Yosemite National Park

National Park Service
U.S. Department of the Interior

Tuolumne Wild and Scenic River

Final Comprehensive Management Plan and Environmental Impact Statement







February 2014
Providing Access and Protecting Resources

Volume Three

Yosemite National Park

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

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Appendix A:
Public Comment and Response Report

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Yosemite National Park

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

Public Comment and Response Report

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Introduction

This report summarizes concerns expressed in public comment letters submitted on the *Tuolumne Wild and Scenic River Draft Comprehensive Management Plan and Environmental Impact Statement* (TRP DEIS) and National Park Service (NPS) responses to substantive concerns. The NPS released the TRP DEIS for public review from January 8, 2013 through March 18, 2013. Public comment letters were received through the Planning, Environment, and Public Comment (PEPC) website at *http://parkplanning.nps.gov/yose_trp,* by email at *yoseplanning@nps.gov*, and by U.S. mail. Public comment resulted in several changes to the alternatives presented in the DEIS. The main theme of public comments and the resulting changes in the *Tuolumne Wild and Scenic River Final Comprehensive Management Plan and Environmental Impact Statement* (TRP FEIS) are summarized below and are detailed in the NPS response to concerns in this report.

Public Comment Analysis Methodology

The NPS considered and analyzed all correspondence received during the public comment period. Every letter received was reviewed and analyzed by staff in stages. In the first stage of analysis, staff read every letter to determine the author(s) discrete points, each of which was considered a "comment." Next, each discrete comment was assigned a code associated with a particular resource topic or element of the plan, such as cultural resources or camping. Comments that discussed multiple issues were coded to multiple topics if necessary.

Once letters were coded for individual comments, similar comments were grouped together, and a "concern statement" was generated to summarize the main points or common themes expressed. The NPS identified concern statements throughout the coding process. The concern statements were derived directly from public comments and were supported by quotes from original letters. The concern statements are intended to help guide the reader to comments on the specific topics of interest, but they do not replace the actual comments received from individuals. Rather, concern statements should be considered a means for accessing information contained in original letters.

Concern statements and their supporting comments were further reviewed as "in-scope" or "out-of-scope," as well as "substantive" and "non-substantive." In-scope concerns were those that addressed the structure and findings of the TRP DEIS, while out-of-scope concerns included those comments addressing issues unrelated to the TRP DEIS or the requirements of a wild and scenic river comprehensive management plan (such as park operational details). Substantive concerns included public comments that:

- questioned, with reasonable basis, the accuracy of information in the DEIS
- questioned, with reasonable basis, the accuracy of environmental analysis
- developed and evaluated reasonable alternatives other than those presented in the DEIS
- caused changes to the proposal or alternatives
- suggested factual corrections

Comments in favor of or against the proposed action or alternatives, or comments that only agreed or disagreed with NPS policy, were considered non-substantive, based on guidance from NPS *Management Policies 2006*.

The concern statements and supporting comments were then screened to determine whether further clarification was needed in the DEIS, or whether modification of the preferred alternative was necessary. In the latter case, concerns and supporting comments from original letters were brought forward to park management for further deliberation. As a result of this deliberation, several substantive comments led to changes in the TRP FEIS.

All public comments are part of the administrative record for this project. All concerns identified in the public comment analysis process are included in this report. However, only in-scope and substantive concerns have a NPS response (see "Using This Report", below).

Results of Public Comment Analysis

During the 70-day public comment period, the park received 1,280 public comment letters: 410 letters from 373 individuals, 2 federal agencies, 1 state agency, 9 county government agencies or commissions, 1 town or city government, 5 businesses, 10 conservation/preservation organizations, 8 recreational organizations, and 1 American Indian tribe and/or group. In addition, the NPS received 1 form letter from a conservation/ preservation organization that was signed and forwarded by 870 individuals. The analysis of these letters identified 1,632 discrete comments, from which 529 general concern statements were generated. The major themes of the comments received included (in no particular order):

- comments both for and against retaining High Sierra camps in the river corridor, including Glen Aulin High Sierra Camp
- comments, both for and against, commercial and administrative stock use on trails
- comments on the impacts of stock use on visitor experience, both negative and positive
- clarifications requested for proposed encounter rate standards in wilderness
- requests to open some or all segments of the Tuolumne Wild and Scenic River to whitewater boating
- comments and clarifications requested regarding the amount and types of parking proposed at Tuolumne Meadows
- comments on the use of shuttles and public transit
- comments, both for and against, removing the public fuel station at Tuolumne Meadows
- comments against removing the mountaineering school at Tuolumne Meadows
- clarifications requested for water use and wastewater treatment at Tuolumne Meadows and suggestions for improvement

Using This Report

This report presents the public concern statements organized by topic, along with "supporting quotes," which are verbatim excerpts from individual public comment letters. These supporting quotes are followed by information as to whether the comment author was an individual, organization (with a general description of the organization type), agency, or American Indian tribe or group, and the assigned letter number. For example, "(Individual, #2)" is a comment from an individual who is unaffiliated with any organization, agency, or American Indian tribe or group and who submitted the second letter received.

Concerns that were considered substantive include a response from the project team. Responses are not provided for non-substantive concerns (e.g., comments that oppose the proposed action but do not provide a substantive rationale, comments that do not meet the requirements listed above). NPS responses to concern statements in this report detail changes made to the FEIS in response to public comment and/or point to sections of the TRP FEIS for further information or clarification. Additionally, some responses explain why comments were considered, but were ultimately dismissed from further analysis.

Following the list of public concerns and responses to substantive concerns, this report also presents a short summary of comments considered beyond of the scope of this planning effort.

In addition, a list of technical corrections made in response to public comment, from spelling errors to requests to edit the text, is included in a short section called "Requested Technical Corrections" at the end of this report.

Public Concerns and Responses

Purpose and Need for the Plan

Concern ID: 1 **The National Park Service (NPS) should provide visitor access for a variety of visitors as a way to encourage public advocacy for national parks.**

I also favor use of the park where more people get to see and use the beautiful natural resources. Open it up and protect by education and enforcement of rules already on the books. Don't lock it down where only a few get to enjoy it. People need a place to return to nature and experience it. The best use is nourishment of the people, not the profit of a few.

[Individual, #32]

Yosemite is one of the most important places in our country, bar none. It needs/deserves all the protection it can get. Having said that, as a California resident for over 50 years, I visited Yosemite at least once a year, and often more. And I introduced my grandchildren to its wonders. Since I've moved to Oregon I no longer live close enough to have that priviledge. When I visited I enjoyed the back country and the amenities in the park. I think that whatever can be safely done to encourage people to visit and overnight in the park, should be done. There is something unmeasurably wonderful that happens when spending a night in Yosemite. If the plan to increase more visitors can be done in an appropriate manner, that is what I would vote for. As the great man said "We all need beauty as well as bread.

[Individual, #177]

Please consider not changing any of the available campsites, lodging, day use permits and wilderness permits. Please don't limit this experience to an elite few. Please make as much space as useable as possible for as many people. This is how we spread the word about our beautiful planet. This is how we create citizens who will make small changes in their lives to help us all. This is how we gain voter support for longer term gains.

[Individual, #308]

Response: Wild and scenic rivers, like national parks, are protected for the benefit and enjoyment of present and future generations. The Secretaries Guidelines for River Management (USDI and USDA 1982) advise managing agencies to address the kinds and amounts of public recreation, public facilities, and resource uses that the river area can sustain without adverse impact or degradation of river values. The Wild and Scenic Rivers Act directs that designated rivers should be administered to protect and enhance their outstandingly remarkable values, further specifying that the ""primary emphasis shall be given to protecting its aesthetic, scenic, historic, archaeologic, and scientific features."

The act also directs that river management plans should address resource protection, development of lands and facilities, and user capacities. The Secretaries Guidelines for River Management (USDI and USDA 1982) specify that management plans should establish a user capacity program that addresses the kinds and amounts of use appropriate to the corridor. Within this guidance, the *Tuolumne River Plan* strives to protect and enhance the two outstandingly remarkable recreational values of the Tuolumne River, which recognize that a variety of visitors value the river corridor for both its wilderness qualities and for its rare and easy access to the high elevations of the river. The plan minimizes restrictions on kinds and amounts of use to those necessary to protect other river values, primarily the river's free-flowing character, water quality, subalpine meadow and riparian habitat, and archeological sites. The preferred alternative in the final *Tuolumne River Plan* allows a maximum visitor capacity that is slightly greater than the maximum existing use. The diversity of noncommercial recreational opportunities will increase under the plan with the addition of whitewater boating. The only commercial activity to be eliminated is stock day rides.

Concern ID: 2 The NPS should prioritize river protection and ecological restoration over recreational use.

Please make protection and restoration of ecosystem values your top priority in the Tuolumne River plan. This should come ahead of continuing present levels of use. Visitors to the Park and the Tuolumne River corridor currently have significant negative impacts which not only harm the natural values of the river but mean that future visitors will have a greatly diminished experience.

I have visited the upper Tuolumne and both it's forks many times and I am particularly concerned about Tuolumne Meadows. I am constantly saddened at the damage being done to the river corridor and surrounding land by the large numbers of people and vehicles which are allowed close access to the river.

There is simply too much crowding and congestion of visitors at Tuolumne Meadows. Put restoration ahead of keeping the same visitor numbers.

[Individual, #64]

Yosemite National Park is being loved to death. Too many people create too much impact on the ecosystem of the park. More should be done to protect the river and it's ecosystem than to increase visitor numbers.

[Individual, #125]

The goal of the plan needs to focus on stopping and reversing the consequences of human use and abuse of the land. Along with the historic overuse, there have been added in recent years massive numbers of short term visitors who mostly arrive in personal vehicles, park anywhere, rush about for a brief period without making any real connection to the area, and driving off at the end of the day. Those who stay for multiple days have the time to walk from place to place and/or take the shuttle and return to their lodging at the end of the day. They have the opportunity to learn to appreciate and care about Tuolumne Meadows that too many day visitors do not. Increasing day use is unthinkable. The goal should be to significantly reduce those numbers

[Individual, #270]

Response: The NPS prioritizes river protection and ecological restoration over recreational use, as required by both the Wild and Scenic Rivers Act and the NPS Organic Act. As mentioned in the response to concern #1, the Wild and Scenic Rivers Act directs managing agencies to administer rivers to protect and enhance their outstandingly remarkable values, with primary emphasis given to protecting aesthetic, scenic, historic, archaeologic, and scientific features. While the TRP FEIS identifies two recreational ORVs in the river corridor, actions in the EIS ensure that ecosystem values and river integrity are protected and enhanced, as reflected in the suite of biological and geologic/hydrologic ORVs.

Concern ID: 3 The NPS should maintain the historical flavor of the park.

The Park Service needs to remember that the park belongs to the public, not just the government. Maintaining the historical flavor of the park should not be ignored just because it is inconvenient or contrary to the wishes of extremists.

[Individual, #277]

Response: Alternative 3 in the TRP DEIS was developed to reflect the historical flavor of the park, respond to those with strong traditional ties to the Tuolumne River corridor, and preserve many aspects of the Tuolumne Meadow historic setting. The NPS selected alternative 4 as the preferred alternative, as it seeks to balance desires to retain a traditional Tuolumne experience with the need to protect river values, reduce development, and make visitor use more sustainable. Visitor use management would become more restrictive in terms of where visitors could park and access sensitive resources, such meadow and riparian habitat. However, all traditional day and overnight activities except commercial stock day rides would be retained. The traditional value of the Tuolumne River corridor as a quieter, wilder setting in contrast to the popular Merced River and iconic Yosemite Valley would be enhanced under the final plan. Impacts on historic properties are analyzed and would be mitigated in compliance with the National Historic Preservation Act under any of the action alternatives.

Concern ID: 4 **The NPS should consider an alternative with no visitor access to the Tuolumne River corridor.**

Ban humans from the Tuolumne River entirely.
[Individual, #26]

Response: Wild and scenic rivers, like national parks, are protected for the benefit and enjoyment of present and future generations. WSRA makes clear that visitor use is to be allowed in wild and scenic river corridors. The Secretaries Guidelines for River Management (USDI and USDA 1982) advise managing agencies to address the kinds and amounts of public recreation, public facilities, and resource uses that the river area can sustain without adverse impact or degradation of river values. Closing the river corridor to all visitor access, unless such a restriction was necessary to protect river values, would not be consistent with the law or the guidelines for implementing the law.

Concern ID: 5 **The NPS should continue to protect the Tuolumne River through the wild and scenic river designation.**

Keep the Tuolumne Wild and Scenic
[Individual, #40]

We urge you to protect the River through Wild & Scenic designation. Without the designation, we fear that the Meadow may become even more vulnerable to damage than it already is.
[Individual, #65]

Response: The NPS manages the Tuolumne River in compliance with all applicable federal laws and regulations, including the Wild and Scenic Rivers Act, the NPS Organic Act, the National Historic Preservation Act, and the Wilderness Act.

Concern ID: 6 **The NPS should not let the Wild and Scenic Rivers Act drive decision-making at Tuolumne Meadows.**

Here you have prepared this extensive and expensive report that forgets that visitors come to Tuolumne Meadows for the meadows and the mountains, not the river. Everything is focused on preserving the river and ignoring why the visitors have come to TM in the first place. No one comes to Tuolumne to focus on the river. The come to enjoy the meadows, wild flowers, the scenery, the climbing and the hiking

. . .I even noticed on page 8-168, Volume 2, that enjoying the river isn't even on the list of activities that visitors come to TM to enjoy! Were these planners reading their own findings?

How did these values get so misplaced? How did 'wild and scenic river' come to drive the decisions about activities at TM? Yes, it's important to protect our rivers, but making National Park land difficult to visit and eliminating facilities that make it possible for visitors to enjoy what they've actually come to see shouldn't be the result.
[Individual, #1]

Response: Most of the Tuolumne Meadows area lies inside the congressionally designated boundary of the Tuolumne Wild and Scenic River, making it subject to the requirements of the Wild and Scenic Rivers Act. As part of Yosemite National Park, this area is also managed under the provisions of the laws, policies, and regulations applicable to all units of the national park system. Section 10(c) of the Wild and Scenic Rivers Act specifies that in case of conflicts between the mandates of the two systems, the more restrictive provisions apply. The provisions of the Wild and Scenic Rivers Act are more restrictive regarding the protection and enhancement of river values. The management of other natural or cultural resources and visitor activities that do not affect river values are generally managed under the laws, policies, regulations, and guidelines applicable to the management of Yosemite National Park.

Concern ID: 7 The NPS should not address social issues in the TRP.

Much of the DEIS addresses social issues. People complaining of horses, horse manure on the trail or seeing packers is not an environmental issue. This DEIS makes decisions based on social biases and concerns. It is using the Wild and Scenic Rivers Act language to do social engineering.
[Business, #320]

Response: The NPS is required by NEPA to assess the impacts of the *Tuolumne River Plan* on the human environment, including sociocultural aspects of the environment. NEPA also requires public scoping at the outset of planning and public review and comment on NPS plans before they are implemented, both of which introduces a wide variety of people's interests and concerns into the decision-making process. The NPS uses the best available social science to analyze impacts on visitors' park experiences, and it analyzes public comments and concerns through an unbiased process that is made available for public review.

Concern ID: 8 The NPS should be visionary and courageous in planning for the future of Tuolumne Meadows.

IN SUMMARY, CSERC URGES PARK PLANNING STAFF AND THE PARK LEADERSHIP TEAM TO NOT TAKE SMALL, INCREMENTAL STEPS THAT BASICALLY MAINTAIN THE STATUS QUO AT TUOLUMNE MEADOWS. DECADES OF INCREASING USE AND CONCENTRATED RECREATION DIRECTLY AROUND THE CORE AREA HAVE RESULTED IN DIMINISHED ECOLOGICAL HEALTH AND A REDUCED QUALITY OF THE VISITOR EXPERIENCE.

CSERC PRESSES PARK STAFF TO BE VISIONARY, FAR-THINKING, COURAGEOUS, AND GROUNDED IN THE BELIEF THAT DOING WHAT IS BEST FOR THE NATURAL RESOURCES OF THIS PRECIOUS PLACE WILL BE LOOKED BACK AT BY FUTURE GENERATIONS AND PRAISED.
[Conservation/Preservation, #241]

Response: The TRP provides a range of visions for Tuolumne Meadows, from alternative 1's reduced and dispersed use with a more wilderness-like setting, to alternative 2's allowance for more visitors to the area, but with greater restrictions on their movements. All of the alternatives were developed in compliance with federal and state laws, policies, and guidelines, including the Wild and Scenic Rivers Act. Under all of the action alternatives, both the visitor experience and ecological conditions will be improved due to more efficient designated parking, clear trailheads and signage, and extensive restoration. Please also see the response to concerns #1 and #2, above.

