimpaired condition.¹³

These restrictions apply equally to commercial and noncommercial public use. In the Yosemite Wilderness, proper activities are those traditionally associated with wilderness recreation, including hiking, backpacking, stock use, rock climbing, photography, nature study, and others. Improper (and illegal) activities include snowmobiling, mountain biking, skateboarding, and others. For a commercial service to be considered, it must

¹¹ van Wagtenonk, J.W., and J. M. Benedict. 1980. Wilderness permit compliance and validity. *J. Forestry* 78(1): 399-401; van Wagtenonk, J.W., and P. R. Coho. 1986. Trailhead quotas: rationing use to keep wilderness wild. *J. Forestry* 84(11): 22-24.

¹² 16 USC 1133(c), 1964.

¹³ NPS *Management Policies* 2006, 6.4.3.

first be related to an activity that is proper in wilderness. Therefore, the only commercial services considered in this document are those related to the types of activities found to be proper in Yosemite wilderness.

The Wilderness Act directs that wilderness areas be administered “so as to provide . . . for the gathering and dissemination of information regarding their use and enjoyment as wilderness.”¹⁴ Therefore, the making of films in wilderness is considered proper for realizing the educational and scenic purposes.

B. Definition of Commercial Services

Before the National Park Service can determine the types of commercial services that are necessary to further wilderness purposes, the agency must first determine which services are commercial in nature and which are not. The Wilderness Act does not define the term “commercial service.” When Congress does not include definitions of important terms in a statute, agencies may rely on commonly accepted definitions. The word “commercial” is commonly defined as (1) “[o]f or relating to commerce,” *i.e.*, “[t]he buying and selling of goods, esp. on a large scale: business,” (2) “[e]ngaged in commerce,” (3) “[i]nvolved in work designed or planned for the mass market,” or (4) [h]aving profit as a primary aim.”¹⁵ The word “service” is commonly defined as, “the organized system of apparatus, appliances, employees, etc., for supplying some accommodation required by the public” or “the performance of any duties or work for another.”¹⁶ Activities that are necessary and proper for realizing wilderness purposes will be evaluated to determine whether they reflect consistent, commonly understood usage of the terms “commercial” and “services.”

In addition, this determination as to what constitutes a “commercial service” is guided by an analysis of the primary purpose and effect of each service. This further layer of analysis, focused on purpose and effect, is supported by judicial precedent.¹⁷ While some services are conducted for more than one purpose and may have more than one effect, the focus of this analysis is on ascertaining the primary reason for the service. Incidental or subsidiary purposes and effects do not dictate that a service be categorized as commercial.

Consistent with the ordinary meaning of the terms described above, for purposes of this document a commercial service is one in which any duties or work are provided by one person or entity for another person or entity in exchange for money. It includes, but is not limited to such things as: guiding, packing, cooking, carrying, instructing, demonstrating, providing gear and food, navigating, providing first aid and emergency services, and other services typically provide under the description of “guiding and outfitting.” The form of the organization providing the service is not dispositive of whether the organization is offering a commercial service, for example whether it is a non-profit or for-profit. Rather, the definitions above, including an analysis of the activity’s purpose and effect, will guide a determination of whether a service is commercial or not.

Commercial services may be authorized under a number of different legal authorities, using a number of different instruments. Of relevance to designated wilderness areas within Yosemite National park are concession contracts, commercial use authorizations, and special use permits.

¹⁴ Wilderness Act, (16 USC 1131 (a)).

¹⁵ Webster’s II New College Dictionary 225 (1995); accord Merriam-Webster’s Collegiate Dictionary 230 (2000). See *Wilderness Society v. U.S. Fish and Wildlife Service*, 353 F.3d. 1051, 1061 (9th Cir. 2003).

¹⁶ Merriam-Webster’s College Dictionary, 2000.

¹⁷ *Wilderness Society v. U.S. Fish and Wildlife Service*, 353 F.3d. 1051, 1061 (9th Cir. 2003).

1. Authorization Mechanisms for Commercial Services

a. Concessions Contracts and Commercial Use Authorizations:

Services authorized under concessions contracts and commercial use authorizations are considered commercial services because the entities holding these authorizations are businesses engaged in commerce, they provide a service to the public, members of the public who use these services experience Yosemite wilderness directly as a result of this commercial support, and employees of the concessioner and CUA holder direct and guide the wilderness experience of the trip participants. CUAs holders who lead either stock or hiking trips are considered providers of commercial services, as is the primary park concessioner, which leads stock, hiking, and climbing trips in wilderness.

b. Special Use Permits:

Special Use Permits are used to authorize a wide range of activities, many of which are not commercial. Because Special Use Permits are issued on a case by case basis, it is not possible to evaluate all of the different activities that might be requested in a special use permit in advance; however, commercial filming permits (one type of Special Use Permit) are discussed below. When a request for another type of Special Use Permit in wilderness is received, it will be evaluated in accordance with the criteria above to determine whether the activity constitutes a commercial service. If it does, a permit will only be authorized in accordance with the procedures set out below in Section 8.

2. Application of the Purpose and Effect Analysis

For the majority of traditional wilderness outfitting and guide services, the determination of commerciality is straightforward. However, the commerciality of some uses is not as clear. Those uses are analyzed according to their purpose and effect.

a. Scientific Research:

Scientific research performed by faculty, postdoctoral fellows, or students enrolled in degree-granting programs in accredited colleges and universities or holding appointments with governmental agencies or scientific research institutions, even when accompanied by pack stock support, will typically not be considered commercial. Research trips using pack stock support would normally not be classified as a commercial service trip because the primary purpose and effect of the trip is the enhancement of scientific understanding of park resources, not commercial interests. The NPS will review requests for scientific research permits that involve the support of commercial outfitters to determine whether the trip is commercial. In the event that a research trip is categorized as a commercial service, it will be allowed in accordance with the procedures set out below in Section 8.¹⁸

b. Commercial Filming and Photography:

The NPS allows commercial filming and photography in national parks provided that there would not be a likelihood of resource damage, an unreasonable disruption of the public's use and enjoyment of the site, or a health or safety risk to the public.¹⁹ Filming involves movement or motion of the subject whereas photography does not. The NPS *Management Policies* define "commercial filming" as "filming that involves the digital or film recording of a visual image or sound recording by a person, business, or other entity for a market audience." All

¹⁸ Some scientific research could involve a commercial component if it contained an element of "bioprospecting." Any such proposals will be reviewed for legality under the Wilderness Act and commerciality under the guidelines noted above.