Planning Process

Concern ID: 9 The NPS should consider public input on visitor use and facility development during the planning process.

As a retired National Park Service ranger, I understand the mission of the Service to "preserve the parks for the enjoyment of future generations." But all too often (and l worked in the old Rocky Mountain regional office for a time) I observed that mission as an oxymoron to prevent legitimate uses and ideas from being implemented. We used to refer to it as the Nikita Khrushchev syndrome: What you have is negotiable, what we have is not negotiable." Thus when the preponderance of users sought to add river camp sites, or improve boat ramps their request was denied on the basis of preserving the Park and the difficulties presented by the NEPA process. But when the National Park Service wanted to build a new road, visitor center, public campground or other developments they simply wrote and selected an alternative, then asked for public input for the pre-selected alternative, did the appropriate studies and went ahead with what they wanted to do. Please do not follow that format in this process.
[Individual, #372]

Response: Public concerns were formally compiled and analyzed at two critical steps in the planning process: during public scoping to identify the major issues to be addressed by the plan and during the public review of the TRP DEIS, to identify needed revisions to the draft plan. A detailed account of each of these steps and the comments received is provided in the Tuolumne Wild and Scenic River Plan Public Scoping Report (NPS

2006m) and in the introduction to this report. In addition, the park staff conducted numerous "planner-for-a-day" workshops in 2007, 2008, and 2009 and distributed workbooks in 2007 and 2008. Both efforts were ways of soliciting public input early in the decision-making process. Throughout the planning process, park staff held meetings in gateway communities to discuss the plan and potential effects on local economies. In 2009 and 2010 park staff shared draft alternatives at numerous public meetings held in Tuolumne Meadows and at public open houses in Yosemite Valley to give the public a preview of the alternatives that would be assessed in the draft environmental impact statement. In all, more than 120 public meetings and presentations on the TRP took place during the plan's development. This outreach is summarized in chapter 10 of the TRP FEIS. The alternatives in the TRP FEIS closely reflect these years of public comment. In addition, the NPS revised the preferred alternative in several ways in response to comments on the TRP DEIS.

Concern ID: 10 The NPS should provide more detail in the alternatives descriptions for more effective public review.

First, I have to say that I wasn't really satisfied with any of the alternatives that are being presented. I feel that there are still some questions that weren't answered for the public that may affect which alternative they would like the best. For instance, what kind of fencing is being suggested for use along the trails in the meadows. How tall would the fencing be? Would it be chain link, wood pasture fencing or something else? It makes a difference. Or would boardwalks be used instead of fencing? These types of things are important in helping people know which alternative they would prefer. Also, how many of Loop A campsites in the campground would be removed? And where would the Loop A road be aligned to?

[Individual, #299]

Response: The TRP FEIS has been revised to include more information about site plan details, such as fencing, boardwalks, and campsite numbers. Also, a "virtual tour" has been added to alternatives 1-4, describing how visitors would typically experience the river corridor given the facilities and services provided under each alternative in chapter 8. See also the responses to concerns #372 (fencing) and #336 (campground Loop A).

Concern ID: 11 The NPS should clarify the extended planning timeframe for the TRP DEIS.

The NPS began the TRP planning process in 2006 by starting public scoping, with a stated timeline of two and a half years. The draft plan has now been released seven years later. While the NPS has done an excellent job of soliciting public input along the way, with public meetings supported by workbooks and other tools, the past several years of planning for the Tuolumne have not been as engaging. It is unclear to the public why the NPS did not release a plan until now.

[Business, #383]

Response: The U.S. Ninth Circuit Court of Appeals' 2008 decision in Friends of Yosemite Valley v. Kempthorne identified specific deficiencies in the *Revised Comprehensive Management Plan for the Merced Wild and Scenic River* (prepared by the NPS in 2005). However, the court's opinion has implications beyond the *Merced River Plan*. The Court's decision interprets provisions of the Wild and Scenic Rivers Act and the 1982 Secretarial Guidelines for River Management (USDI and USDA 1982) that apply to all wild and scenic rivers. As a result, the decision constitutes judicial precedent for other comprehensive wild and scenic river management plans. It was appropriate for the NPS to delay production of the TRP while it awaited and consulted judicial precedent interpreting the Wild and Scenic Rivers Act and the Secretarial Guidelines when preparing the TRP.

Concern ID: 12 The NPS should clarify programmatic planning at the park and which plans have precedence over others.

On 2-10 the TRP touches on the subject of issues that will not be addressed by the Tuolumne River Plan. Given the list of other planning documents that are cited and the admission that other strategies will overlap the TRP, why is there not a programatic environmental review and planning process being adopted. Furthermore, how is the public going to know or understand which plan takes precedent on a given impact when it appears that the National Park Service retains the right to freely move between these sometimes competing actions at its sole discretion with little warning or explanation being given to the public at the time the decision is made.
[Individual, #406]

Response: In the hierarchy of NPS planning for all units of the national park system, a documented, comprehensive, logical, trackable rationale for decisions is created through several levels of planning that are complementary and become increasingly detailed (see NPS *Management Policies 2006*). At the top of this series of plans are comprehensive plans, like general management plans and comprehensive river management plans, followed by program-specific management plans, strategic (budget and workload) plans, and project-specific implementation plans. The TRP is a comprehensive, long-term plan for the segments of the Tuolumne Wild and Scenic River inside Yosemite National Park. It serves, for the river corridor, the same purpose served by the General Management Plan for Yosemite National Park, which is to establish a clearly defined direction for resource preservation and visitor use. NPS *Management Policies 2006* state that comprehensive river management plans for wild and scenic rivers have requirements very similar to a general management plan, so units usually refer to these plans as GMPs. In this case the TRP will amend the Yosemite National Park General Management Plan to update the comprehensive plan for the park as a whole.

Tuolumne River Plan Document Organization

Concern ID: 13 The NPS produced a clearly written, high-quality document.

Thank you for drafting such a well considered plan.
[Individual, #10]

I congratulate the team on the quality of these documents! They are well organized and easy to read.
[Individual, #54]

The Tuolumne River Plan presentation is very clear and interesting.
[Individual, #195]

Response: No response needed.

Concern ID: 14 The TRP DEIS documents are poorly presented.

From what is available on the web I have found it very difficult to see exactly what you are going to do. You should make that more clear.
[Individual, #85]

You have done a very poor job of presenting to the public exactly what you intend to do. It seems to be hidden in volumes of data which one must first download and the sort through. Be more transparent! I had to read a newspaper article to learn about some of the poorly considered changes you had in mind.
[Individual, #92]

Reading the summary of the Draft Tuolumne River Plan, I found it to be arbitrary and lack justification for some of its most controversial actions.
[Individual, #298]

Response: To aid the reader in understanding the alternatives, a "Virtual Tour" section was added to the beginning of each alternative description in chapter 8. These contain a more concise description of the visitor experience and key actions proposed under each alternative. Also see the Executive Summary, which contains a section on the "Organization of this Draft Plan and Environmental Impact Statement."

In more detail, the TRP compiles a considerable amount of information about the future management of the Tuolumne River corridor, as it must comply with the planning requirements of the Wild and Scenic Rivers Act, NEPA, and the NHPA. Some of the required components of the river management plan (determination of boundaries and classifications, the process required to assess water resources projects, the determination of outstandingly remarkable river values and the standards to which they will be managed, and the approach that will be used to establish a user capacity for the corridor) have no feasible alternatives. These components are presented in chapters 3-6 of the TRP DEIS and FEIS. Other required components (some specific resource management actions and the details of the user capacity program, including kinds and amounts of use and related facilities and services) require an assessment of feasible alternatives and their impacts in compliance with NEPA and the NHPA. These components are addressed in chapters 7-9 of the TRP FEIS. The actions common to all alternatives, including the information in chapters 3-6, was not repeated for each alternative, to keep the document as concise as possible. Once an alternative has been approved through the record of decision, a final plan will be prepared that includes only the components required by the Wild and Scenic Rivers Act. At that time, the proposals of the approved alternative (only) will be incorporated into chapters 3-6, and chapters 7-9 of the TRP FEIS will be removed, making the final plan a straightforward presentation of each of the planning requirements of the Wild and Scenic Rivers Act. Because NEPA requires a balanced presentation of all planning alternatives, a complete, single plan cannot be presented until the record of decision is final.

Concern ID: 15 The TRP is reasonable and well-balanced.

The plan sounds quite reasonable!
[Individual, #103]

This set of choices seems very reasonable for maintaining the integrity of the park while allowing maximal visits. The challenge always is to strike the right balance.
[Individual, #109]

I think this plan is the right one. I have used many features in the Tuolumne area for 30 years and see the need to protect this natural recourse without denying access to those of us who love it. Thanks for your good work.
[Individual, #140]

Response: No response required.

Concern ID: 16 The NPS has provided informative materials for public review of the TRP DEIS.

Thank you for the opportunity to comment on the Tuolumne River Draft Management plan. I commend you on the materials provided to the public. They certainly made it easier to see both differences and similarities between the alternatives. I found both the 19 page handout (made available at the public outreach sessions) and the "Summary of Comparisons of Alternatives" in the Draft document itself (pages 7-101 through 7-118) helpful. They were a good introduction and handy reference during reading. The maps also were very well done and a fine concentration of info and an aid in visualizing each plan.
[Individual, #356]

The Planning Team has done a teriffic job to help one understand the dynamics of the Tuolumne River Plan. The Alternitives presented in theme formate is very helpful
[Individual, #243]

Overall I found the document to be well written and comprehensive
[Individual, #245]

Response: No response required.

Concern ID: 17 The NPS-Yosemite planning staff is commended for their effort on the TRP.

I know I have a lot of comments, but spending so much time in Tuolumne Meadows has made me love this place even more. I want to say a big thank you to the TRP Planning Team. I have met some of you and do have some grasp on how difficult and complex this plan has been to develop. Your hard work is very much appreciated by me and many others. I know that my comments are in good hands and I thank you again for all your hard work on behalf of Tuolumne and the future of Yosemite.
[Individual, #359]

I would like to thank the Planning Department for all of their work in preparing this document, Webinars and public meetings. I especially appreciate the Webinars since I am not often able to attend a public meeting and it is a great way to get clarification on aspects of the plans.
[Individual, #80]

Thank you all for the amazing work you have in re to the plan & no doubt you will continue to do so as this process nears its end. Yosemite National Park and all of us are better for it.
[Individual, #410]

Response: No response required.

Public Involvement

Concern ID: 18 The NPS has successfully incorporated public scoping comments and subsequent public input into the TRP DEIS preferred alternative.

I am surprised and pleased that Alternative 4 (Preferred Alternative) comes close to being what I would consider a realistic optimum plan for Tuolumne Meadows and the Tuolumne River (I have no hope that Hetch Hetchy dam will be eliminated in my lifetime). Alternative 4 takes into account several excellent suggestions from the previous comments I was not confident would be part of the Preferred Alternative. The aspects that differ from the ideal are understandable when considering the previous comments throughout this planning process. Everyone involved in formulating this plan should be commended for incorporating the various ideas expressed in response to the scoping and draft comments to formulate Alternative 4.
[Individual, #175]

Response: No response required.

Concern ID: 19 The NPS did not adequately capture public concerns during the public scoping process.

On page 2-5 the TRP discusses the scoping process and how public comments were recorded and consolidated. As expressed during that process and reiterated here, I do not believe the National Park Service captured correctly all concerns nor do I believe the scoping documents adequately summarized all issues that were raised by the public. The National Park Service should acknowledge that it is presenting an abridged report on public scoping and clarify that some editorial license was committed in consolidating its impression of the public's input. Subtle or not, the rewording of public input is a concern to some of us that took the time to go through that part of the preparation of the TRP.
[Individual, #406]

Response: The NPS disagrees. During the public scoping period, written responses were received at 16 public scoping meetings and at the park by fax, email, and U.S. mail. A total of 457 individuals and organizations responded. Each response was carefully reviewed by multiple staff, and individual ideas were identified and assigned a code according to their subject matter. A total of 4,023 discrete ideas, called 'comments', were

identified. These comments were then grouped into 945 "concern statements," which were common ideas expressed by individuals or groups. These ideas (public concerns and interests), and up to 3 representative quotes from the individual letters received that related to each idea, were compiled into a Public Scoping Report for the *Tuolumne River Plan*. An individual commenter's language might not have appeared in a concern statement, or a representative quote, because the park received numerous comments on a particular issue. In the interest of reducing the bulk of the document, the best (i.e., most clearly stated) representative quotes for that issue were printed. These summary concern statements and their supporting quotes were reviewed extensively, over a period of several months, to ensure they captured all of the ideas submitted by the public. In addition, while a public scoping report summarizes public comment; every letter submitted in the public scoping process was provided online for review for those who preferreded to not use a summary document. Each letter was also entered into the administrative record for the project internally, and these letters were referred to frequently during the alternatives development process. The alternatives were organized around the central themes from public comment, and the final preferred alternative reflects many changes incorporated into the alternatives in response to public comment on the TRP DEIS.

Concern ID: 20 The NPS has provided multiple opportunities for the public to be involved in the TRP DEIS planning process.

On behalf of the groups I represent, I would like to express appreciation for the significant time and effort you and your planning staff have expended to inform the public about the development of the Tuolumne Wild and Scenic River Draft Comprehensive Management Plan and Environmental Impact Statement and to solicit our comments. I look forward to actively participating in this process as it moves forward.
[Individual, #390]

In summary, I again really want to convey how appreciative I am for you encouraging the public to comment on these alternatives. I can only imagine how tedious and time consuming it will be to review all of the submissions you will receive. Tuolumne Meadows is an important part of my life and my children's lives as it is for many others I am sure. I wish that nothing would change in the meadows, but I know that in order to protect it there will have to be some changes. Hopefully, this will be achievable with as little changes needing to be made as possible.
[Individual, #299]

It is clear from the prolific amount of analysis and information in the Tuolumne Wild and Scenic River Management Plan, that Park planners have invested a huge amount of time and effort into the thick Tuolumne River Plan document. The extensive amount of public outreach, webinars, and in-Park meetings all reflect the Park's commendable efforts to engage the interested public and to provide a reasonable range of alternatives for consideration.
[Conservation/Preservation, #239]

Response: No response required.

Concern ID: 21 The NPS should make it clear that the public can comment on specific components of each alternative and offer variations for consideration.

The TRP should also have made it clear that the component parts of each alternative could be commented upon in isolation and variations offered back to the National Park Service in rebuttal to what is being proposed. For example, the fuel station should be retained in all alternatives for many reasons including the fact that tourists that have access to hybrid vehicles might use them if they have assurances of finding fuel at Tuolumne Meadows. Those supportive of a more "self-reliant" experience might still want to see Glen Aulin kept at 32 beds. People against the expansion of the public transit service might otherwise support Alternative 4 if this component is deleted.
[Individual, #406]

Response: The NPS does not believe this was an issue during the TRP DEIS public review period. The NPS clearly welcomed public comment on any and all aspects of the TRP DEIS in its outreach materials, webinars, and public meetings. The majority of public comment received on the TRP DEIS referred to specific

components of the alternatives, and many commenters suggested that parts of one alternative be incorporated into another alternative.

Concern ID: 22 Because the TRP DEIS and Draft Merced River Plan/EIS (MRP DEIS) were provided for public review simultaneously, some of the public might not be commenting on the TRP DEIS.

I hope you will seriously consider these comments. Because of all the attention to the Merced River Plan which was released at the same time, I fear that the many users and lovers of Tuolumne Meadows region have paid little attention to the release of this plan. I expect that these comments may represent the views of some other people who love and support Yosemite National Park and its spectacular wild river and wilderness resources, but who do not want to see responsible visitor use that is appropriately managed to protect natural resources unduly limited.
[Individual, #257]

Response: NPS Director's Order 12 specifies a minimum comment period of 60 days for a Draft EIS. Recognizing that both documents would take a considerable amount of time to review, the TRP DEIS was released for a 70-day review and the MRP DEIS was released for a 100-day review and ultimately the MRP DEIS review period was extended to 112 days.