¹⁹ U.S.C. §4601-6d.

commercial filming is subject to permitting requirements, and is limited to projects that are necessary or proper for providing educational information about wilderness uses, resources or values, or necessary for other wilderness purposes. Still photography is only subject to permitting requirements if it takes place in areas not open to the public, involves the use of models or props that are not part of the location's existing setting, or requires NPS oversight. Based on the NPS policy cited above, all commercial filming and photography will be treated as a commercial service.

c. Trips by Educational Institutions:

Each year, the park receives requests for wilderness trips by student groups from accredited educational institutions that are conducting classes for course credit. These institutions range from elementary, middle, and high schools to colleges and universities. The goal of these trips is to provide environmental education to students and to foster self-reliance and other qualities. In some cases, employees of the educational institution guide the trip. In others, the school retains the services of an institution with expertise in environmental education. Nature Bridge, a park partner whose mission is environmental education, leads many trips of this type. Trips by accredited academic institutions that give course credit for completion, even if accompanied by staff from Nature Bridge or a similar organization, are not considered commercial services for the purposes of this Determination of Extent Necessary. The primary purpose and effect of these trips is fulfilling academic goals for the students involved. The students' experience is guided and shaped by the institution's academic goals. Support services from environmental education organizations like Nature Bridge do not change the essential character of the trip, which is academic, not commercial.

C. Definition of Wilderness Purposes

1. Recreation

All visitors to the Yosemite Wilderness help to realize the recreational purpose. The recreational purpose is realized when people are engaged in proper activities in wilderness. Those activities are described in Section 5.A, above. Hiking, backpacking, horseback riding, fishing, climbing, nature study, and mountaineering are just a few examples of the many ways that visitors help to realize this purpose. Yosemite National Park does not allocate capacity to particular wilderness recreational activities.²⁰

2. Education

While many wilderness visitors are engaged in some type of informal, self-directed education, formal education is also necessary to realize the educational purpose. Examples of formal education that realize the educational purpose of wilderness include, but are not limited to the following:

“How to” education on such topics as:

- Equipment selection
- Navigation
- Wilderness first aid
- Travel and camping skills

²⁰ This approach finds support in a recent district court decision that concluded, “neither fishing nor any other particular activity is endorsed by the Wilderness Act, nor is the enhancement of any particular recreational potential a necessary duty of wilderness area management.” *High Sierra Hikers Assn. v. U.S. Forest Service*, 436 F.Supp.2d 1117, 1144 (E.D. Cal. 2006).

More advanced “skills” training on such topics as:

- Rock climbing
- Mountaineering
- Backcountry skiing

Coursework on wilderness values, ethics or philosophy including:

- Natural history
- Human or cultural history
- Wilderness values
- Environmental social or political history
- Environmental philosophy

Coursework on scientific aspects of wilderness, such as:

- Biology
- Geology
- Zoology
- Fire ecology

Programs specifically designed to teach residents of urban areas, particularly youth, wilderness skills, including:

- Self reliance
- Survival
- Independence
- Physical fitness and agility
- Mental toughness
- Problem-solving
- Adaptability

Making of educational films about wilderness, including but not limited to those about wilderness:²¹

- Wilderness values
- Natural history
- Human or cultural history
- Famous wilderness defenders such as John Muir
- Endangered species preservation
- Instructional films covering wilderness skills and techniques

Exception:

- Leave No Trace training is considered a fundamental prerequisite for all wilderness visitors and as such will *not* be considered formal education.

²¹ Films focused on displaying scenic beauty rather than providing education on a topic may more properly be considered to fulfill the “scenic” purpose described below at Section 5.B.3.

3. Scenic

Wilderness possesses a particular type of scenery: natural and untrammeled. The scenic purpose is realized when visitors observe the natural landscape of wilderness. It is also realized when people take photographs of scenery and share them with others outside of the wilderness. As with the educational purpose, however, there is a more formal appreciation of scenery that is enjoyed by photographers and other artists. Commercial services provide necessary support for this purpose if they offer photography, painting, or even writing workshops that focus on appreciating and interpreting the scenery. Commercial filming, videography, audiography, and photography also realize the scenic purpose if they focus on wilderness scenery and natural soundscapes.

4. Conservation

Conservation means actions that help to maintain the wilderness in a largely natural and untrammeled state, with native biodiversity intact and natural processes uninterrupted.

Examples of activities in wilderness that help to realize the conservation purpose include, but are not limited to:

- Ecological restoration projects
- Trail building and maintenance
- Species preservation activities
- Eradication or removal of non-native invasive species

Realizing the conservation purpose is primarily an agency responsibility. Occasionally a visitor group conducts a “service trip” that includes conservation work. In Yosemite, however, these groups are not able to work independently of NPS control and supervision. They are designated as volunteers. If the primary purpose of the service trip is that of learning through participation in the service activity rather than that of constructing, implementing or maintaining the conservation project itself, then the purpose and effect is non-commercial.

5. Historic

“Historic uses” are defined as those uses which emphasize the wild, untrammeled, and natural character of the land in its historic state. Visitors help to realize the historic purpose when they encounter the land as did those of earlier historical periods. The historic purpose is realized by maintaining the wilderness character of the land, by primitive recreation in the wilderness, by the provision of opportunities for solitude, and by enjoying the scenic wonders of the natural and untrammeled landscape. The realization of this purpose is consistent with the realization of the conservation and recreational purposes.