Concern ID: 23 The NPS did not effectively reach out to commercial outfitters during the development of the TRP DEIS alternatives.

The planners state the plan "reflects a collaborative approach with all stakeholders". I have conducted pack trips in Yosemite National Park since the 1970's. No one from Yosemite National Park contacted me to ask my opinion or the consequences of the various remedies proposed in this DEIS. Staff from Yosemite have indicated that it is very important to be involved in the Tuolumne Wild and Scenic Management Plan.
[Business, #320]

Response: The NPS conducted extensive outreach and review during the development of the TRP DEIS (please refer to the response to concern #9). Several comments were received regarding proposed restrictions on commercial stock use included in the TRP DEIS preferred alternative. For example, one commenter noted that "commercial operations...should be allowed to get permits for those areas they wish to enter without restricting it to the leftovers after noncommercial groups. Leftovers make it very difficult to plan and offer trips far enough in advance that guests know the options available." After reviewing all the comments received on the DEIS, the NPS revised Appendix C: Determination of Extent Necessary for Commercial Services in Wilderness Segments of the Tuolumne Wild and Scenic River Corridor to address concerns raised by these commenters. That decision is reflected in the TRP FEIS, Chapter 8: Alternatives, and in the TRP FEIS Appendix C.

Concern ID: 24 The selection of the NPS preferred alternative in the TRP DEIS (and MRP DEIS) conflicts with the park's public messaging.

As has been expressed in our staff's direct conversations with Mike Yochim, Don Neubacher, and other Yosemite Park staff, CSERC is deeply disappointed in the selection of the Preferred Alternatives for both the Tuolumne River Plan and the Merced River Plan. The CSERC staff believes that the Preferred Alternatives for both Plans are in direct conflict with strong messages that the Park Service has provided to the public about the need to protect Yosemite's precious resources for future generations. The Duncan video (which has been presented at numerous Park planning meetings and workshops) is touted by Don and the planning staff as a reflection of the inspiration that motivates the Park staff. Yet as CSERC has pointed out, that video shows no crowds of people, no busy parking lots or crowded roads, no congested trail or busy picnic areas, and none of the resource impacts that come from too many people visiting and using the Park. Instead, the video shows pristine, natural scenery along with wildlife and beautiful plants. The video makes it appear that Yosemite and other National Parks are carefully nurtured natural wonderlands being managed primarily for ecological health instead of the Parks actually being incredibly crowded money-makers for the concessionaires and for gateway businesses.
[Conservation/Preservation, #239]

Response: The NPS disagrees. The commenter is correct in noting the video shown at public meetings focuses on the natural and scenic qualities of the park. However, the public presentation that followed the video, (as well as public presentations given on river management planning in the park prior to the release of the TRP DEIS, and related website materials, fact sheets, brochures, posters, and workbooks) were clear that the NPS mission and the Wild and Scenic Rivers Act both require a balance between resource preservation and visitor use. Please also refer to the responses to concerns #1 and #2.

Concern ID: 25 **The audience at public meetings is not representative of park visitors; some public meeting facilitators and participants tend to push the audience in one direction or another.**

Regarding Chapter 9 my comments are that as much outreach that the National Park Service did conduct during this process there are too many instances where the audiences were often not representative of the great demographic that is visiting Yosemite Park. This is not something that the National Park Service could control but what you can control is not assuming that all interest groups were adequately or equally represented. Another concern I have is that there is always a risk that meeting facilitators or aggressive participants will willingly or inadvertently push audience members into one direction or another during these sessions which are designed to determine public concerns, perceptions and priorities regarding visitor experience and environmental protection. I have witnessed both of these problems at the meetings I attended.
[Individual, #406]

Response: The NPS strives to productively engage everyone who is interested in NPS planning. Meetings are open to all public participants and much of the input provided at planning meetings from 2007-2010, outside of the formal public scoping process, were incorporated into the themes of the alternatives.

Major Planning Issues Addressed in the Tuolumne River Plan

Concern ID: 26 **The NPS should place greater emphasis on conifer encroachment as a major ecological issue to be addressed by the TRP.**

Chapter 2- Major planning issues - Page 2-7 - Subalpine meadow and riparian complex.
The plan states, "Recent research suggests that TM is undergoing a shift in vegetation (Cooper et al 2006)." This is all the issue section says about conifer encroachment in terms of the meadow! The public deserves to know that if the NPS does not take action, the meadow likely will become forest in decades. Please change the text accordingly.
[Individual, #351]

Response: Conifer encroachment into subalpine meadows is occurring throughout the Sierra Nevada and many parts of the West. The cause(s) of conifer encroachment in Tuolumne Meadows is not thoroughly understood, but its impact is apparent on the landscape. Periodic manual removal of sapling lodgepole pines has taken place in Tuolumne Meadows for over 60 years; for example, over 70,000 sapling conifers were removed in the period between 2006 and 2007 (NPS 2008h). The NPS discontinued mechanical removal of conifer saplings at Tuolumne Meadows in 2010 pending completion of ongoing studies that could provide site-specific insight into the issue. The NPS is utilizing an ecosystem-wide approach to identify the root cause of conifer encroachment, assess whether or not it is human-caused, and then adaptively manage the meadows accordingly.

Concern ID: 27 **The NPS should be mindful of Native American remains and follow proper repatriation procedures if remains are found.**

Please be mindful of all Native American remains below the soil and obey proper repatriation procedures, if said remains are found
[Individual, #289]

Response: The NPS follows the directives of the Native American Graves Protection and Repatriation Act (NAGPRA) in any undertaking. This includes adherence to NAGPRA section 3(d) and associated implementing regulations (43 CFR 10), which among other provisions, detail procedures for treatment of inadvertent discoveries of Native America remains. The TRP FEIS mitigation measures have been revised to note that if previously unknown American Indian burial sites be discovered during project implementation, provisions outlined in the NAGPRA and its implementing regulations will be followed.

Issues that Will Not Be Addressed by the Tuolumne River Plan

Concern ID: 28 The NPS should address Hetch Hetchy Reservoir in the TRP.

The plan should discuss the Hetch-Hetchy Reservoir, which affects planning options both upstream and downstream. I recognize that the park service cannot make unilateral decisions concerning the reservoir area, but it can and should make recommendations as to the ultimate restoration of the valley and, more immediately, the trails, accomodations, boating, etc. in the reservoir area.

[Individual, #11]

I find it hard to think about Tuolumne River Environmental Impact when none of the four alternative plans even begin to discuss the removal of the dam and restoration of the valley. Do you really believe removing horses and campers is the solution when you allow a dam to destroy an entire mountain habitat INSIDE A NATIONAL PARK? Please at least develope a plan (even a long term plan) for the removal of O'Shaughnessy Dam.

[Individual, #294]

Briefly, if anyone truly cared about the integrity of the Tuolumne River, the various government agencies responsible for maintaining the travesty known as O'Shaughnessy Dam would pursue a course of dismantling the dam and allowing Hetch Hetchy Valley to revert to its prior pristine self. Certainly, if the State of California can dictate the removal of one, and possibly two, dams on the Carmel River to mitigate red legged frog habitat and restore migration patterns for steel head trout, those same powers can wield pressure to restore Hetch Hetchy. The communities of the Monterey Peninsula will have to resort to desalination for their water supply. San Francisco, with its much larger population base and tax revenue potential can do the same and more easily. O'Shaughnessy has no business in our pristine national park, and would never be accepted in this day and age. Such is the hypocrisy of government!

[Individual, #132]

Response: The 8-mile portion of the river impounded by O'Shaughnessy Dam at the Hetch Hetchy Reservoir was determined ineligible for inclusion in the wild and scenic river system and is therefore outside the scope of this management plan for the Tuolumne Wild and Scenic River. The issue of possibly removing the dam and designating an additional wild and scenic river segment is also beyond the scope of this plan and environmental impact statement. Any major change in the status of the dam would require an act of Congress. Additional planning and NEPA compliance would be triggered by such congressional action.

Legal Framework for the Tuolumne River Plan

Concern ID: 29 The proposed reductions in some visitor services (e.g. stock day rides) are inconsistent with NPS direction outlined in the 2011 NPS "Call to Action".

The "Call to Action", released by the NPS in 2011, is intended to guide NPS activities, actions and programs in preparation for the 100th anniversary of NPS beginning in 2016. The "Call to Action" has broad statements of principle, as well as specific activities designed to make NPS and the country's national parks more relevant in the next 100 years and beyond. One of the main goals is "Connecting People to Parks", under which the NPS calls to: "Expand the use of parks as places for healthy outdoor recreation that contribute to people's physical, mental, and social well-being." It would appear that the visitor recreation reductions advocated in the TRP are not consistent with the NPS national goals or with the intended opportunities presented in our national parks.

[Business, #383]

Response: The direction included in the NPS Call to Action to "expand the use of parks as places for healthy outdoor recreation that contribute to people's physical, mental, and social well-being" is not intended to be interpreted as direction to maximize unmanaged recreational use of parks. As directed by policy, the NPS strives to provide a diversity of park recreational experiences that are protective of park values, and it uses planning to guide informed, collaborative decision making about the details of desired experiences in each particular park location, as reasonable people may disagree about what is desirable. The planning process for the TRP considered and analyzed a range of alternative visitor experiences. The TRP FEIS preferred alternative strives to accommodate as much ongoing day recreation as possible while protecting river values, which requires some restrictions on the kinds and locations of that use. The single current activity that would no longer be accommodated under the preferred alternative is concessioner stock day rides, which would be eliminated in response to many visitors' concerns about stock impacts on trails (and its adverse impact on their recreational experience) and to further enhance the protection of water quality in the wild and scenic river corridor.

Concern ID: 30 The TRP DEIS is inconsistent with the Wilderness Act where it proposes to limit stock use.

The Tuolumne River Plan/DEIS is inconsistent with the Wilderness Act in curtailing the historic pack stock use while at the same time increasing the amount of day and commercial hiking use. The proposals for allocating commercial use reflect a bias against commercial pack stock.

The Wilderness Act was designed so that the public could travel throughout the Sierra and enjoy wild and primitive backcountry experiences. Those that don't own their own livestock or choose to utilize a commercial packer will be denied the opportunity to enjoy their National Park.

[Business, #320]

Response: The Wilderness Act does not require stock use to access wilderness. Rather, the Wilderness Act mandates the preservation of wilderness character while allowing visitors to access wilderness in a compatible manner. While stock use is not directly limited by the Wilderness Act, if the impacts of stock use or any other kind of use threaten wilderness character, then the NPS must take action to address these impacts. In the course of evaluating current conditions in the Tuolumne Wild and Scenic River corridor, the NPS identified resource impacts specific to stock use; in response the DEIS and FEIS propose a number of methods to address these impacts that are compliant with the direction of both the Wilderness Act and the Wild and Scenic Rivers Act.

Concern ID: 31 The NPS should acknowledge that a comprehensive management plan for the Tuolumne Wild and Scenic River is overdue.

In Chapter 2 the TRP discusses the need for a Tuolumne River Plan but does not make clear that the National Park Service is years behind legal compliance. This is important because there have been changes to the environment, the visitor supportive services, and the physical (trail, roads, and etc.) infrastructure since the Tuolumne River was included into the National Wild and Scenic Rivers system. These changes are only lightly touched upon within the TRP and yet they have a real bearing on understanding what may be appropriate or inappropriate when proposing "traditional recreational experiences" or justifying why certain activities and services should be continued or eliminated. For example the significant redesign of the Tuolumne Meadows campground and the construction of overnight staging facilities for wilderness users at O'Shaughnessy Dam have had a significant impact on recreational experience and visitor volume and yet I found little to no information on these changes and their impacts in the TRP.

[Individual, #406]

Response: The NPS acknowledges in chapter 2 of the TRP FEIS that this is the first comprehensive management plan for the portion of the Tuolumne Wild and Scenic River inside Yosemite National Park, although a 1986 amendment to WSRA required managers of rivers designated before 1986 to complete a comprehensive management plan for the river by 1996. It further elaborates that the two planning efforts

undertaken to meet the congressional deadline either did not fully address the planning requirements of WSRA or were never approved or adopted. Chapter 5 describes the condition of each river value at the time of designation, as well as its current condition (please refer to the response to concern #42, below).

Concern ID: 32 The TRP DEIS is not in compliance with direction from Congress regarding the High Sierra Camps, the 1916 Organic Act, the Wild and Scenic Rivers Act, and the National Environmental Policy Act.

For the reasons stated above and in our prior scoping comments and workbook comments, High Sierra [Hikers] is very concerned that: (1) the proposed Plan fails to ensure timely compliance with direction provided by Congress regarding the "High Sierra Camps"; (2) the proposed Plan fails to heed the Park Service's Organic Act by allowing impairment of park 'scenery and other resources; (3) the proposed Plan fails to limit commercial enterprises as required by the Wild River Act; and (4) the DEIS fails to comply with the' National Environmental Policy Act (NEPA) because it does not adequately evaluate disclose the environmental consequences of the proposed actions as required by NEPA.
[Recreational Groups, #379]

Response: The TRP and its accompanying environmental impact statement have been designed to comply with the Wild and Scenic Rivers Act and NEPA. Chapter 2 explains how the various components of the plan and EIS fulfill the NPS's obligations under the Wild and Scenic Rivers Act and NEPA.

The NPS Organic Act is discussed in chapter 2 of the TRP FEIS. The Organic Act prohibits actions that would result in the impairment of park resources and values. (See NPS *Management Policies 2006*, Section 1.4.) Impairment determinations are included in decision documents and are based on analyses contained in the underlying compliance documentation for a proposed action. The decision document for the TRP will be the Record of Decision. An impairment determination for the alternative selected for implementation will be included in the Record of Decision.

With regard to Congressional direction for the High Sierra Camps, see response to concern #295.

Concern ID: 33 The NPS should consider past court direction related to "degradation" within wild and scenic river corridors and adopt user capacity levels that are protective of outstandingly remarkable values.

It is obviously our Center's hope that the clarity of our input combined with carefully worded legal arguments will positively influence the final decision for this Tuolumne Wild and Scenic River Management Plan. In particular, we emphasize that it is prudent for the Park planning staff and the eventual Plan decision-maker to consider past court direction related to "degradation" within Wild and Scenic River corridors and to consider strict mandates to adopt user capacity levels that truly protect outstandingly remarkable resources in all of their complexities.
[Conservation/Preservation, #239]

Response: The TRP is guided by relevant court interpretations of the Wild and Scenic Rivers Act, including the need to identify both past and present degradation. Chapter 5 in the TRP FEIS both defines degradation for each river value and compares the condition of the river values to those definitions. Each alternative also specifies the kinds and amounts of use allowed in the river corridor (see chapter 8 as well as chapter 6 of the TRP FEIS, which contain a detailed discussion of user capacity).

Concern ID: 34 **The NPS should consider what is "desired" versus what is "necessary" from a legal perspective for facilities and uses that would remain in the wild and scenic river corridor, particularly the High Sierra Camps.**

If the Tuolumne River Wild and Scenic River Management Plan should ever be evaluated by a court for compliance with legal regulations, CSERC strongly asserts that the court will agree that providing convenient (and highly profitable) lodging or amenities should never trump compliance with the Wild and Scenic Rivers Act (WSRA). In particular, CSERC believes that a court will judge that a facility, use, or operation is not "necessary" when it simply fills desires of visitors who prefer convenience in contrast to a more direct experience with wild nature. The Park's socio-economic consultant stated clearly at the Workshop in the Yosemite Valley auditorium that if lodging or some other use is not provided INSIDE the Park, private interests will respond to the market need and provide the desired lodging or use OUTSIDE the Park. Thus, instead of making decisions based upon customer preferences or desires for conveniences, the Park Service must prioritize its core mission - which in Yosemite Park is to protect legacy resources and natural splendor as a sustainable heritage for future generations.

The Glen Aulin High Sierra Camp is a small island of non-wilderness commercial operation in the heart of a great wilderness region and directly in the heart of a WILD segment of the Tuolumne River. If it was not already in place and instead was being considered for approval today, the Park Service would never approve the Glen Aulin Camp operation.