The courts have directly addressed the meaning of “historic uses” as used in the Wilderness Act, and have uniformly construed “historic use” to mean use of the primeval or ancient wilderness in its natural state. The U.S. Court of Appeals for the 11th Circuit found that “the only reasonable reading of “historical use” in the Wilderness Act refers to experiencing the natural, rather than man made [sic], features.”²² This decision was followed by the district court in *Olympic Park v. Mainella*, which held that:

[t]he Park Service references the historic pattern of shelter construction and recreational use in concluding that the “setting, association, and feeling are significant aspects of historic use within the park” (AR 416-17), but while this may be true, this type of usage is in the past and a new value has been placed on the land by the creation of the Olympic Wilderness....a different “feeling” of wilderness

²² *Wilderness Watch v. Mainella*, 2004, followed by *Olympic Park Associates v. Mainella*, 2005 WL 1871114 (D.Wash. 2005).

*is sought to be preserved for future generations to enjoy, a place “where the earth and its community of life are untrammelled by man” and which retains “its primitive character and influence.”*²³

Thus, “historic use” refers to preserving the wilderness character of the land so that each visitor may encounter it in its historic state, as undeveloped as it was when the first humans experienced it. No commercial services are necessary for the realization of the historical purpose because its realization is congruent with the realization of the conservation purpose.

6. Scientific

The natural and untrammelled qualities of wilderness make an area valuable to science. Realizing the scientific purpose means allowing scientific research and monitoring to take place in wilderness. Unlike conservation activities, scientific activities fall on a spectrum from administrative to independent: Some are conducted by the agency, some are conducted by academics but sponsored or overseen by the agency, and some are conducted by independent academics or graduate students. Research conducted by or for the NPS is considered administrative, not commercial. On rare occasions, an independent researcher might require commercial services to pack in supplies. However as discussed above in Section 5, the incidental use of pack services to support a research trip typically would not convert a research trip into a commercial service.

In the Yosemite Wilderness, research is reviewed by and limited through an interdisciplinary permit committee and process.²⁴ This framework, including the application of the minimum requirement concept, provides methods to quantify the impacts and benefits of research, compare costs and benefits, and prioritize research proposals.

Part 6: Commercial Services Extent Necessary Analysis

This section describes the thresholds and methods used to determine limits on commercial services in the wilderness portions of the Tuolumne River corridor. As noted above, no commercial services are needed for the realization of the historic, scientific, or conservation purposes. All proposed commercial trips in wilderness will be assessed to see which purposes they fulfill (see section on the application process, below).

A. Overnight Use

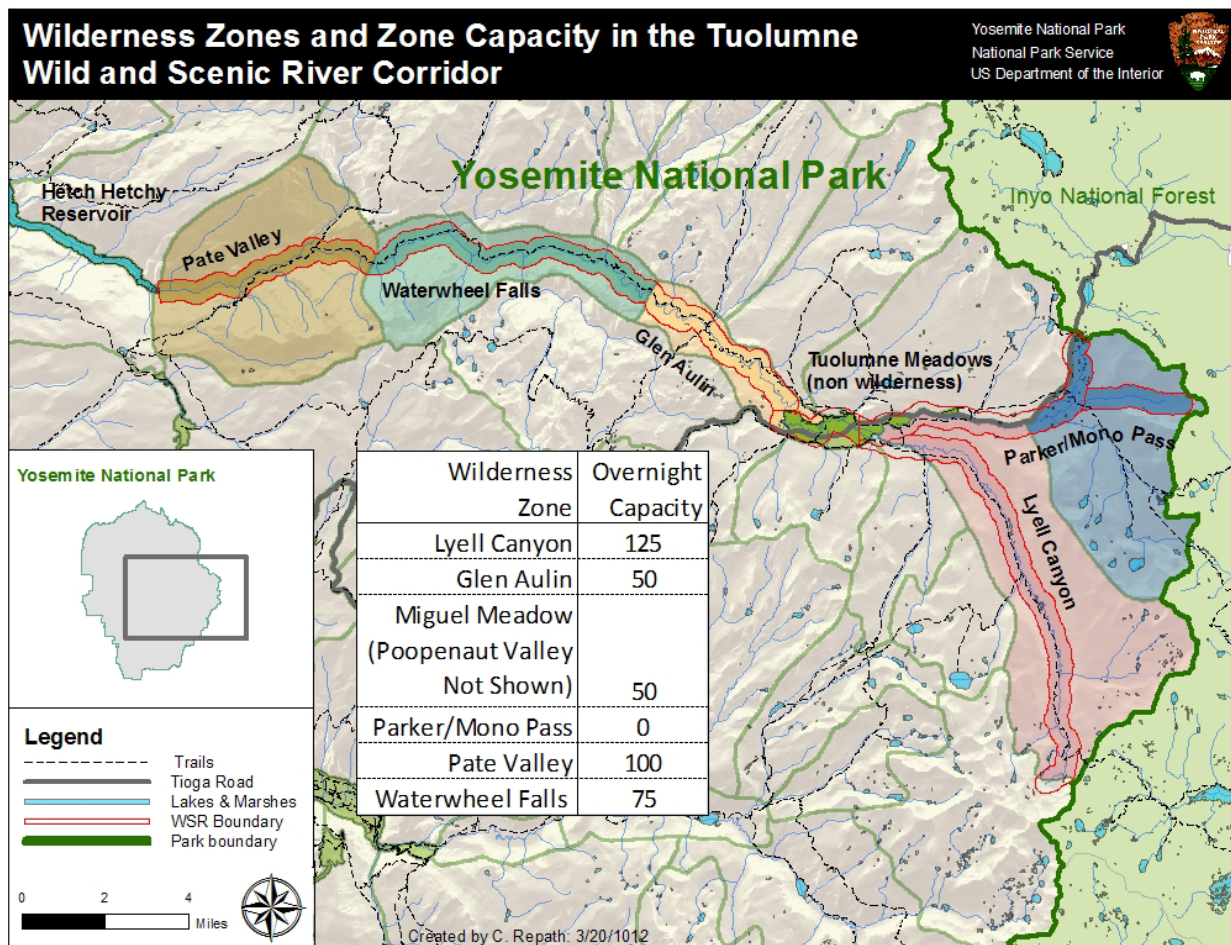
The wilderness portions of the Tuolumne River corridor are overlaid with six wilderness management zones (see Map C-1). Each zone has an established capacity (camping is not allowed in the Mono Parker pass zone) and trailhead limits are enforced. The extent necessary determination for overnight trips analyzes use in each zone by month.

1. Recreational Purpose

Under the Wilderness Act, the NPS can only authorize commercial services in wilderness if they are necessary to “realize” wilderness purposes. Therefore, it is important to quantify the amount of non-commercial use in a zone as a percentage of established capacities. If a wilderness zone is substantially full with noncommercial visitors, then commercial visitors are not “necessary” to “realize” the recreational purpose. To determine whether an area is “substantially full,” the following method is used:

²³ *Olympic Park Associates v. Mainella*, 2005 WL 1871114 (D.Wash. 2005).

²⁴ See Landres, P., Fincher, M., Sharman, L., et al, *An Interagency Framework to Evaluate Proposals for Scientific Activities in Wilderness*, 2009 at wilderness.net/toolboxes.



Map C-1. Wilderness Zones and Zone Capacity in the Tuolumne Wild and Scenic River Corridor

Each zone is accessed by a number of trailheads, each with a daily quota for overnight use (see capacity discussion above in Part 4). For each zone, permit records for all trailheads that provide more than 10% of the overnight visitors to that zone are tallied (minus permits for commercial groups) and compared to the trailhead quotas. The number of days per month that those trailhead quotas are at least 90% full is tallied. Those days are considered “full,” with 90% chosen instead of 100% because visitors are frequently turned away before 100% of the quota is reached. For example, if only one spot is left, groups of two or greater will be turned away. On many days reserved permits are cancelled, or groups with a reservation arrive with a smaller group than planned. When this happens late in the day, utilization is slightly less than the quota even though many groups may have been turned away.

This analysis is done by month, using a five year average of wilderness permit data from 2005-2009. If a zone is “full” more than 66% of the days in a month, that zone is considered substantially full, and will be considered a “restricted” zone. Those zones where the trailheads serving the zone are full 33% to 65% of the time are “weekend restricted” zones. Typically the full days fall on weekend nights, with Fridays and Saturdays the most likely to be substantially full.

Webster’s Dictionary defines “realized” as “to bring into concrete existence.” Realization thus implies a level of “concrete” use beyond the minimum. It is not necessary, however, that a zone be filled to capacity in order for the recreational purpose of that zone to be realized. Many zones are popular destinations with great demand

for access from both the public and commercial outfitters. A zone threshold of 66% for “realization” of the recreational purpose means that all wilderness permits for that zone are issued 4.6 days per week throughout the month. This means that every weekend and holiday as well as many weekdays are filled to capacity for that zone. Additionally, in many popular zones, utilization of backcountry quotas exceeds 80% even those days on which utilization falls below 90%. This means that the overall percentage of a quota utilized for a given month may be significantly higher than the percentage of “full” days. For example, 64% of the days in August are “full” for Lyell Canyon. But overall utilization of the quota for August is 88%. The level at which a purpose is realized necessarily entails an exercise of management judgment. This definition of “realization” balances the competing factors of access for commercial recreational groups against the overall preference expressed in the Wilderness Act for noncommercial recreational visitation.

A zone threshold of 33% to 65% for a “weekend restricted” zone means that this zone is filled to capacity between 10 and 19 days per month. This means that every weekend and holiday is filled to capacity for that zone. Noncommercial public recreational demand is dramatically increased on weekends. The “weekend restricted” designation maintains commercial recreational access to desirable areas by permitting it on weekdays, when it helps realize the recreational purpose, while maximizing noncommercial recreational access on weekends.

The results of the overnight commercial recreational capacity analysis are shown on maps 1 and 2. Overnight commercial groups will be allowed to travel through restricted or weekend restricted zones as long they spend the night outside of such zones.

2. Educational Purpose

The educational purpose is considered realized when there are opportunities for both informal and formal education taking place in the wilderness. Informal education is self-directed learning available to all wilderness visitors, including those who are primarily engaged in recreation. The realization of the “informal” component of the educational purpose can be considered as numerically congruent with the realization of the recreational purpose: All those who are recreating are in some way engaged in informal education. Directed, formal education is also a proper activity in wilderness and also realizes the educational purpose. Formal education presented by a qualified instructor can promote a deeper, more comprehensive understanding of wilderness related subjects. An allocation of 10% of capacity is necessary to ensure that there is sufficient opportunity for formal education and classes, including the making of educational films.

The percent of capacity allocated to formal education is limited to a relatively small proportion for three reasons. First, as stated above, the educational purpose is largely being realized through informal education. NPS *Management Policies* directs that “. . . the service will, to the extent practicable, afford visitors ample opportunity for inspiration, appreciation, and enjoyment through their own personalized experiences-without the formality of program or structure.”²⁵

For restricted zones, and weekend restricted zones on weekends, formal education conducted by noncommercial entities such as the NPS, and accredited schools, colleges, and universities conducting classes for academic credit, is also realizing the educational purpose, and will first be subtracted from that 10% of capacity. The remaining allocation, if any, will be available for commercial formal education in order to realize the educational purpose.

²⁵ NPS *Management Policies* 2006 8.2

3. Scenic Purpose

All visitors are engaging in an informal appreciation of wilderness scenery, as are individuals located outside of wilderness who are looking in from a road or other developed area. Formal appreciation of wilderness scenery, such as art and photography workshops, can foster a more structured understanding of scenery and is also necessary to realize a purpose of the Wilderness Act. An allocation of 5 % of capacity is necessary to ensure that there is sufficient opportunity for formal appreciation of wilderness scenery, including the making of films that focus on wilderness scenery.

The percent of capacity allocated to formal appreciation of scenery is small for a number of reasons:

- The scenic purpose is largely being realized through informal appreciation;
- Policy guidance, noted above, that directs that non-formal opportunities be “ample”;
- Commercial scenic use in restricted and weekend-restricted zones will displace noncommercial use. Under the overall structure of the Wilderness Act, denial of access to noncommercial visitors in favor of commercial visitors should be minimized.