[Conservation/Preservation, #239]

Response: The Secretaries Guidelines for River Management (USDI and USDA 1982) direct that if "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." Within this context the facilities analysis included in chapter 7 of the TRP FEIS assesses the facilities necessary to provide for the kind of public use and resource protection envisioned under each alternative. Without considering the desired visitor experience of the given alternative, it would not be possible to evaluate the facilities necessary to support that kind of public use. The diversity of possible visitor experiences analyzed in the alternatives for the *Tuolumne River Plan* would all be protective of river values, in part because of the level of facilities used to manage and direct visitor use. See also the responses to concerns #500 and #502.

Concern ID: 35 **Regarding proposed visitor service actions in the TRP, the NPS has incorrectly interpreted the U.S. Ninth Circuit Court of Appeal's ruling on the Merced River Plan as applicable to the Tuolumne River Plan.**

Alternative 4 calls for some actions that we believe suggest the TRP has been influenced by the Merced River court ruling (specifically, the language of footnote 5), rather than an interpretation of the Wild and Scenic Rivers Act (WSRA) that has been applied to other Wild and Scenic River (WSR) plans implemented by the NPS and other land-managing agencies. We are making this observation as it appears certain actions and recent changes to Outstandingly Remarkable Values (ORVs) do not appear consistent with earlier public information regarding the TRP and because of the reduction in visitor services, in spite of the public's desire to see Tuolumne Meadows remain basically unchanged.

[Business, #383]

Response: Please see the response to concern #11, above.

Interrelationships with Other Plans and Projects

Concern ID: 36 The TRP should not refer the reader to other planning documents that could impact planning in the river corridor.

Page 8-151. "The Scenic Vista Management Plan...is tiered from the general management plan..." Again I raise concerns about having the TRP refer constantly to other planning documents so that the reader can get a better understanding of what is going to happen within the Tuolumne River planning area. I also question the validity of the National Park Service continuing to tier off an outdated general management plan. At least the TRP states that the final decision on vista points for the subject planning area does fall under the authority of the TRP.
[Individual, #406]

Response: NPS Director's Order 12 states: "An EIS is to be analytic rather than encyclopedic." The NPS has appended, summarized, or incorporated by reference background material, highly technical material, and less important descriptive information to reduce the size of an already very large document. Incorporating materials by reference is in compliance with Council on Environmental Quality (CEQ) section 1502.21, which states that agencies "shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action."

Yosemite National Park General Management Plan

Concern ID: 37 The NPS does not have a valid General Management Plan (GMP) for Yosemite National Park.

First, Yosemite National Park does not have a legally-required General Management Plan. While the 1980 GMP is supposedly in effect, it has not been "revised in a timely manner," as required by law (considering it's a 20-year plan and it's been over 30 years since it has been revised in any comprehensive manner and is largely irrelevant to today's circumstances). Despite NPS' wish to move away from general management planning, NPS is still required by the National Parks and Recreation Act to have a valid GMP for each park.
[Individual, #338]

It is my understanding that when the General Management Plan (GMP) for Yosemite National Park was adopted in 1980 a previous plan, adopted circa 1965, was stamped "rejected." Since the adoption of the 1980 GMP the National Park Service has taken the approach that all subsequent planning and environmental reports will be "tiered " off the GMP. When you consider the significant changes that have occurred since the 1970s in the environmental sciences, the expansion and sophistication of data gathering and understanding associated with cultural resources management, and the extensive changes in technology, I find it difficult to understand why the GMP is still being utilized as a platform document for present day planning. It should be stamped "outdated" and relegated to the Yosemite Library archives along with its predecessor. Consequently, I challenge the validity or relevance of using the GMP for the TRP or any other current planning instrument. I also question whether modifications or "amendments" made to the GMP truly negate policies and directions in the GMP some of which are highly controversial and probably environmentally unsupportable given information that has come to the fore since 1980. In other words, as long as the National Park Service insists on the relevance of the GMP all the language contained in that outdated plan may still have a bearing on present and future actions undertaken by the Federal Government.
[Individual, #406]

Response: Although the current Yosemite National Park General Management Plan was approved in 1980 (before the Tuolumne and Merced Rivers were designated as wild and scenic in 1984 and 1987, respectively), it had no sunset date. Indeed, its broad goals are still relevant today.

However, the 1980 General Management Plan proposed land uses and facilities that did not take into consideration the protection and enhancement of river values in accordance with the Wild and Scenic Rivers Act. Both the TRP and the MRP will update and amend portions of the 1980 General Management Plan to ensure that river values are protected. The decision to amend relevant portions of the 1980 General

Management through the comprehensive river management plan planning process is consistent with the Wild and Scenic Rivers Act. The specific amendments to the Yosemite General Management Plan resulting from the TRP are summarized in the TRP FEIS appendix E.

Concern ID: 38 The TRP (and MRP) do not adequately revise the GMP.

The TRP and MRP aim to revise the GMP, but they fail to do so in such a way as to avoid fragmented planning, thereby defeating the purpose of NEPA. Both plans have impacts upon each other that are not analyzed at all (e.g., proposed implementation of user limits in each plan that affect the other plan). Additionally, the law requiring GMPs requires parks to identify and implement carrying capacities for "all areas" of each park, something these two plans fail to do because they're beyond the scope of each plan. However, fragmented implementation of visitor use/carrying capacity in some areas of the park fails to achieve legal requirements, and prevents NPS from holistic approach to user capacity/carrying capacity. Thus, both the TRP and MRP fail to adequately revise the GMP to bring it in compliance with the law.

[Individual, #338]

Page 8-235.-236. The interaction between other plans is noted once again in the TRP. Of singular significance is the impact the yet-to-be-finalized Merced River Wild and Scenic Rivers Plan will have. Could not the TRP just set an upper limit and the Merced plan incorporate that. More to the point, it is frustrating for the public to have to address two plans at nearly the same time. And, we are given so many variables that it feels like we are dealing with a moving target that is capable of an infinite number of moves.

[Individual, #406]

Response: Under the Wild and Scenic Rivers Act, the comprehensive management plan for the Tuolumne River must be coordinated with and may also be incorporated into other resource management plans. The NPS has decided that it is appropriate to incorporate the TRP into the park's General Management Plan. To accomplish this, the TRP has been developed as an amendment to the General Management Plan for areas within the river corridor. Appendix E presents the specific amendments to the General Management Plan that would result from the adoption of the TRP. Appendix E has been revised significantly in the TRP FEIS to be more specific. For example, the appendix now provides a table showing changes to the General Management Plan as strikeouts and underlined additions. Appendix E and the resulting amendments to the General Management Plan satisfy the NPS requirement to coordinate the TRP with General Management Plan.

Merced River Plan

Concern ID: 39 The NPS should consider the impact of removing commercial services in Tuolumne Meadows on Yosemite Valley.

If you don't have any commercial resources the valley will be even more impacted

[Individual, #36]

Response: The cumulative impacts analysis in chapter 9 of the FEIS has been reviewed and updated where necessary to note where the TRP might have an impact on Yosemite Valley.While the NPS acknowledges the impact of removing the public fuel station and concessioner stock day rides at Tuolumne Meadows on visitors to that portion the park, the park considers the cumulative impact of these actions upon visitors to Yosemite Valley to be negligible (for the public fuel station) to minor (day rides).

Wilderness Management Plan

Concern ID: 40 Actions that would manage use (including discussions of trail encounters) in designated Wilderness should be deferred to the upcoming Wilderness Stewardship Plan.

Proposed significant changes to wilderness management such as instituting a quota system for day hikers or reducing commercial use should be addressed in the forthcoming Wilderness Stewardship Plan, not the Tuolumne River plan. It is only through the wilderness plan that such changes can be considered in context and their impacts (including cumulative impacts) fully analyzed.

[Individual, #257]

Wilderness permitting decisions should be left to the Wilderness Stewardship Plan. The Wilderness Act requires opportunities for solitude. It does not require solitude at all locations within wilderness

[Individual, #401]

Decisions made at this time should be based on damage to natural and cultural resources, since some of that is essentially irreversible. Decisions regarding perceptions of what constitutes "crowding" on a trail should be deferred to a more comprehensive planning process such as the future Wilderness Stewardship Plan. The solution to "crowding" is really very simple---those who are offended can just walk away from it, rather than expecting others to walk away from them.

The final EIS and Plan for this river should drop the discussion of how many people are appropriate on Wilderness trails, and defer that discussion to the Wilderness Stewardship planning process. It should be discussed within the broader framework of Wilderness management (stewardship), and not addressed in the piecemeal manner which is being done at present through the TRP. Any decisions made through the TRP to regulate the number of day-hikers allowed on a trail would bias the future Wilderness Stewardship planning process.

[Conservation/Preservation, #348]

Response: The NPS is required under the Wild and Scenic Rivers Act to address the kinds and amounts of use that will be protective of river values for all segments of the Tuolumne Wild and Scenic River, including the wild segments. The upcoming Wilderness Stewardship Plan will analyze the management of use in designated wilderness in compliance with requirements under the Wilderness Act. The Wild and Scenic Rivers Act specifies that in the case of conflicts between the mandates of the national wild and scenic rivers system and the national wilderness system, the more restrictive provisions will apply.

Concern ID: 41 The NPS should defer planning at Glen Aulin High Sierra Camp to the upcoming Wilderness Stewardship Plan, orprescribe temporary actions there until the High Sierra Camps are comprehensively examined in the upcoming Wilderness Stewardship Plan.

I do not support the Glen Aulin solution offered in alternative 2. Reducing the camp to a seasonal outfitters camp is a bad idea as it destroys the whole High Sierra Camp experience, However, this approach could be considered as an alternative approach to a holistic examination of the future of the High Sierra Camps as part of the Wilderness Plan. I probably would not support it as a Wilderness Plan alternative going forward except if it allowed HSC capacity to expand and open up the experience to more people

[Individual, #245]

I recommend that you take temporary measures at Glen Aulin, making no permanent changes, until a comprehensive study of the High Sierra Camps is made as part of the Wilderness Plan

[Individual, #245]

Similarly, it seems that planning for the Glen Aulin camp should be discussed within the context of the entire High Sierra Camp Loop as part of the future Wilderness Stewardship planning process. To discuss it now, and reach conclusions about it in a piecemeal manner as part of the TRP, will have biased future discussion about the other High Sierra Camps.

[Conservation/Preservation, #348]

Response: Please refer to the response to concern #40, above. In addition, the upcoming Wilderness Stewardship Plan can amend the TRP, but must not exceed the user capacity set by the TRP.

Outstandingly Remarkable Values

Concern ID: 42 **The NPS should provide additional data detailing resource conditions at the time of the Tuolumne River's wild and scenic designation (1984) to address requirements of the Wild and Scenic Rivers Act.**

Turning to a different issue, the TRP rests partially on baseline data that appears to have been collected only within the past ten years or so. This underscores the relevance (or lack thereof) of the GMP but begs the question where is the baseline data that was used to justify designating the Tuolumne River "wild and scenic." Why was that data not more fully utilized in determining resource conditions in 1984, and determine extent of change since then? The draft TRP does refer to some of that older information but not to the extent that I think it should, unless there simply was not an extensive amount of research done back then to justify the legislative action that was taken.
[Individual, #406]

Response: The TRP DEIS and FEIS provide two separate, but related, baseline conditions evaluations to satisfy both the Wild and Scenic Rivers Act and NEPA. In compliance with the Wild and Scenic Rivers Act, the TRP evaluates baseline conditions for river values (free flow, water quality, and outstandingly remarkable values), defined as their condition at the time of the Tuolumne River's wild and scenic designation in 1984. These baseline conditions are based on the best available information from that time period. In addition, CEQ guidelines require that NEPA documents "succinctly describe the environment of the area(s) to be affected or created by alternatives under consideration (1502.15)." A detailed description of the existing condition of river values is provided in chapter 5 of the DEIS and FEIS, and a description of the existing affected environment for the entire planning area is presented in chapter 8 of the DEIS and chapter 9 of the FEIS. Please also see the TRP baseline conditions research found at *www.nps.gov/yose/parkmgmt/trp_science.htm*.

Biological Value: Subalpine Meadow/Riparian Complex

Concern ID: 43 **The good condition of most meadows in the river corridor and high water quality noted in the TRP DEIS is good news.**

The good news contained in this Tuolumne River DEIS is the high water quality and the good Condition of the majority of the meadows Contained in the plan.
[County Government, #378]

Response: No response required.

Concern ID: 44 **The NPS should consider that conifer encroachment at Tuolumne Meadows is a human-caused condition (in part due to construction of Tioga Road), and that NPS Management Policies 2006 would support continued removal of conifer seedlings and saplings at Tuolumne Meadows.**

On page 2-8 and elsewhere in the document the encroachment of Lodgepole pines and actions associated with tree removal are discussed. However, I did not find information regarding the role of fire in regulating tree growth and forest expansion, nor information on where the cut trees are disposed of.
[Individual, #406]

NPS Management Policies 2006 state that where the natural processed have been disrupted by human conditions it is permissible to take action to reverse this through maintaining meadows and open areas.

Lodgepole seedlings and saplings are encroaching into Tuolumne Meadows at an alarming rate. Volunteers under the supervision of NPS staff removed tens of thousands of seedling conifers from Tuolumne Meadows (TM) this decade. People have been removing conifers from TM at least since the 1930s.

The plan states that more research is necessary before the NPS removes conifers from TM, except where conifers would be removed from four scenic vista points. At first, actions to remove small trees may appear in conflict with NPS mandates to restore natural processes that sustain native communities. In addition, climatic shifts seem to favor more conifer encroachment in years with higher minimum temperatures, showing there is a climatic variable to this issue. Yet there is one very important point to consider. The vast majority of conifers are encroaching from the south side of the meadow, where the Tioga Road was constructed through the meadow. Conifers rarely encroach on the north side of the meadow, the side away from the Tioga Road!

[Individual, #351]

Response: Please refer to the response to concern #26, above.

Concern ID: 45 **The NPS should include special status plant and wildlife species as ORVs and develop related management actions to restore special status species as well as their habitat. The NPS should also clarify the biological ORV condition assessment and management concerns sections to note if special status species occurrences have declined in the river corridor since the river's designation.**

While our Center supports the restoration and protection of the designated Biological values of subalpine meadow and riparian complex and low-elevation meadow and riparian complex, we find that the Park's condition assessment and management concerns are incomplete because they do not appropriately address the special status plant and wildlife species whose populations have been degraded since the time of designation. The conditions assessment and management concerns sections do not address the impacts on lost species via the impacts on their historical habitat. For example, there is no discussion of the impacts of stock needed to support the Glen Aulin HSC on the special status plant species present at Soda Springs, which the trail passes very closely.

The following points prove that the designated Biological Outstanding River Values need revision:

A) The omission of special status plant and wildlife species as a Biological ORV is unjustifiable because they do indeed meet the definition of an ORV.

- Many special status plant and wildlife species owe their "location or existence to the presence of the river" (5-2). Carex buxbaumii and Triglochin spp., special status plant species, depend on and are found at Soda Springs, which is located "within 0.25 miles of the river," another specific criteria for "river dependent" values (5-2).

- This omission is also unacceptable because the text of the Wild and Scenic Rivers act actually states that "certain selected rivers, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values?" (1-2). Many of the special status species rely upon the river and its "immediate environments," although the Park claims they do not. Our Center definitively disagrees with the analysis that special status plant and wildlife species are not river dependent.

- The Subalpine Meadow and Riparian Complex is directly affected by the plant and wildlife species that exist or existed there. Hydrologic processes, generalized riparian vegetation, and meadow vegetation composition are addressed, but wildlife species are completely omitted, despite the park admitting, in regards to both the Sierra Nevada Yellow Legged Frog and the Yosemite Toad, that specific species directly affect the health of this habitat complex (8-103, comment C and E below)

- "Both terrestrial and aquatic species depend on riparian ecosystems for their year-round availability of water, nutrients, food source and organic matter" (8-83).

E) Yosemite Toads "appear to be an important link in energy and nutrient cycling between wet meadows, lakes and adjacent terrestrial ecosystems" (8-104). The loss of the species "could affect food webs and nutrient cycling, with potentially significant and important consequences for selected Sierra Nevada high-elevation ecosystems, especially aquatic habitats associated with wet meadows" (8-104). Despite the Park's above statements about the importance of Yosemite Toads to the wet meadow habitat included under the Biological ORV, the Park does not recognize the impacts associated with the loss and potential reintroduction of this species

F) The Park states that for the Biological ORV, the "revised description places more emphasis on the attributes of the meadows that make them an ORV: their relatively high biological integrity and size" (F-2). Relatively high biological integrity is reliant upon a diversity of species of plants and wildlife, which were removed from the ORV statement. The presence of populations of rare, threatened and endangered species is inherently "rare, unique or exemplary."