Art and photography classes offered by accredited schools for course credit are not considered commercial and are not restricted by this allocation (see section 5).

B. Day Use

1. Recreational Purpose

Recreational commercial day use is limited by trail rather than zone. Three trails in the wilderness portion of the Tuolumne River corridor receive significant recreational day use: Lyell Canyon, Soda Springs to Glen Aulin, and Mono/Parker Pass (which crosses the Dana Fork segment). The Lower Gaylor trail and Poopenaut trail receive negligible amounts of day use. The Lumbert Dome trail and Cathedral Lake trail are not in wilderness portions of the Tuolumne River corridor. This Plan limits day use based on encounter rates to protect the wilderness recreation ORV and wilderness character. That standard provides that if average encounter rates exceed eight groups per hour more than 80% of the time, management actions will be implemented to reduce use. This encounter rate standard will be used to establish limits for commercial day use.

Encounter rates were recorded for the Lyell Canyon trail and the Mono/Parker Pass trails in 2009 and for the Glen Aulin trail in 2010. An encounter rate of eight groups per hour (see chapter 6, Management Objectives and Ongoing Monitoring for a more complete description) is the standard identified in the Tuolumne Wild and Scenic River Plan for management action. At 66% of the trail capacity (5.28 encounters per hour 80% of the time) the recreational purpose will be considered to be realized, and that trail will be considered substantially full. This trail is designated a “restricted” trail. At 33 % to 65% of that rate (2.64 to 5.27 encounters per hour 80% of the time) trails will be considered “weekend restricted.”

Determining when the recreational purpose is “realized” for day use, like that for overnight use, requires the application of professional judgment. The trail threshold of 66% of capacity means that the trail receives substantial pressure from day use, particularly on the weekends.²⁶ A weekend restricted trail receives pressure on the weekends but receives less use on the weekdays, when commercial use may occur without displacing noncommercial day hikers. This definition of “realization” balances the competing factors of access for

²⁶ Broom, Theodore, and Hall, Troy, *An Assessment of Indirect Measures for the Social Indicator of Encounters in the Tuolumne Meadows Area of Yosemite National Park*, University of Idaho, May, 2010.

commercial recreational groups against the overall preference expressed in the Wilderness Act for noncommercial recreational visitation.

Both the Lyell Canyon trail and the Glen Aulin trail are designated “restricted” trails. Average encounter rates for Lyell Canyon are 7.37 groups per hour 80% of the time. The Glen Aulin trail has an average encounter rate of 6.8 groups per hour 80% of the time. The Mono/Parker Pass trail is classified as “weekend restricted” with an encounter rate of 3.34 groups per hour. Day use on all other trails in the Tuolumne River corridor is negligible, and commercial day use on those trails is not affected by these restrictions. This includes the Lower Gaylor trail (along the Dana Fork), the White Wolf to Pate Valley trail, and the Poopenaut Valley trail. These designations apply during the peak use months of July and August, based on encounter rates and capacity data. Commercial day use during the months of June, September, and October are not affected by these restrictions.

2. Educational and Scenic Purposes

Some day use satisfies a purpose other than recreation. Examples include day hikes that provide formal education and daytime photography or art workshops that realize the educational and scenic purposes of the wilderness area. In addition to the commercial overnight use described in Section 6.A. for the educational and scenic purposes, a small number of commercial groups providing formal education, or engaging in activities such as art or photography workshops that specifically foster appreciation and interpretation of wilderness scenery are necessary to realize the wilderness purpose of the area. Two such groups per trail per day will be permitted regardless of trail designation as “restricted” or “weekend restricted.” The correlation between numbers of hikers and encounter rates is not yet firmly established for these trails so groups per day, rather than users per day, were used to establish the extent necessary. This allocation should minimize the effects of commercial use on crowding and the primitive quality of wilderness character while providing for the realization of the educational and scenic purposes as required by the Wilderness Act. Management of this process is further outlined in Part 8 of this Determination of Extent Necessary document.

C. High Sierra Camps

In 1984, when Congress designated the Yosemite Wilderness, it allowed the continuation of the High Sierra Camps as a non-conforming use and designated the immediate areas of the camps as potential wilderness additions. The only High Sierra Camp in the Tuolumne River corridor is that at Glen Aulin.

The camps are a commercial operation and offer seasonal, rustic accommodations. Under the preferred alternative of the this Plan, the Glen Aulin High Sierra Camp will provide 20 guest beds and offer full meal service to guests and employees. It is typically open from early July to early September. The National Park Service, in conjunction with the concessioner, conducts commercial educational “loop trips” to the High Sierra Camps and provides formal interpretative educational programs to both High Sierra Camp guests and backpackers from nearby campgrounds.

The Glen Aulin High Sierra Camp is a substantial commercial presence and affects the wilderness experience of visitors in the area, as do the visitors, employees, support personnel, and supply trips going to and from the camp. The nature of the camp, with a nonconforming level of development and services, means that the Glen Aulin zone is commercialized compared to those zones that have only more traditional, conforming outfitter and guide services. To prevent further commercialization of this area, the Glen Aulin zone and trail will be managed as “restricted” during July and August when the camp is open, and the commercial formal education provided by the NPS-concession loop trips will be subtracted from the overnight and day use allocations for such use, as well as noncommercial educational use.

D. Disabled Access

NPS *Management Policies* states that the agency must “make available equal opportunities for people with disabilities in all programs and activities.”²⁷ For some people who are mobility impaired, commercial stock services may provide the only reasonable way to access the wilderness. This Determination of Extent Necessary restricts certain types of commercial use in two wilderness management zones (there are 53 such zones in the entire Yosemite Wilderness and 6 in the Tuolumne River corridor) for a portion of the annual season. Like persons without mobility impairments, mobility impaired visitors may not be able to gain access to their preferred destination as part of a commercial trip during the restricted period. However, Yosemite has many other areas where visitors can take stock-assisted trips. As such, there are “equal opportunities” for mobility impaired individuals to use commercial stock trips to visit the Yosemite Wilderness.

E. Other Commercial Use Limits

The Wilderness Act evinces a congressional intent limit commercialization of wilderness. Under the Act, commercial enterprises are proscribed and commercial services may be permitted, but only up to a maximum not to exceed the extent necessary for realization of the wilderness purposes of the Act. In furtherance of this legislative goal, the following policies will be implemented:

- Under the park’s current Wilderness Management Plan, off-trail areas are managed to provide outstanding opportunities to enjoy solitude as well as a more pristine natural environment: Group size is limited to eight instead of fifteen to provide enhanced opportunities for solitude, and stock use is prohibited to prevent stock impacts in areas without the protection of properly designed and hardened trails. In addition, off-trail areas in the Tuolumne River corridor zones of the Yosemite Wilderness will be managed as commercial-free areas. No commercial use will be allowed more than ¼ mile from a maintained trail or public access road (as shown on the latest version of U.S.G.S. topographic maps).
- Overnight commercial trips are limited to two per zone per night and commercial day trips are limited to two per trail per day. There are three reasons for such limits:
 - This limit is necessary to protect areas from impacts due to displacement from restricted and weekend restricted zones. Such displacement, if not properly managed, could result in undesirable physical impacts from grazing or from the creation of new campsites large enough to accommodate large commercial groups of 12-15 people, as well as the social impacts of increased numbers of large groups.
 - This limit will help to prevent “harmful spikes in use”²⁸ and protect the wilderness character of areas to which commercial use may be displaced under the operation of this plan.²⁹ If three or more large commercial groups are all displaced to the most desirable unrestricted zone, crowding could result, detracting from the wilderness experience of noncommercial visitors sharing a zone with such groups.³⁰ A limit of two commercial trips per day in unrestricted zones will prevent this from occurring.

²⁷ NPS *Management Policies* 6.4.10

²⁸ See *High Sierra Hikers v. Blackwell*, 390 F.3d 630 (9th Cir. 2004); *High Sierra Hikers Association v. Weingardt*, 521 F. Supp. 2d 1065 (2007) (holding invalidates the USFS commercial use needs assessment in part because it failed to control harmful spikes in use).

²⁹ For a review of the research demonstrating that harms caused by new impacts to areas not previously impacted are more extensive than harms to previously impacted areas (the “impact curve”), see Hammitt, W. & Cole, D. (1998) *Wildland Recreation: Ecology and Management*, 2d ed., New York: John Wiley.

³⁰ Recent empirical research on visitor experience in the Yosemite Wilderness has documented a visitor preference not to encounter stock parties and large campsites. See Newman, P., Manning, R. E., Dennis, D. F., & McKonly. (2005), “Informing carrying capacity decision making in Yosemite National Park, USA using stated choice modeling.” *Journal of Park and Recreation Administration*, 23(1), 75-89.

- This limit will prevent commercial groups from dominating any one area and therefore further the legislative intent of the Wilderness Act to prevent excessive commercialization of wilderness.

These limits apply in all zones at all times in addition to the other restrictions noted above.

Part 7. Extent Necessary Calculations for the Tuolumne River Corridor

The following is an application of the rules in Part 6 to the wilderness portions of the Tuolumne River corridor. They apply only to the Tuolumne River corridor, and do not apply to commercial use associated with the High Sierra Camps. The allocations are summarized in Tables C-2 and C-3. Some trips may realize all three purposes. Such trips will be allocated according to the purpose allocation that is most favorable to the commercial service provider.³¹

A. Limits on All Commercial Use:

- No camping or travel more than ¼ mile from a maintained trail or public access road.
- No camping in the Mono Parker Pass Zone (also applies to noncommercial use).
- No more than two overnight groups per night per zone.
- No more than two day hikes per day per trail.
- All commercial stock trips are limited to a 1:1.5 stock to person ratio. Accordingly, for every multiple of 3 persons (including employees), only two pack animals are allowed in addition to 3 riding stock. See section 8 B.

B. Limits on Commercial Trips that Only Realize the Recreational Purpose:

1. Overnight Use

- Restricted zones (Glen Aulin, July and August only): No overnight commercial use allowed.
- Weekend restricted zones (Lyell Canyon, July and August only): Commercial use allowed on weekdays; but prohibited on weekends and holidays (This means no overnight stays on Friday and Saturday nights or Sunday night before a Monday holiday. July 4th will only be treated as a holiday during years when the federal holiday forms a three day weekend.
- Commercial trips allowed in the Waterwheel Falls, Pate Valley, and Poopenaut zones the entire season.
- Commercial trips allowed in the Lyell Canyon and Glen Aulin zones all months except July and August.

2. Day Use

- Restricted Trails (Lyell Canyon and Glen Aulin, July and August only): No commercial use allowed.
- Weekend restricted Trails (Mono Parker Pass, July and August only): Commercial use allowed on weekdays (Monday-Friday) only.
- Commercial use allowed on all other trails (Lower Gaylor, Pate Valley, and Poopenaut trails) for the entire season. Commercial use allowed on the Lyell Canyon, Glen Aulin, and Mono Parker Pass trails all months except July and August.

³¹ Such trips are also favorably evaluated under the minimum requirements analysis described in section 9 below because they help to realize multiple purposes at a lower impact than would multiple trips.

C. Limits on Commercial Trips that Realize the Recreational and Educational Purposes:

1. Overnight Use

- Restricted zones (Glen Aulin, July and August only): Commercial use prohibited because commercial education associated with the High Sierra Camp Loop Trips conducted by the National Park Service exceeds 10% of capacity, which makes it unnecessary to allocate additional capacity for commercial use in support of the educational purpose on this trail corridor. A significant amount of noncommercial formal education is also provided by non-NPS institutions in this zone.
- Weekend restricted zones (Lyell Canyon, July and August only): Commercial use allowed on weekdays; weekend and holiday (as defined above) use limited to 84 use nights per month, calculated as follows: Capacity for Lyell Canyon is 125 people per night. 125×8.7 (average number of weekend nights/month) = use nights. 10% of 1088 = 109 use nights. Average noncommercial educational use nights (college classes, etc), from 2009-2010 is 25 use nights. $109 - 25 = 84$ use nights available for commercial formal education.
- Commercial trips allowed in the Waterwheel Falls, Pate Valley, and Poopenaut zones the entire season. Commercial trips allowed in the Lyell Canyon and Glen Aulin zones all months except July and August.