FOR THE ABOVE REASONS, THE PARK SHOULD INCLUDE RESTORATION OF SPECIAL STATUS

SPECIES THEMSELVES, NOT JUST RESTORATION OF THE HABITAT THEY MAY UTILIZE. THE HABITAT COMPLEX VALUES LISTED AS BIOLOGICAL VALUES DO NOT SUFFICIENTLY ADDRESS SPECIAL STATUS SPECIES.

OUR CENTER ASSERTS THAT THE PARK SHOULD ACKNOWLEDGE SPECIAL STATUS PLANT AND WILDLIFE SPECIES AS BIOLOGICAL OUTSTANDINGLY REMARKABLE VALUES, AND THEREFORE SHOULD INCLUDE MORE SPECIFIC MANAGEMENT ACTIONS TO "PROTECT AND ENHANCE" THOSE VALUES IN ACCORDANCE WITH THE WSRA. THIS INCLUDES SETTING A "POSITIVE TRAJECTORY" FOR THE DEGRADED VALUE OF THE LOSS OF MANY OF THESE SPECIAL STATUS SPECIES IN THEIR NATIVE HABITATS.

[Conservation/Preservation, #240]

Response: No individual special-status species was found to individually meet the criteria of being both river-related or -dependent and unique, rare, or exemplary within the river corridor. All meadow and riparian habitat and species are addressed collectively by the TRP as part of the extensive complex of subalpine meadow and riparian habitats, for which indicators and standards selected and will be monitored over time to ensure that the river value is protected.

The condition assessment focuses on two river values, the subalpine meadow and riparian complex and the low elevation riparian and meadow habitat, which are suitable habitat for some special status species. Chapter 5 of the TRP FEIS includes a comprehensive assessment of the condition of both outstandingly remarkable values, both at the time of designation and at present. Additionally, the chapter includes a description of a comprehensive ecological restoration program for the subalpine meadows as well as a monitoring program with indicators and standards. Specific special status species are otherwise managed through park plans and programs independent of the TRP, in full compliance with federal and state laws and regulations and NPS policy. If the U.S. Fish and Wildlife Service (USFWS) designates critical habitat for the Sierra Nevada yellow-legged frog or the Yosemite toad (as the USFWS proposed to do in April 2013) within the Tuolumne Wild and Scenic River corridor, the NPS will develop mitigation measures and a management strategy in conference or consultation with USFWS.

Concern ID: 46 The NPS should evaluate Pate Valley to see if it would meet ORV criteria.

Pate Valley is not mentioned in Chapter 5 and elsewhere only in the Archeology Appendix. I ask that this glacially created valley about three miles long at 4300-foot elevation may have interesting biological for it is in between the lower, wetter Poopenaut Valley and the higher subalpine Tuolumne Meadows. It is not a destination for hikers, but a resting place before climbs to higher places. I ask that subsequent studies be done to make the comparison between its two neighboring valleys to see the impact of elevation difference.

[Individual, #304]

Response: Unlike Poopenaut Valley, which is a rare low-elevation meadow and wetland habitat (because such valleys in the Sierra Nevada have generally received more extensive use and development), and the subalpine meadow complex, which is one of the most extensive in the Sierra Nevada, Pate Valley was not determined to be unique, rare, or exemplary, which is one of the ORV criteria.

Concern ID: 47 The NPS should evaluate and cite examples of successful meadow restoration elsewhere in the Sierra Nevada.

Page 5-16 addresses the impact sheep grazing had on the meadows and that the negative consequences of the late 19th century activity are still present today. Are there examples elsewhere in California or the Nation where meadow restoration has been successful? If so, can those remedial steps be taken at Tuolumne Meadows?

[Individual, #406]

Response: The detailed ecological restoration planning in support of the TRP (included as appendix H of the TRP FEIS), considered numerous studies related to meadow restoration elsewhere in the Sierra Nevada,

including DeBenedetti and Parsons 1979, Loheide et al. 2008, Miller et al. 2004, Ratliff 1985, and the Sierra Nevada Ecosystem Project 1996.

Concern ID: 48 **The NPS has correctly identified meadow fragmentation in the "Management Concerns" section of chapter 5.**

The County concurs with the plan's Concerns about the shifting of Tuolumne Meadows to that of a stressed meadow criss-crossed with informal trails.
[County Government, #378]

Response: No response required.

Concern ID: 49 **The NPS should clarify how informal trails were formed at Tuolumne Meadows.**

On page 5-19 the TRP addresses informal trails but what is not clear is did visitors pioneer the trails or did people follow animal paths and through over use make them larger and more invasive?
[Individual, #406]

Response: The TRP states in chapter 5 that roadside parking is a major cause of informal trails across the meadow (since visitors tend to leave their cars and walk directly into the meadows or toward the river, often following discernible paths created by other visitors). For this reason, all the action alternatives would eliminate undesignated roadside parking to help prevent associated informal trailing that occurs at Tuolumne Meadows. Once parking is confined to designated parking areas, allowing visitors to disperse from this designated parking and trailheads into sensitive meadows and riparian areas is also a potential cause of informal trails, depending on the amount of foot traffic that would result. All of the action alternatives (alternatives 1-4) would manage use at levels that would protect and enhance meadow integrity. Alternatives that would allow the highest levels of use also would impose the greatest restrictions on visitor use, confining foot traffic to designated trails and boardwalks and resilient sites (see TRP FEIS chapter 8 alternatives descriptions).

Biological Value: Proposed Management Actions

Concern ID: 50 **The NPS has correctly identified actions to protect and enhance the Tuolumne River and preserve and restore Tuolumne Meadows.**

I applaud certain measures of the Park Service's proposed actions to protect and enhance the outstanding values of the Tuolumne River in Yosemite National Park, including better management of parking and visitor use in Tuolumne Meadows
[Individual, #357]

Response: No response required.

Concern ID: 51 **The NPS should incorporate conifer removal into proposed management actions to protect ORVs at Tuolumne Meadows, rather than conduct additional research on the topic.**

The NPS should modify the final plan and continue to allow conifer removal from the scenic section of the corridor when funding and volunteers are available. The Park is literally losing ground by changing current management and stopping seedling conifer removal.
[Individual, #351]

Response: Ongoing research is needed to identify and refine a sustainable management program for improving the outstandingly remarkable meadow and riparian habitat along the Tuolumne River. Continual conifer removal has not proven to be effective at restoring native plant communities within Tuolumne Meadows.

Concern ID: 52 The TRP DEIS should include actions to reintroduce special status species in the river corridor because other related planning efforts do not.

The following points prove that the designated Biological Outstanding River Values need revision:
C) In addition, the loss of the Sierra Nevada Yellow-Legged Frog has "likely had a substantial impact on the health of the native aquatic ecosystems where they formerly occurred" (8-103). These aquatic ecosystems are part of both the habitat complexes designated as ORVs, yet there are no management actions proposed to restore the Sierra Nevada Yellow-Legged Frog as a part of protecting and enhancing this ORV. The loss of the species can be attributed to two major factors: "the impact from introduced, non-native fish, and Chytridiomycosis?" (8-103), neither of which are directly addressed.
D) The Park's proposed Wilderness Sierra Nevada Yellow Legged Frog Reintroduction and Trout Eradication Project lends support to the feasibility of reintroduction of this species. None of the sites proposed in the EA for that plan are located in Tuolumne Meadows, as indicated on the map on the last page of the document
G) The Park's "High Elevation Aquatic Ecosystem Recovery and Stewardship Plan" is insufficient for addressing the populations of both the Yosemite Toad and the Sierra Nevada Yellow Legged Frog. The aforementioned plan has been in the Alternatives/EA stage since July of 2008, and the Park has still yet to release an EA. M-4 shows the plan as "scheduled for public review in 2012." As of March 8, 2013, there is still no available EA or a new estimate of when it will become available. The importance of these species is too great for the Tuolumne River Plan to abdicate the responsibility for the recovery of these species to another plan

[Conservation/Preservation, #240]

Response: The NPS manages special status species as part of the parkwide natural resources management program, which directs the identification, protection, and monitoring of special status species and their potential habitat in full compliance with federal and state laws and regulations and NPS policies regarding these species. While the reintroduction of species is not directed by the TRP, it could be directed by a species recovery plan if such an action was determined to be appropriate. The NPS will confer or consult with the U.S. Fish and Wildlife Service prior to undertaking any action in the Tuolumne River corridor with a potential to affect these species. The success of any future management action to restore a given species will be facilitated by the broader ecological restoration of meadow and riparian habitat along the Tuolumne River. Please see the response to concern #45 regarding protections for the Sierra Nevada yellow-legged frog and Yosemite toad.

Concern ID: 53 The NPS should include an action to delineate wetlands in Lyell Canyon in order to protect the biological ORVs.

2) The Park did not complete formal wetland delineation for Lyell Canyon, but vegetation data indicates there is wetland vegetation in areas of the canyon (8-47). Wetlands and associated vegetation are more sensitive to the impacts of Stock use. Given that, during the highest use year of 2007, both segments of Lyell Canyon surveyed (for the 2008 Stock Use Report) comprised 56% of the total stock use nights in the high-use meadows surveyed, it is especially important to delineate wetlands so they can be better protected from stock use impacts.
THE PARK SHOULD INCLUDE IN ITS FINAL EIS SPECIFIC PLANS TO DELINEATE WETLANDS IN LYELL CANYON SO AS TO BETTER PROTECT THE HABITAT COMPLEXES PRESENT THERE FROM THE THREATS POSED BY STOCK USE.

[Conservation/Preservation, #241]

Response: The National Wetlands Inventory (NWI) data is available for the entire park, including Lyell Canyon online at *http://www.fws.gov/wetlands/Data/*. More detailed delineations are done on a project-by-project basis, when projects potentially affect wetlands. The primary action proposed for Lyell Canyon is to designate two stock camping sites; wetlands will be delineated for these areas prior to implementation of the TRP and the campsites located to avoid them.

Biological Value Indicators/Monitoring Program

Concern ID: 54 **The NPS should add two more indicators: (1) meadow size and (2) presence of invasive species, and additional monitoring methods to the indicators and monitoring program for the meadow/riparian ORV.**

I appreciate that the Bare Ground indicator discusses other potential metrics - composition and productivity - and gives a rationale for why the bare ground indicator is a better choice than the alternatives. Yet we need additional monitoring to track two more metrics- the size of the meadow (as influenced by conifer encroachment), and the presence of invasive plants. Both of these could be tracked with efficiency and ease.

Consider tracking the size of the meadow with GIS technology- walking either the meadow perimeter or aerial photos. This would track the status of conifer encroachment, and once every 2 to 5 years may be sufficient. Also, consider tracking the potential for invasive plant invasion and looking at meadow composition to track the "atypical" plant communities. Simple invasive plant inventories could suffice to look for invasive plants unless a major infestation quickly enters the meadow. In addition, plant composition monitoring would let the NPS know the real status of the meadows. Each plant community in the meadow tells a story - water table levels, trampling history, grazing history, etc. This type of information is not found from monitoring meadow fragmentation.

...Chapter 5 - Management Indicators and Monitoring for the Meadow/Riparian ORV- Pg. 5-32

[Individual, #351]

Response: The indicators selected to assess the condition of meadow and riparian habitats in the Tuolumne River corridor are only a subset of the indicators monitored by the NPS under various plans and programs for protecting all park values. Meadow size and invasive species are already monitored and assessed as part of the Yosemite National Park natural resources management program, and that information is used to guide resource management activities throughout the park.

Concern ID: 55 **The NPS should monitor all meadows, including those with few visitor impacts, as a baseline for evaluating impacts occurring independent of visitor use (e.g., climate change).**

Page 5-35. The role that climate change has on hindering meadow restoration should be a part of the ongoing monitoring process. This would seem to me to suggest that even meadows without "visitor impacts" should be monitored annually if for no other reason than as a control for understanding what is beneficially or adversely affecting all meadows independent of visitor use.

[Individual, #406]

Response: The NPS has conducted extensive condition assessments of high-elevation meadows, including baseline control meadows (NPS 2010j, 2009m, 2009h). The park collected condition assessment data from over 2,000 data points in about 70 meadows. Information was collected on about 40 different metrics, some have proved more useful than others. In addition, the park monitors meadow fragmentation that results from informal trails (Leung et al. 2002, Leung et al. 2011b). This comprehensive information has allowed staff to hone in on the best areas for long-term monitoring. In 2013, park staff monitored meadow condition using three indicators—bare soil cover, stream bank stability, and meadow fragmentation. The NPS includes meadows without use in bare soil monitoring to observe annual variation.This long-term monitoring includes data collection from new control areas. Park researchers will perform periodic assessments of all meadows within the corridor regardless of visitor use levels to determine if these locations have measurable impacts from visitor use or otherwise.

Biological Value: Low-Elevation Riparian and Meadow Habitat

Concern ID: 56 **Interagency cooperation has resulted in high ecological integrity at Poopenaut Valley and long-term guidance to improve management and monitoring of the Poopenaut Valley ecosystem.**

Poopenaut Valley biological and wildlife revival are applauded as very good with SFPUC providing money, pulse flows in spring and with YNP and SFPUC staff and consultants counting, interoperating and publishing the benefits.
[Individual, #304]

Poopenaut Valley and dam release - excellent - keeping the research going and making this un-natural instillation function in conjunction with nature in the best possible way. Requiring the best management techniques on this, and continuing monitoring and research to guide these policies).
[Individual, #247]

The Yosemite National Park boundary crosses the Tuolumne River approximately 6 miles downstream of O'Shaughnessy Dam. This reach within the Park includes the ecologically significant Poopenaut Valley, which is identified in the TRP as containing Outstandingly Remarkable Biological Values for the rare low-elevation riparian and wetland habitats it contains. The NPS has conducted several critical ecological studies in the Poopenaut Valley to provide supporting data for the instream flow plan and TRP/EIS effort. In collaboration with the SFPUC and other stakeholders, the NPS has played an important role in guiding the development of the instream flow plan, which will improve management of the Poopenaut Valley ecosystem and provide for long-term ecological monitoring.
[Public Utility, #446]

Response: No response required.

Geologic Value: Stairstep River Morphology

Concern ID: 57 **The NPS should consider adding glacial polish as geologic ORV of the Tuolumne River.**

In the section on ORVs, only the stairstep morphology is mentioned as a geologic value. I have always been impressed by the glacial polish to be found on slopes above the river. Could that be added as a value to be protected?
[Individual, #181]

Response: Glacial polish was carefully considered for inclusion as part of the geologic ORV (see the Draft ORV Report provided in July 2006, available at *www.nps.gov/yose/parkmgmt/trpfacts.htm*). As noted in the 2006 Draft ORV Report, the Tuolumne River corridor does contain some of the best examples of glacial polish in the country, but ultimately these features were not included in the list of river values because they did not meet the criterion of being river-related. Outstanding features that are not considered river values per se are still protected under existing laws and NPS management policy.

Cultural Values

Concern ID: 58 The NPS should clarify the apparent difference in approach to the cultural ORVs described in the MRP and TRP.

Another issue with the ORVs is the apparent inconsistency in the approach to identifying and managing the Cultural ORV of the Tuolumne River as compared to the Merced River. The TRP originally included a broad list of historic sites/districts in the Cultural ORV; however, the latest plan changed the Cultural ORV to focus on only Parson's Lodge, rather than the entire historic district. The justification for this reduction in the Cultural CRV was that the "Statement was too broad and too inclusive to be useful in guiding river management," and "Under a tighter interpretation of the ORV criteria...sites were not considered to be river related or unique, rare, or exemplary."(Appendix F, pg. F-4). Conversely, the MRP has greatly broadened the Cultural ORV of the Merced River to include entire historic and archaeological districts (which even includes sites/resources that are outside the river corridor) and has not provided a justification for a more inclusive Cultural ORV as compared to previous versions. lt appears that there has been an inconsistent application of values and criteria in applying ORV criteria for the two Wild and Scenic Rivers in Yosemite National Park.
[Business, #383]

Response: The outstandingly remarkable cultural values of the Tuolumne Wild and Scenic River include archeological resources and one historic building that is a designated National Historic Landmark. The outstandingly remarkable cultural values of the Merced Wild and Scenic River include a collection of historic buildings and structures, several archeological districts, and ethnographic resources (in Yosemite Valley). The primary differences between these cultural values are the inclusion of several historic buildings as part of the outstandingly remarkable historic values for the Merced River and the inclusion of an ethnographic value in Yosemite Valley. The outstandingly remarkable historic resources of the Merced River corridor were identified based on important feedback from the California State Historic Preservation Officer, the Advisory Council on Historic Preservation, and the National Trust for Historic Preservation. The ethnographic value in Yosemite Valley was identified based on the unique nature and ongoing cultural significance to traditionally associated American Indian peoples. Both river plans include indicators and standards, monitoring programs, and specific triggers and actions to protect and enhance these outstandingly remarkable cultural river values.