2. Day Use

- Restricted trails (Lyell Canyon and Glen Aulin, July and August): Commercial use allowed (non-commercial educational day use on these trails is negligible)
- Weekend restricted trails (Mono Parker Pass, July and August): Commercial use allowed (non-commercial educational day use on this trail is negligible)
- Commercial use allowed on all other trails (Lower Gaylor, Pate Valley, and Poopenaut trails).

D. Limits on Commercial Trips that Realize the Recreational and Scenic Purposes:

1. Overnight Use

- Restricted zones (Glen Aulin, July and August): Use would be limited to 78 use nights per month, calculated as follows: Capacity for Glen Aulin = 50 people per night. 50×31 (number of nights/month) = 1550 use nights. 5% of 1550 = 78 use nights. Average noncommercial scenic use nights (NPS workshops, etc) from 2009-2010 = 0 use nights. $78 - 0 = 78$ use nights available for commercial scenic appreciation.
- Weekend restricted zones (Lyell Canyon, July and August): Commercial use allowed on weekdays. Use limited to 50 weekend and holiday (as defined above) use nights per month, calculated as follows: Capacity for Lyell Canyon = 125 people per night. 125×8.7 (average number of weekend nights/month) = 1088 use nights. 5% of 1088 = 54 use nights. Average noncommercial scenic use nights (NPS workshops, etc) from 2009-2010 = 0 use nights. $54 - 0 = 54$ use nights available for commercial scenic appreciation.
- Commercial trips allowed in the Waterwheel Falls, Pate Valley, and Poopenaut zones the entire season.
- Commercial trips allowed in the Lyell Canyon and Glen Aulin zones all months except July and August.

2. Day Use

- Restricted trails (Lyell Canyon and Glen Aulin, July and August): Commercial use allowed (non-commercial scenic day use on these trails is negligible).
- Weekend restricted trails (Mono Parker Pass, July and August): Commercial use allowed. (non-commercial scenic day use on this trail is negligible).
- Commercial use allowed on all other trails (Lower Gaylor, Pate Valley, and Poopenaut trails).

**Table C-2.
Commercial Restrictions – Overnight Use and Day Use**

Overnight Use			
For commercial groups that realize:	Other Zones Waterwheel Falls, Pate Valley, and Poopenaut Lyell Canyon and Glen Aulin, all months except July and August	Weekend Restricted Zones Lyell Canyon, July and August only	Restricted Zones Glen Aulin, July and August only
Only the recreational purpose	No off-trail travel 1:1.5 stock to person ratio Two commercial groups per zone per night	No off-trail travel 1:1.5 stock to person ratio Two commercial groups per zone per night Monday-Thursday nights. No overnight use on weekend and holiday nights.	No overnight use
The recreational and educational purposes	No off-trail travel 1:1.5 stock to person ratio two commercial groups per zone per night	No off-trail travel 1:1.5 stock to person ratio Two commercial groups per zone per night Limited to 84 weekend use nights per month	No off-trail travel No commercial use allowed
The recreational and scenic purposes	No off-trail travel 1:1.5 stock to person ratio Two commercial groups per zone per night	No off-trail travel 1:1.5 stock to person ratio Two commercial groups per zone per night Limited to 54 weekend use nights per month	No off-trail travel Two commercial groups per zone per night Limited to 78 use nights per month
Day Use			
For commercial groups that realize:	Other Trails	Weekend Restricted Trails	Restricted Trails
Only the recreational purpose	No off-trail travel Two commercial groups per trail per day	No off-trail travel Two commercial groups per trail per day Monday-Friday No day use on Friday or Saturday	No day use
The recreational and educational purposes	No off-trail travel Two commercial groups per trail per day	No off-trail travel Two commercial groups per trail per day	No off-trail travel Two commercial groups per trail per day
The recreational and scenic purposes	No off-trail travel Two commercial groups per trail per day	No off-trail travel Two commercial groups per trail per day	No off-trail travel Two commercial groups per trail per day

Table C-3. Commercial Restrictions Summary for the Tuolumne River Corridor

Tuolumne River Corridor Summary											
Month	Overnight Use Zone						Trail				
	Poopenaut	Pate	Waterwheel	Glen Aulin	Lyell Canyon	Mono-Parker Pass	Poopenaut	Lower Gaylor	Glen Aulin	Lyell Canyon	Mono-Parker Pass
June						No camping					
July				Restricted	Wkend Restrict.	No camping			Restricted	Restricted	Wkend Restrict.
Aug				Restricted	Wkend Restrict.	No camping			Restricted	Restricted	Wkend Restrict.
Sept						No camping					

Part 8: The Commercial Use Application Process

A. Procedures Applicable to All Commercial Services in Wilderness

Implementation of this Determination of Extent Necessary for commercial services will be integrated into Yosemite’s CUA and SUP application procedures and concession management operations. All entities, including concessioners, CUA holders, and SUP holders desiring to provide commercial services in the designated wilderness of the Tuolumne River corridor shall do the following:

- (1) The concessioner, CUA, or Special Use Permit holder must submit a proposed trip itinerary to the Yosemite Wilderness Office by May 1 or as soon as is feasible. The itinerary must be received prior to any trip entry into the park. The itinerary must provide a schedule of planned trips. For overnight trips, the itinerary must include the dates, point of entry and exit, each night’s camping location, and the group size (including employees). Day trips must include the date, group size, trailhead, and destination. Itineraries received prior to May 1 will be used to assign trips for the summer season and may include a second and third choice of trips.
- (2) For educational and scenic trips, the applicant must submit an explanation of the manner in which the proposed commercial trip meets the educational or scenic purposes, along with copies of, or Internet links to, all advertising and other promotional materials related to that trip; and submit educational syllabus for trip and documentation showing that employees are trained and qualified to provide such education.

B. The Minimum Requirement Concept

By policy, the National Park Service must apply the minimum requirement concept to decisions about commercial use in wilderness.³² The minimum requirement concept is a two part process that determines “if administrative actions, projects, or programs undertaken by the Service or its agent and affecting wilderness character, resources, or the visitor experience are necessary, and if so, how to minimize impacts.”³³

As part of the minimum requirement process, the National Park Service weighs the impacts and benefits to wilderness character of proposed actions in wilderness. Commercial trips that realize more than one purpose accrue more benefit to wilderness character than those that only realize one purpose but have the same amount of impact. For this reason, trips that realize a higher number of purposes will receive preference over those realizing a lower number of purposes when allocating access.

Part of a minimum requirement decision is determining whether an activity is wilderness dependent. If an activity is “wilderness dependent” it means that the activity cannot occur outside wilderness without experiencing a significant loss of value. The wilderness dependence criteria will be used during the application screening process. Commercial trips whose primary purpose is teaching a subject that is not wilderness dependent will be treated as recreational rather than educational. Examples of such topics are: weight loss, yoga, and cooking.

Consistent with this concept, when two commercial groups that are realizing the same number of purposes are competing for the same date in the same location, the lower impact trip will be given preference. When comparing otherwise equivalent commercial stock trips preference will be given to the trip with a lower stock-to-client ratio.

C. Process for Allocating Proposed Trips Outside Lyell Canyon

With the exception of Lyell Canyon, as discussed below, in the event that there is more than one entity that desires to provide commercial services on the same date in the same zone, priority shall be determined by the application of the following steps, in order:

- (1) Each proposed commercial trip shall be awarded one (1) point for each wilderness public purpose (i.e., recreational, educational, scenic) that it realizes. Priority shall be granted to proposed trips with higher point totals;
- (2) Proposed commercial trips that utilize a lower-impact mode of transportation will be given priority over those using higher impact modes of transportation; and
- (3) In the case of otherwise comparable stock trips, the trip with the lowest stock-to-client ratio will be given priority.
- (4) Any remaining conflicting proposed commercial trips after the application of steps (1) through (3) above will be resolved through a lottery for proposed commercial trips that will be conducted on May 1 of each calendar year.

³² NPS *Management Policies* 2006 6.4.4

³³ NPS *Management Policies* 2006 6.3.5

All trips proposed after the May 1 lottery will be allocated on a first-come, first-served basis. With respect to trips requested on the same date, any conflicts over requested dates and trailheads will be resolved by the application of steps (1) through (4) above.

D. Process for Allocating Proposed Trips in Lyell Canyon

Stock use in Yosemite is geographically concentrated such that 90% of the use takes place on only 20% of the trails. One result of this concentration of use is that those trails frequented by stock are built and maintained to withstand such use, while other trails in the park may not be. For this reason, the potential physical impacts to wilderness character of displacing a stock group to an area outside Lyell Canyon are greater than the potential displacement impacts caused by a commercial hiking group.³⁴ In addition, stock trips displaced to other areas of the park may cause new impacts to infrequently used campsites and meadows.

In contrast, commercial hiking groups have a wider range of resilient locations to travel to within the park's wilderness. If displaced from the Tuolumne River corridor by the operation of this Determination of Extent Necessary appendix, commercial hiking groups are likely to cause less physical impacts elsewhere compared to those associated impacts due to stock displacement. Furthermore, hiking groups have greater opportunities to conduct their trips earlier in the season while stock groups must wait for the designated opening date of a particular area.

For these reasons, the process for allocation of commercial trips in Lyell Canyon shall be the same as that described in Section 8.C. above, except that commercial stock groups will be given priority over commercial non-stock trips in Lyell Canyon for the available dates in the May 1 lottery, and in any first-come, first-served trips allocated after May 1. Proposed commercial stock trips with a higher point total (i.e., those earning 2 points because they are recreational and educational) in step (1) will receive priority over other commercial stock trips with a lower point total (i.e., those receiving only one point because they are purely recreational). Proposed commercial stock trips with a lower stock-to-client ratio will receive priority over proposed commercial stock trips with a higher ratio.

E. Compliance

Wilderness Rangers routinely check on commercial groups in the field in order to ensure compliance with park regulations. An assessment of the extent to which a commercial service provider has met its objective with respect to satisfaction of wilderness purposes will be added to the CUA contact form, for example to evaluate the claim that wilderness education is being provided by qualified personnel in addition to recreation. Failing to provide promised educational or scenic opportunities may be grounds for limiting a commercial service provider's ability to provide future commercial trips in the Yosemite Wilderness.

³⁴ One of the most persistent findings in the recreation management literature is that new impacts to areas not previously impacted are more extensive than harms to previously impacted areas (the "impact curve"); see Hammitt, W. & Cole, D., 1998 *Wildland Recreation: Ecology and Management*, 2d ed., New York: John Wiley. This is particularly true in the case of stock impacts to sensitive meadow ecology. See Moore & Cole et al., 2000, "Meadow response to pack stock grazing in the Yosemite Wilderness: Integrating research and management" *USDA Forest Service Proceedings* RMRS-P-15, v.5; McClaren & Cole, 1993, *Packstock in Wilderness: Use, Impacts, Monitoring, and Management*, USDA, Intermountain Research Station, Gen. Tech. Rep. INT-301.

Part 9: The Reassessment Process

The limits on commercial use imposed by this plan will be recalculated when significant changes in use patterns occur. Two current actions may affect this process. The first is research on wilderness travel patterns that was completed in 2010. When the results of this study are released, trailhead quotas may be adjusted. As a result, travel patterns may change in a way that would affect the results of a Determination of Extent Necessary. In addition, the National Park Service has taken the initial steps of rewriting the Yosemite Wilderness Stewardship Plan, which will include a Determination of Extent Necessary for commercial services in the entire Yosemite Wilderness. At that time both visitor use patterns and the methodology utilized in Determinations of Extent Necessary may be evaluated.

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