Concern ID: 59 The NPS should include historic artifacts in the Archeological ORV discussion.

In River values, p 5-48 forward, discussing Cultural ORV "The rich archeological landscape" is all good, but doesn't recognize the historical miners for whom the Great Sierra Wagon Road was constructed. Some of the miner and road builder's broken tools may have been left as evidence of their presence. If so, recognize that those artifacts are part of our recent human heritage. Likewise do so for the Buffalo Soldiers who repeatedly pushed herdsmen out of Tuolumne Meadows after establishment of the park. As I remember they had a camp in Tuolumne Meadows.
[Individual, #304]

Response: As noted in the 2006 Draft ORV Report (available at *www.nps.gov/yose/parkmgmt/trpfacts.htm*), evidence of some historic uses in the river corridor, such as mining-related activities, are not considered to be river-related or regionally unique, rare, or exemplary.

Concern ID: 60 The preferred alternative would result in a disproportionate amount of adverse impacts on cultural resource values, compared with other river values.

We have found that Draft EIS indicates that a disproportionate amount of moderate, long-term adverse impacts to cultural resource values would occur under the preferred alternative as compared to all other values. We request that you re-evaluate the rationale for causing such impacts and adopt avoidance strategies rather than rely on mitigation as a way to enhance the public appreciation of cultural resources in Yosemite National Park.
[Conservation/Preservation, #385]

Response: With the exception of Parsons Memorial Lodge, a National Historic Landmark and a unique representation of the significance of the river in inspiring conservation activism on a national scale, no individual historic district or property was determined to meet the criteria of an outstandingly remarkable river value (i.e., river related and unique, rare, or exemplary within the region) of the Tuolumne River. Consequently, they are not 'river values' and not the focus of protection and enhancement under the TRP. Historic properties are protected under other relevant laws and policies. Where historic properties would be affected by the plan, the action is proposed to protect a river value (as is the case with historic properties within 100 feet of the river that would be relocated, see chapter 8) or to comply with Occupational Safety and Health Administration codes and NPS housing standards (as is the case with the historic employee housing at Road Camp and Ranger Camp, see chapter 8).

During the development of the TRP alternatives, the park considered ways to avoid adverse impacts on historic properties. The selection of the preferred alternative was, in part, due to its lower level of impacts on historic properties than other alternatives (e.g., alternative 1). The DEIS fully analyzed the impacts on historic properties in the project area, and the final plan and FEIS reflects revisions to minimize impacts on these values at the Glen Aulin High Sierra Camp, Tuolumne Meadows Lodge, and the Road Camp and Ranger Camp employee housing areas. Any action involving a historic property would be conducted in consultation with the California State Historic Preservation Officer with the goal of avoiding or minimizing effects on historic properties.

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

Concern ID: 61 The NPS should evaluate the impact of Glen Aulin High Sierra Camp on scenic river values.

GLEN AULIN CAMP AFFECTS SCENIC VALUES

Despite the fact that most of Glen Aulin is not within a designated Wilderness, its presence violates several regulations regarding the scenic quality of this designated Wild area of the river corridor. The 1980 Yosemite General Management Plan states that the Park will "permit only those levels and types of use that are compatible with the preservation or protection of the scenic resources and with the quality of the viewing experience." The Park's adopted VRM system requires that Wild Segments meet VRM Class I objectives, which state management should "preserve the existing character of the landscape level of change to the landscape should be very low and must not attract attention." The Glen Aulin High Sierra Camp is visible from portions of the Wilderness, attracts attention and does not preserve the existing character of the otherwise Wild landscape. Some wilderness visitors see Glen Aulin as "an intrusion upon their wilderness experience of this highly scenic area."(8-183)

BASED ON THIS, OUR CENTER ASKS THAT THE FINAL EIS ACKNOWLEDGE THAT THE PRESENCE OF THE GLEN AULIN HSC VIOLATES SPECIFIC REGULATIONS REGARDING SCENIC QUALITY OF THIS WILD SEGMENT OF THE RIVER. ACCORDINGLY, THE PREFERRED ALTERNATIVE SHOULD NOT BE SELECTED AND A MODIFIED ALTERNATIVE SHOULD BE CHOSEN.

[Conservation/Preservation, #239]

Response: The impact of the camp on scenic river values is addressed in chapter 8 of the TRP DEIS and chapter 9 of the TRP FEIS. The FEIS has been revised to add that when the canvas siding on the tents needs replacing, the NPS will consider using tan, green, or gray fabric if a contrast analysis indicates such a color would blend more harmoniously with the surrounding landscape.

Concern ID: 62 The NPS should consider that the wastewater treatment ponds impact river values, specifically water quality and scenic values.

Waste water ponds removal. I choose to call them sewer ponds because the domestic waste water appears to have had only scant primary treatment and little progress is seen on improvement. Text p 5-80, map p 7-31. Text p 8-27 saying "remove waste water ponds", Table 7-13 p 7-103, should apply to all alternatives as a goal. The two sewer ponds are shown in Figure 5-12, p 5-65 as low visibility locations whereas from the shore and from distant Medlicott Dome on p 5-2 and in Summary Guide p 5 where the shorelines look bright, artificially white in contrast to the nearby river gravel and exposed granite. Sewer ponds are stated to be in "high-or moderate visibility zones", p 8-164. My photograph of one of these sewer ponds is available to illustrate this bad visual impact, but Figure I-29 and 30 on page H-31 show a sewer pond and pump station, but lack Cathedral Peak in mine. USGS topo maps Falls Ridge and Tioga Pass each show a pond labeled "Sewage Disposal Pond" which I take as two black eyes for the park. The warnings about the potential impact on river water quality, p 8-32, should be headed by applying better technology as suggested in the text.

[Individual, #304]

The wastewater pond location does not protect river values.

[Individual, #422]

Response: The TRP DEIS did consider these impacts in chapter 8; the FEIS retains this analysis in chapter 9.

Concern ID: 63 The NPS should relocate roadside parking to well-designed parking lots to project the scenic ORV at Tuolumne Meadows.

Parking is an issue that must be faced up to. The present policy of just parking along existing roads is so very inconsistent with maintaining outstandingly remarkable scenic values. Automobiles should be concentrated in well designed parking lots.

[Individual, #344]

Response: All the action alternatives in chapter 9 of the TRP FEIS contain an action to mitigate human intrusions into views by eliminating undesignated roadside parking, formalizing or creating new off-road-side parking away from the meadows, removing informal trails, and restoring more natural conditions to many currently disturbed sites.

Concern ID: 64 The NPS should clarify if and how NPS fire management policy is coordinated with protection of scenic values.

Page 7-38. Table 7-4. How does wilderness fire management policy coordinate with the policies proposed for scenic values management? Doesn't the current forest condition reflect 100 years of fire suppression practices and is there not a pressing need to correct this?

[Individual, #406]

Response: The NPS Yosemite fire management program always consider the impacts of smoke on scenery and, in coordination with the California Air Resources Board, strives to burn at times of year when smoke production and the impacts of smoke would be minimal. This issue, and the relationship of historic fire suppression to current forest condition, is addressed independently of the TRP. Please see *www.nps.gov/yose/parkmgmt/fireplan.htm*.

Recreational Value: Tioga Road Access to the River through Tuolumne and Dana Meadows

Concern ID: 65 The NPS should use the 2007 ORV descriptions for recreational river values.

1. Please consider adopting the ORV descriptions that were presented to the public in 2007/2008. The ORVs that are used as a comparison in Appendix F are better written and in my opinion, better capture the values that are important in Tuolumne and the river. The recreational ORV, especially, is much better in the earlier version than currently described in the TRP as it captured the character of the range of recreational experiences available in the river corridor for people of all ages and abilities. The current description which highlights the Tioga Road really doesn't seem to capture the value of recreation in the Tuolumne River.

[Individual, #416]

We agree that the Tioga Road should be protected, but is it an ORV? After all, it is not the road itself that is outstandingly remarkable, but the access and recreation that the road allows. The 2007 ORV was written to acknowledge this variety of recreational options in the scenic segments of the Tuolumne River regardless of one's ability, which provide a unique recreational value in a setting that is largely characterized by wilderness. Numerous high quality recreational experiences for a variety of visitors such as fishing, hiking, climbing, painting, accessible horseback rides, and strolls to Parson's Lodge are no longer represented in the ORV. We believe there is an exhaustive list of appropriate recreational visitor experiences and the change in the ORV inappropriately minimizes those values, …We also encourage the NPS to adopt the 2007 description of the recreational ORV, which placed recreational value on rustic lodging at Tuolumne Meadows. We believe this is another example where the Merced River litigation has had the consequence of adversely impacting the visitor experience in an area not directly under the jurisdiction of that settlement.

[Business, #383]

Furthermore, early in the process, the HSCs were identified specifically as an Outstandingly Remarkable Value (ORV) which should be protected and enhanced, not reduced in scope and number of beds. Re-interpretation of the ORVs conducted later grossly mis-interprets the ORV of the area confining it to Tioga Road. The road itself is not an ORV and was not identified as such -these activities and opportunities that take place off the road are part of what people value, not just our ability to get there via the road.

[Individual, #409]

Response: As noted in appendix F of the TRP DEIS (now appendix G in the TRP FEIS), the draft ORV statements presented in 2007 were based on relatively broad, inclusive interpretations of the criteria that an outstandingly remarkable value must be river related and rare, unique, or exemplary. As the planning for the Tuolumne River progressed, the planning team concluded that the statements were too broad to guide the management decisions that needed to be made, to guide long-term monitoring, and ultimately to ensure that planned management would be effective in protecting and enhancing river values. The NPS consulted with the Interagency Wild and Scenic Rivers Council, which confirmed the need to reassess the initial statements using a stricter interpretation of the outstandingly remarkable value criteria. Based on that guidance, the TRP planning team revised the statements to describe a set of specific, generally mappable and measurable, outstandingly remarkable values that met stricter interpretations of being river related and unique, rare, or exemplary.

The specific ORV to which the commenters refer has been revised as follows to clarify that high country access, not the road, is the river value: “Rare and easy access to high-elevation sections of the Tuolumne River through Tuolumne and Dana Meadows is provided by the Tioga Road across the Sierra.” The short version of this statement has been revised as follows: “Rare and Easy Access to the River through Tuolumne and Dana Meadows.”

Concern ID: 66 **The High Sierra Camps should not be considered outstandingly remarkable values (ORVs).**

We are aware that some staff members at Yosemite have proposed that the polluting commercial camps be grandfathered, and perhaps even codified in your plan as "Outstandingly Remarkable Values" (ORVs). Any attempt to enshrine the HSCs as' "ORVs" would be both ludicrous and unlawful, and is unacceptable.

In order for recreational uses to be considered as an ORV, a value must be: 1) river-related or river dependent, and rare, unique, or exemplary in a regional or national context, The High Sierra Camps are none of these. The camps simply offer a luxury, catered, pampered lodging experience that is neither river-related nor river-dependent. And those who desire soft bedding, fancy meals, and showers can find comforts in thousands of locations throughout the region, state, and nation.

[Recreational Groups, #379]

Response: The High Sierra Camps are not considered outstandingly remarkable values of the Tuolumne Wild and Scenic River.

Concern ID: 67 **The NPS should include Glen Aulin High Sierra Camp and Tuolumne Meadows Lodge (also a High Sierra Camp) along with Parsons Memorial Lodge National Historic Landmark as ORVs.**

Regarding historic values, why is only Parson's Lodge mentioned as historic and not its neighbors, Glen Aulin HSC and Tuolumne Lodge? Is its Sierra Club origins more important than NPS's reasons for starting the tent cabin lodging facilities? Tuolumne Lodge was built the year after Parson's and Glen Aulin was started within the first decade of NPS's history. These two camps are part of the original mission of NPS and provide a service that is unique and historic to this day. Why is this no longer valued?

[Individual, #298]

Also, the NPS should reconsider including the Glen Aulin HSC as an ORV of the Tuolumne River as its situation is clearly river related, river dependent and unique. The ORV description of 2007 appropriately included this recreational value.

[Business, #383]

Response: With the exception of Parsons Memorial Lodge, a national historic landmark and unique representation of the significance of the river in inspiring conservation activism on a national scale, no individual historic district or property was determined to meet the criteria of an outstandingly remarkable river value (i.e., river related and unique, rare, or exemplary within the region) of the Tuolumne River. Similar camps are found in Sequoia and Great Smoky Mountains national parks, as well as innumerable outfitter camps throughout the Rocky Mountains, so the High Sierra Camps are not considered rare, unique, or exemplary in a regional or national context.

Recreational Value: Wilderness Experience along the River

Concern ID: 68 **The NPS should enforce existing traffic laws or conduct additional planning to address vehicle noise, particularly motorcycle noise, and associated impacts on the recreational ORV.**

My comments concern the disruption of wilderness solitude by one distinct user group. Every year tens of thousands of unmuffled motorcycles decend on the park and the tioga pass corridor in particular. These unmuffled engines can be distincly heard up to three miles from the tioga road on either side. If the total distance of the tioga road corridor is multiplied by 3 miles on either side of road the amount of square miles disturbed by this one group of illegal users is huge. These unmuffled engines are illegally modified to be louder than they are when purchased and are not legal either in the state of california or in the park. Yet there is no active enforcement of the vehicles code either at the park gates or on the roads by LEO officers. If the park has any concern with maintaing the "value of solitude" this would be an excellent place to start. All it takes is the effort to enforce existing laws. Any vehicle that does not meet the existing muffler law or excessive vehicle noise regulations should be turned away at the gates. This problem has only gotten worse over the past decades. Now the park has allowed tour groups of up 75 rental using motorcyclists to enter as a group all riding illegally modified extremely loud motorcycles. If these tour groups are

required to conduct business under any sort of use permit it should be recinded until they comply with muffler noise laws. If a train of 75 unmuffled cars entered the park as a group they would certainly be stopped by LEO officers why is this one user group granted defacto immunity from the law? This is an easy fix just enforce exisiting law and would do a great deal to quiet the impact of visitors vehicles.

[Individual, #53]

The Plan Should Propose Action to Manage Motorcycle Noise.

[Individual, #282]

The Draft TRP identifies aircraft and vehicle noise as the top two noise sources and the top two priorities for management action.[12] However, no management action is proposed which is a problem particularly regarding highly disruptive vehicle noise from motorcycles with altered mufflers. During the summer, motorcycles roar up from Yosemite Valley and through Tuolumne Meadows daily, with groups of up to 36 cyclists on holiday weekends that fill the road corridor with an inescapable ear-shattering noise that can be heard for miles into the wilderness. This noise not only exceeds NPS soundscape management standards and the requirements of the Wilderness Act and the Wild and Scenic Rivers Act, it also violates NPS regulations and the California Vehicle Code. Unfortunately, Yosemite National Park has made no effort to enforce the noise standards of any of these authorities against motorcycles with altered mufflers.

[12] See Draft TRP at 8-128.

[Recreational Groups, #312]

Response: In 2010, in response to increasing numbers of requests for assistance from park managers, the NPS established a motorcycle working group that included a broad collection of NPS regional, park and national office managers. This group was established as part of a larger effort to protect park soundscapes from noise from variety of sources (e.g. park operations and maintenance, overflights, transportation, etc.). The NPS Natural Sounds and Night Skies Division (NSNSD) convened a workshop with the group to learn about and discuss the effects of excessive motorcycle noise on park resources and visitors. Based on recommendations from the NPS motorcycle working group, the Natural Sounds and Night Skies Division is developing an education and outreach effort to help interested parks communicate the importance of protecting park soundscapes in terms of ecological integrity and visitor experience and the effects of excessive motorcycle noise. In anticipation of this effort, a packet of educational materials and tools are being developed. The audience for these tools is the motorcycle riding community, park visitors, and the general public. These materials are designed to incorporate park specific information and messaging while providing the consistency necessary for a national effort. The plan is to implement the program in 2 or 3 parks in summer 2013, revise materials and tools based on lessons learned, and then roll it out to more parks in 2014.

Concern ID: 69 The NPS should manage for greater solitude on selected trails in Wilderness.

Manage for greater solitude opportunities on selected trails. The plan states that "increasing day use threatens to diminish opportunities for solitude" on some trails. Alternative 4 will allow day use to increase but does not propose managing for greater solitude. I would prefer a proactive approach that manages for fewer encounters on selected trails. These would not necessarily be the most popular trails; they might include ones currently offering solitude where that experience could most readily be maintained.

[Individual, #181]

Response: The NPS has revised the encounter rate in the portion of the wild Grand Canyon segment beyond Rodgers Creek (upstream of Pate Valley) to an average of two encounters per hour to reflect this area's more remote character. This lower encounter rate will provide greater opportunities for solitude.

Concern ID: 70 The NPS should not use day use wilderness trailhead quotas or encounter rate standards to protect opportunities for solitude in Wilderness.

Using the Wilderness Act as justification for requiring permits for day-hiking would have the effect of turning people against the concept of designated Wilderness. With its potential to turn people against the concept of Wilderness, this would be a direct threat to the Wilderness Act.

In the case of dealing with congestion on the Half Dome cables, using the fact that it is in a designated Wilderness resulted in calls for removing the Wilderness designation. The NPS had ample basis for reducing the number of hikers based on safety and resource considerations, and there was no need to tell the public that there were too many people to meet the definition of "solitude". The Wilderness Act does not REQUIRE solitude, only the OPPORTUNITY for it. The Wilderness Act also says "or a primitive and unconfined type of recreation", and telling people they cannot start up the trail because it is crowded hardly falls in that category.

[Conservation/Preservation, #348]

"Day use on trails near Tioga Road would be managed to preserve opportunities for solitude" ... "If necessary for maintaining use levels within this standard, day use wilderness trailhead quotas would be implemented for major trail segments, including Lyell Canyon, Glen Aulin, Cathedral Lakes, and Dog Lake". I enjoy solitude as much as anybody. But a statement that dayhikers could potentially be denied access to wilderness trailheads if use levels exceed standards does not belong in the Plan. I'm sure the bureaucrats who came up with these proposed standards can point to irrefutable science behind the standards, but however well-meaning this proposal is, it is badly misguided, because when it comes to dayhiking, even on wilderness trailheads solitude should be sacrificed for access if a trail's popularity unfortunately makes it impossible to have both. For overnight hikes, definitely keep a quota system, but do NOT implement one for day use. Managing use levels for day use for reasons other than solitude, such as Half Dome or if a trail is physically overwhelmed by the sheer number of hikers, is a good idea; doing so for no other reason than solitude is a bad idea.

[Individual, #253]

I strongly oppose the Park's proposal to use wilderness visitor encounters along the wild segments of the river (i.e., Lyell Canyon, Mono Pass trail) to monitor and (likely) restrict wilderness day use on popular Yosemite trails (see, e.g., DEIS at ES-9). See also DEIS at 5-75:

"The plan will establish an indicator and management standard for wilderness trails that are within a day's hike of Tuolumne Meadows? If encounter rates increase despite these efforts, the NPS will establish a day use permitting system and make necessary changes in the backcountry quota system to better manage for opportunities for solitude;" and DEIS at 7-87. The plan also proposes "implementation of a day use trailhead quote system if determined necessary." (DEIS at 5-75; see also DEIS at 7-87.) This "social engineering" approach is entirely inappropriate in Yosemite's much-loved high country.

[Individual, #257]

Response: The Wilderness Act directs the NPS to provide opportunities for solitude or a primitive and unconfined type of recreation. The act does not direct the specific management techniques for preserving such opportunities. The standard for use confined to trails of a number of encounters with other groups per hour is consistent with broadly accepted standards for high-use destinations in wilderness. It is also consistent with current use. For instance, the most recently sampled encounter rate on the trail to Glen Aulin only occasionally reached 9 encounters with other groups per hour (see chapter 5, table 5-15) and was below that number most of the time; however the encounter rate standard for that heavily used trail segment is set to an average of 12 encounters per hour. It is expected that so long as the user capacity for Tuolumne Meadows remains close to existing use levels (as it would in the preferred alternative), there would be no adverse impact on day recreation associated with this standard. One of the purposes of establishing a user capacity program for the Tuolumne River corridor is to ensure that river values, including the recreational value of a wilderness experience along the river, is protected into the future.

Concern ID: 71 **The NPS should clarify under what circumstances a day use wilderness permit system would be implemented, and should conduct additional environmental and public review prior to implementing the option.**

On this point, see TRP pages 7-87 and 7-88 under the description of the NPS preferred Alternative 4. Also see 5-72 through 5-78.

Repeated reading of these pages only confirmed our initial confusion as to what NPS intends. It says that under certain circumstances a permit system would be implemented for day-hiking. But it is unclear what those circumstances would be, or at what point on the trail a permit would be required, or when it would be required. So we asked staff to explain it in plain English. We received conflicting opinions from different staff members as to the meaning of the content of those pages. With so much confusion, it is abundantly clear that a future manager would be free to apply his own interpretation and proceed to do whatever he wanted to do. It is imperative that this section be re-written so as to make the intent very clear.

[Conservation/Preservation, #348]

No day use wilderness permit system should be imposed without full public and environmental review.

[Individual, #81]

One proposal in the TRP which clearly would require further analysis and public involvement would be implementation of a permit requirement for day-hiking in designated Wilderness. Most day-hiking which is done in the Tuolumne Meadows area falls in this category, and is designated for a possible permit requirement.

[Conservation/Preservation, #348]

Response: The descriptions of how user capacity would be managed for each alternative have been revised to clarify that if monitoring determined that the new standard for day use was not being met, the NPS would increase monitoring, inform visitors about alternative trails within the corridor, and encourage visitors to hike during days and times of day at which lower encounter rates occur. If encounter rates increased despite these efforts, the NPS would establish a day use permitting system (pursuant to additional compliance and public involvement) and make necessary changes in the backcountry quota system to better manage for opportunities for solitude. Chapter 8 of the TRP FEIS has been revised to clarify that additional compliance with public involvement would be required to implement a day trailhead quota system, and that a wilderness day use permit option could be considered as part of the upcoming Wilderness Stewardship Plan (see chapter 8, alternative 4).

Concern ID: 72 **The NPS should reconsider the approach of using social encounters to manage for opportunities for solitude.**

I also think the approach to manage the wild river corridor via social encounters ("no more than ten parties per hour, 80% of the time;" DEIS at ES-14) is poorly thought out. For instance, there are many day hikers (many of them local residents of Mono County, where I live, but also visitors from throughout the U.S and the world) who make the annual 18 mile round-trip trek to spectacular Waterwheel Falls during the high runoff season. The Park should not limit day hiking visitors' ability to enjoy their Park by placing onerous restrictions such as day use quotas and permits on them. Similarly, during high-season for Pacific Crest Trail (PCT) through-hikers and John Muir Trail hikers, one will likely see well over 10 parties per hour in Lyell Canyon, especially as one gets closer to Tuolumne Lodge. This is especially likely to be true for the PCT hikers during dry years when water is limited on other sections of the PCT or during high-snow years; in both cases hiker use is consolidated as vs. spread out during years where there is sufficient water and not too much snow. Day hikers who wish to enjoy this spectacular section of the PCT and the John Muir Trail should not be "penalized" due to a large influx of PCT or John Muir Trail hikers on this remarkable and popular trail.

[Individual, #257]

I see the increasing push away from group recreation and towards isolationism as a disturbing reflection of the direction society is headed. There is a trend prevalent in society to protect our country from its people. This is an elitist attitude, driven by the vocal few. The perception of overcrowding in Tuolumne is the opinion of a few who feel that to enjoy the park they shouldn't be bothered by the intrusion of other people. The problem with this attitude is that it is selfish. This place was set aside for everyone to enjoy. Those who wish to have solitude should expand their explorations to the millions of acres of practically untouched wilderness both in the park as well as surrounding the park. Tuolumne Meadows is an area of amazing scenery accessible by road and by its very accessibility is going to

encourage people to stop and congregate. This will foster the perception of crowding by those who wish solitude, but I repeat to them, there are millions of acres of area to find this solitude. You do not need to regulate a small area of the park enjoyed by many just so these elite few can have a solitary experience by stepping out of their cars. These elitists must make the effort to find that solitude if that is their goal.

[Individual, #263]

On Page 5-76 we read "...encounters have been chosen by many wilderness managers as an indicator for the social setting..." It should be clarified that the National Parks cannot be all things to all people. The emphasis should be that National Parks (like Yosemite) provide an opportunity to enjoy a natural resource area under conditions that are distinctively different from the hustle and bustle of urban life. Solitude, quiet, individualistic experience, and family recreating as opposed to group activities, and organized sight- seeing tours should be discussed in the TRP and it should be acknowledged that certain visitor groups may not be as readily accommodated in wilderness areas or near wilderness areas as others.

[Individual, #406]

Response: The NPS uses the best available science, including social science, to determine indicators and standards for protecting river values. Using social encounters to measure impacts on recreation and the visitor experience is an accepted measure in social science research and literature.

Concern ID: 73 The NPS should consider that the Yosemite Wilderness is relatively uncrowded, compared with neighboring USFS land.

As someone who has extensively used the off-trail backcountry of Yosemite, I also know that this portion of Yosemite is completely uncrowded. Venture 10 minutes off any major trail, even on the Lyell Canyon, Vogelsang or Glen Aulin trails, and you will see no one. Yosemite's backcountry is not only less crowded but more pristine than that of neighboring Forest Service-managed wilderness areas such as the Ansel Adams and John Muir wildernesses. The Yosemite wilderness user who hikes on the Park's trails is accustomed to seeing a lot of people, especially in the first mile or two and at major destinations such as Lyell Canyon Basecamp (not a place day hikers typically reach) or Waterwheel Falls, both in the W&S river corridor. Those who don't like the experience of seeing a lot of hikers can easily venture off the trail and find perfect solitude.

[Individual, #257]

Response: No response required.

Concern ID: 74 The NPS should clarify how encounters rates would be monitored and if automatic trail monitoring data would be distorted by wildlife.

Regarding "encounter" rates on the trails I have two comments. .... at a public meeting in Yosemite regarding the "science" behind the Yosemite planning documents it was disclosed that the automatic trail counters will record people and large animals. I did not see a discussion in the TRP about how this error factor will be addressed when determining "encounter rates" in future trail monitoring activities.

[Individual, #406]

Response: The NPS is aware that such inaccuracies can occur and has established protocols to correct for possible collection errors. These details will be better articulated in the field monitoring guide and in protocols that will be available on the park website.

Concern ID: 75 The NPS should clarify how opportunities for solitude would be managed in areas close to Tioga Road; the NPS should not necessarily manage for opportunities for solitude in such areas.

While the preparers give lip service to "opportunities for solitude" on trails, how might this be "managed"? Close to the road these have been largely absent for years now. And, surely, increasing day visitation is an anathema to that concept.

[Individual, #270]

Most Wilderness managers have acknowledged that it is unrealistic to expect the same degree of solitude near the road as a few miles in on a trail. Even the first mile or two can thin out the crowd markedly. It should be accepted that there are going to be places where there are more hikers, and other places where there are going to be fewer. It should be expected, and accepted, that there will be more hikers near the beginning of a trail, and that the numbers will thin out as the distance from the road increases. To try to manage for solitude near the beginning of a trail would be social engineering at a level which is unwarranted.

[Conservation/Preservation, #348]

Managing trails near Tioga Road should be done very carefully keeping in mind that "opportunities for solitude" exist in many areas in the immediate vicinity. The wilderness area, 95% of Yosemite, provides a great many "opportunities".

[Business, #411]

Response: The Wilderness Act requires the NPS to preserve wilderness character, including "outstanding opportunities for solitude or a primitive and unconfined type of recreation" in designated wilderness, which includes areas within 200 feet of Tioga Road. In application, designated wilderness close to developed areas are managed differently than remote wilderness. For instance, the encounter rate standard might be higher in these areas, though it must remain below the standards set by the plan (see chapter 5, table 5-15) across the given trail segment to be within the management standard for the wilderness recreation ORV. Also, the wilderness encounters indicator has been revised in the TRP FEIS (see chapter 5, "Recreational Value: Wilderness Experience along the River") to include different standards for different areas within wilderness. For trails with higher use and better access such as Glen Aulin and Lyell Canyon, the standards are adjusted as follows: an average of up to 12 encounters per hour on the trail to Glen Aulin, an average of up to 12 encounters per hour on the Lyell Canyon trail from Rafferty Creek to the Ireland Lake junction, and up to 8 encounters per hour on the Lyell Canyon trail upstream of the Ireland Lake junction. In areas that are more remote and therefore difficult to access (the Grand Canyon of the Tuolumne below near Pate Valley) the standard is an average of two parties per hour. Through this revision, the TRP will provide greater opportunities for solitude, especially in the Grand Canyon of the Tuolumne. Many areas near the Tioga Road are not designated wilderness, so the Wilderness Act mandate to provide for opportunities for solitude or a primitive and unconfined type of recreation does not apply. Within designated wilderness near Tioga Road, the standard established for those areas will ensure that opportunities for a primitive and unconfined type of recreation remain abundant.

Concern ID: 76 The NPS should select a lower encounter rate standard and adverse impact threshold than what is proposed in Alternative 4.

Our Center finds the standard of encounter rate of no more than 10 groups per hour, 80% of the time, under Alternative 4 to be too high to honestly provide a quality wilderness experience. The next lowest encounter rate, posed by Alternative 2, is only 4 groups per hour 80% of the time. For the preferred alternative, CSERC advocates for a more middle-ground rate of 7 groups per hour, 80% of the time. This is especially important given that current rates for two of the most popular trails are as follows: Lyell Canyon - 7.37 groups per hour, 80% of the time, Glen Aulin - 6.8 groups per hour, 80% of the time (C-15). Sentiment from public comments show that these rates are already being seen as high enough to degrade their experience. Letting that amount grow by at least 3 more parties an hour 80% of the time over a period of 3 years will likely lead to fast growing discontent and degradation of visitor's Wilderness experiences on these trails.

. . . IN THE MEANTIME, THE PARK SHOULD LOWER THE STANDARD OF ENCOUNTER RATE TO NO MORE THAN 7 GROUPS PER HOUR, 80% OF THE TIME. THE STANDARD FOR ADVERSE IMPACT SHOULD BE LOWERED TO 10 PARTIES PER HOUR, 80% OF THE TIME OVER A THREE-YEAR PERIOD.

[Conservation/Preservation, #240]

Response: The TRP FEIS has been revised to adopt a lower encounter rate of not more than 2 other parties per hour for the trail in the Grand Canyon of the Tuolumne from Rodgers Creek to Pate Valley. This standard will enhance opportunities for solitude in this area, which is not accessible by day hikes from Tuolumne Meadows. Please also see the response to concern #75.

Concern ID: 77 The NPS should clarify why it selected an encounter rate based on groups rather than individuals.

The fact that the park is using group numbers instead of individual numbers of people to make their assessment in trail crowding is also disturbing. The present limit on numbers of people per group on day hikes in wilderness is 35 people (7-7). This leaves the potential for people to encounter well over one hundred people per hour on these popular day hikes, truly inhibiting visitors from having a wilderness experience. Our Center urges the Park to upgrade its user survey methods to be able to account for individuals on the trail and provide a more useful set of data that will help establish realistic encounter rates on the trails.

[Conservation/Preservation, #240]

Response: The NPS uses the best available science, including social science, to determine indicators and standards for protecting river values. Using groups, rather than individuals, is an accepted measure in social science research and literature.

Concern ID: 78 The NPS should standardize encounter rate language as either encounters with "groups" or "parties".

[T]he language of the TRP is inconsistent. The issue of encounters with individuals (i.e. one person) versus groups is discussed but the words "groups" and "parties" are used alternately within the document proper. This creates an ambiguity that leaves the public in the dark as to what the "trigger" will be for the National Park Service to justify implementing a day reservation system.

[Individual, #406]

Response: The TRP FEIS has been revised to consistently use the term "parties" in the context of encounters with other parties on trails.

Concern ID: 79 The encounter rate of "four other groups per hour" proposed in alternative 1 would require a significant reduction in day visitor use at Tuolumne Meadows.

Page 7-41. How can the trail encounter rate standard of no more than "four other groups per hour" be met without a radical reduction in day visitor use at Tuolumne Meadows?

[Individual, #406]

Response: The commenter is correct; the proposed day visitor use capacity at Tuolumne Meadows is significantly lower in alternative 1 than the other alternatives, including No Action.

River Value: Water Quality

Concern ID: 80 The TRP DEIS does not provide enough detailed information regarding water quality.

On page 2-7 water quality is addressed but there is much information not presented here or elsewhere in the document. For example, are monitoring wells in Tuolumne Meadows for the sewer treatment plant or just for the fuel station? Where is the data on the capacity of the wastewater treatment system, and on the disposal policy for sludge from the plant? There are those in the agricultural community who have reservations about using treated wastewater on pasture lands, and the use of this water on golf courses is highly regulated, yet there is no discussion in the TRP about the impact the disposal fields have on browsing wildlife. I've already touched on my concerns regarding the lack of water meters to determine consumptive use but there should also be flow meters at the RV dump station, and there should be a discussion on how wastes from RVs are managed by the treatment facility.

[Individual, #406]

Response: Please see the description of river values, under "Water Quality" in chapter 5 of the TRP. The TRP DEIS and FEIS are not intended to be encyclopedic reviews of all currently available science (see response to concern #36, above). The NPS provides links to several publications related to research within the park; see *www.nps.gov/yose/parkmgmt/trp_science.htm* for a link to a U.S. Geological Survey publication regarding water

quality in the Tuolumne River corridor. See also *www.nps.gov/yose/naturescience/visitor-use-archive.htm* for links to annual reports, including water quality reports, used during preparation of the TRP. Finally, the tiered environmental compliance for the wastewater treatment plant upgrade will contain more specific information on the existing and proposed facilities.

Concern ID: 81 The TRP should evaluate water quality in the context of public health.

This EIS must provide accurate public health information regarding the daily quality of the water in the summer, and must recommend an alternative that requires removal of all sources managed by the Park Service through permits of fecal coliform in the Tuolumne River watershed in the Park.
[Individual, #318]

Human waste disposal is another issue that should be more fully studied. First responders (i.e. emergency personnel) are instructed to take care at emergency scenes to treat all body fluids as potentially a biohazard. People coming from foreign countries may be carriers of pathogens that are uncommon in the United States. On the other hand, given the high use of medications and dietary supplements Americans may be introducing into the environment a host of contaminants that should also not be allowed into the Tuolumne River. Where is the complexity of this issue addressed in the TRP and how does the National Park Service intend on monitoring for these intrusions into the ecosystem. E.coli sampling is not the only thing that should be under discussion. Furthermore, on Page 83, E.coli sampling is said to take place in the "frontcountry." It isn't until much further into the document that this term is defined as referring to the developed areas of the Park. I believe testing should also be routinely performed in Yosemite's "backcountry."
[Individual, #406]

Response: The current condition of water quality is discussed at length in chapter 5 of the TRP DEIS and FEIS. In brief, water quality in the Tuolumne River remains exceptionally high and superior to state standards for protecting public health, as it was at the time of designation. The Wild and Scenic Rivers Act requires the NPS to protect the values that caused the river to be included in the national wild and scenic rivers system. Because water quality is one of those values, the NPS manages water quality to retain this exceptionally high quality and regularly samples water in the Tuolumne River watershed.

Concern ID: 82 The NPS should assess the risk of, and response to, potential leaks from the force main crossing Tioga Bridge on Tioga Road and the force main between the wastewater treatment plants and wastewater treatment ponds.

2. 2-7: The SFPUC is concerned about wastewater force main crossings on the Tuolumne River. The SFPUC recommends the NPS assess the risks of, and response to, potential leakage from the force main crossing the Tioga Bridge on CA 120, and the force main between the TMWWTP and the detention ponds.
[Public Utility, #446]

Response: The TRP FEIS has been revised to identify both river crossings as potential risks to water quality. In chapter 8, under the actions common to alternatives 1-4, the NPS would upgrade or construct the Tuolumne Meadows wastewater treatment plant to conform to contemporary California codes, which require tertiary treatment. Under alternatives 2-4, this action might allow for the consolidation of wastewater treatment facilities and the removal of the force main between the current wastewater treatment plant and wastewater treatment ponds. Alternatives 2-4 have also been updated to note that even if this technology was not available, it might be possible to eliminate the ponds because tertiary treatment might produce wastewater of a quality high enough to be distributed directly to the sprayfield if no other factors required temporary containment in the ponds. Tertiary treatment would also greatly reduce the risk to water quality from potential failure of the existing wastewater line under the meadows.

Finally, the risk of untreated wastewater contaminating the river from a break in the line under the bridge is one reason that the idea of relocating all the wastewater treatment facilities to the site of the wastewater treatment ponds on the north side of Tuolumne Meadows was dismissed from further consideration; such a relocation

would quadruple the amount of untreated wastewater crossing the Tuolumne River through the wastewater line at this location.

Concern ID: 83 The NPS should clarify if the adequacy of the Tuolumne Meadows campground wastewater treatment collection system has been studied.

10. 7-108: The SFPUC requests clarification on whether studies were performed to evaluate the adequacy of the Tuolumne Meadows campground wastewater collection system capacity. If studies were not performed, the SFPUC recommends that such studies be conducted.
[Public Utility, #446]

Response: The TRP FEIS has been revised in chapter 8 to clarify that under all the action alternatives the adequacy of the campground wastewater collection system would be assessed and upgraded if necessary as part of the campground renovation, and leaking water and wastewater lines would be repaired or replaced.

Concern ID: 84 The TRP should identify stock use as a major risk to water quality.

On page 5-81, Water Quality Management Indicators and Monitoring Program, implies that people are more likely the greater impact on water quality when it states, "Nutrient levels ..., Escherichia coli *(*E. coli*), and hydrocarbons are appropriate indicators for monitoring water quality because their levels can be tied to human activities and human contact with water." At the top of the page, you consider a microbial water quality study by Atwill et al. in 2008 on the Tuolumne River watershed that considered the potential risk of surface water contamination by pack stock. Please also incorporate into the document the fact that scientists from the UC Davis Medical School published studies in 2006 and 2008 that document high concentrations of bacteria in (among other waters) the Tuolumne River, and concluded that "pack animals are most likely the source of coliform pollution." Other sections of your report also allude to water quality degradation by stock such as new requirements on handling their fecal matter. Please incorporate into your report a more balanced identification that stock is a major cause of water quality issues.*
[Individual, #307]

The trails are torn up, littered with manure, covered with dust & flies, and you know it all runs off into the water
[Individual, #322]

Response: Please refer to the response to concern #234, under the "Stock Use" section.

Concern ID: 85 The NPS should minimize and/or eliminate discharge from the wastewater collection system during winterization and upgrade the winter ranger septic system.

7. 7-30: The SFPUC recommends minimizing and/or eliminating the current direct discharge of chlorinated water from the wastewater collection system during winterization or inflow and infiltration flow through the wastewater collection system to the meadow during winter.
. . .8. 7-94, 95: Regarding the septic systems at Tuolumne Meadows, the SFPUC recommends NPS consider improvements to the winter ranger septic system.
[Public Utility, #446]

Response: Although winterization procedures are part of basic park operations that are not addressed in the TRP, no chlorinated water is currently discharged during winterization operations. The NPS is not aware of any need to upgrade the Tuolumne Meadows winter septic system.

Concern ID: 86 **The NPS should continue to work with the San Francisco Public Utilities Commission on minimizing water quality impacts from trails and the NPS stable.**

SFPUC recommends that the following be addressed in the TRP or be prioritized in subsequent project-level analyses or annual operations and maintenance activities if not addressed directly in the TRP: Trails Maintenance: The SFPUC recommends continued detailed discussion with NPS regarding current sanitary surveys to ensure priority trails receive additional maintenance to improve drainage and reduce erosion. Discussions need to include assessment, improvement, and, where appropriate, rerouting of trails out of watercourses and areas that are not easily maintained by erosion control.

. . . 7-94, Alternative 4: NPS Corral. The SFPUC supports the continued practice of making diversions at the NPS corrals at Tuolumne Meadows to divert overland flow from the Tioga Road and overflow from the culvert from draining through the corral and flushing soil and manure into the river.

[Public Utility, #446]

Response: The NPS will continue to work with the SFPUC on minimizing water quality impacts from any potential source; this is done outside of the Tuolumne River Planning process. Chapter 5 of the TRP FEIS has been revised to clarify that "The risk to water quality associated with stable operations will continue to be mitigated by best management practices, including manure removal from corrals and water courses within the first 0.25 mile of trails leading from stable operations and the diversion of overland flow away from corrals. These practices have been successful in protecting water quality. The sizes and specific locations of the NPS and concessioner stable operations vary among the alternatives."

Concern ID: 87 **The NPS should replace the Tuolumne Meadows skier toilet with a vault toilet, connect the Lembert Dome toilet to the existing wastewater treatment system, and clarify proposals for the Mammoth View parking area toilet.**

Pit Toilets within the Tuolumne River Watershed: The SFPUC recommends the replacement of the Tuolumne Meadows skier toilet with a vault toilet or other appropriate toilet system to minimize water quality impacts. Mammoth View Portable Toilets: It remains unclear whether there will be toilet facilities at the designated pullout area at Mammoth View and day parking areas designated along the Tioga Road (page, 7-28). What does NPS plan for toilet facilities at the Mammoth View Parking and designated day parking areas? Vault Toilets at Lembert Dome Parking Area: The SFPUC recommends that the NPS consider connecting the Lembert Dome vault toilets to the existing sewer system.

[Public Utility, #446]

Response: The TRP FEIS has been revised to include replacement of the skier toilet with a vault toilet. The NPS also intends to replacethe vault toilets at Lembert Dome with flush toilets once implementation of water conservation measures in other facilities at Tuolumne Meadows are in place, so long as water use at these facilities remains within the standard for protecting free flow of the river (see chapter 5). Mammoth View is not addressed in the TRP because toilets are needed temporarily, for 2-3 months, and then they are removed to eliminate their localized visual impacts. This action is part of basic park operations.

Concern ID: 88 **The NPS should clarify if the TRP will address water quality impacts from stormwater runoff in new parking areas or roads, particularly with regard to total petroleum hydrocarbons.**

ES-6: The SFPUC requests clarification that the NPS EIS will address water quality impacts due to storm water runoff from new parking areas and roads, particularly with regard to total petroleum hydrocarbons.

[Public Utility, #446]

Response: The TRP FEIS has been revised to add that new and enlarged parking lots will be designed and constructed in ways that minimize stormwater runoff and impacts associated with the introduction of petroleum hydrocarbons into waterways. Please also see "Appendix O: Mitigation Measures Common to All Action Alternatives," provided in volume 3.

Concern ID: 89 **The NPS should consider that a motor vehicle accident along Tioga Road could be a risk to water quality.**

I really have to think that the greatest risk to water quality is the risk of a motor vehicle accident at the Bridge over the Tuolumne or along side the Dana Fork and the introduction of petroleum products into the river. That risk is not even mentioned or assessed in the entire document.
[Individual, #389]

Response: The risk to water quality from motor vehicle accidents has been added to the description of the no-action alternative impacts analysis in chapter 9, under the "Hydrology" impact topic. However, note that implementation of the TRP would not change this risk, as the TRP does not limit the amount of traffic on Tioga Road.

River Value: Free-Flowing Condition

Concern ID: 90 **The NPS should seek a new domestic water supply source(s) for Tuolumne Meadows, remove the Dana Fork diversion dam, and open the Parker Pass Creek area to wilderness camping.**

[R]ecreational use would be retained", p 8-3, which has a useful discussion, but it could be expanded for the Wilderness area of Parker Pass Creek basin and Dana Meadow by relocating the domestic water intake away from Dana Fork which could lead to adding wilderness permit capacity at up to seven lakes there.
[Individual, #304]

. . . Also, there is no diversion of water from the Lyell Fork of the Tuolumne River and this should be addressed as to why this is not and cannot be done.
[Individual, #406]

Response: As noted under the "Hydrology" affected environment in chapter 8 of the DEIS, chapter 9 of the FEIS, the NPS attempted to find and develop groundwater as a viable water supply for the Tuolumne Meadows area (HRS Consultants 1994). Optimal areas for well locations were identified (some were eliminated because they were located in designated Wilderness), and two test wells were drilled in the vicinity of the Tuolumne Meadows campground. Both test wells were drilled to a total depth of 400 feet below the surface, were considered dry holes, and were subsequently plugged and abandoned. The Wild and Scenic River Act prohibits any new water diversions on the Tuolumne River. Therefore, the NPS will continue to use the existing water diversion on the Dana Fork to support use at Tuolumne Meadows and will continue to prohibit overnight use upstream from this water source.

Concern ID: 91 **The NPS should consider that water supply is a limiting factor in determining user capacity.**

Water supply must be considered a limiting factor when determining user capacity.
[Individual, #422]

Response: In the TRP FEIS chapter 8, the actions common to alternatives 1-4 have been revised to clarify that the maximum use under each alternative must be protective of river values, with the primary constraints being limits on water consumption to protect streamflow and limits on facilities and foot and stock traffic to protect sensitive meadow and riparian habitats and water quality. These constraints provided the upper limits for each alternative. A recent study conducted for the TRP (Waddle and Holmquist 2013) indicates that flows of 1 cubic foot per second or lower have occurred on 9 or more days in at least 25% of years and for one day or more per year in 48 of the past 95 years. Based on this study, the NPS developed all alternatives in this plan such that water use would not comprise more than 10% of the Dana Fork's flows when such flows reach their critical low of 1 cubic foot per second. If climate change results in longer periods of low flow that begin earlier in the summer, current and proposed rates of water withdrawals could exceed 10% of future low flows. To avoid

future potential impacts on downstream habitats, additional water conservation measures would be implemented as part of all the action alternatives (such as replacement of all toilets in the campground with low-flow fixtures when the campground is rehabilitated). These additional measures, which could include temporary closures of some facilities, are described in chapter 5.

Concern ID: 92 The NPS should adopt the Glen Aulin High Sierra Camp water conservation measures in other areas of the park.

This section also addressed the potential impacts from climate change which I've stated earlier is not limited to just how it affects water flows in the river. Conservation measures implemented at Glen Aulin could and should be implemented at all locations in Yosemite National Park to ensure that the best and wisest use of water resources has been undertaken. These actions would give greater credibility to visitor or user capacity statistics.
[Individual, #406]

Response: The water conservation measures, existing and proposed, at Glen Aulin High Sierra Camp are in response to risk to water quality posed by the camp's leach mound. Actions elsewhere in the park are out of the scope of this plan, though NPS is always seeking to conserve water everywhere in Yosemite.

Concern ID: 93 The NPS should remove all permanent structures from the 100-year floodplain at Glen Aulin High Sierra Camp.

Our Center also finds that the presence of any structures within the 100-year floodplain at Glen-Aulin violates the free-flowing requirement set forth by the WSRA. The "potential" to impede flows (8-32) should not be taken any less seriously than a guarantee that flows would be impeded. Removal of the three tent cabins that are within the floodplain under the preferred alternative would be a step in the right direction, but ultimately that limited action still leaves the actions proposed for the Camp in the Park's preferred alternative in violation of the WSRA.
WE ASK THE PARK TO ACKNOWLEDGE THAT LEAVING STRUCTURES WITHIN THE 100-YEAR FLOODPLAIN AT GLEN AULIN DOES NOT PROTECT THE FREE-FLOWING CONDITION OF THE RIVER, A REQUIREMENT OF THE WILD AND SCENIC RIVERS ACT. SELECTION OF ANY ALTERNATIVE THAT LEAVES PERMANENT STRUCTURES IN THE FLOODPLAIN AT GLEN AULIN, INCLUDING THE PREFERRED ALTERNATIVE, PUTS THE PARK IN VIOLATION OF THE WSRA.
[Conservation/Preservation, #239]

Response: The NPS evaluated moving all permanent structures out of the 100-year floodplain in alternatives 1 and 2. The NPS preferred alternative, alternative 4, would retain all permanent structures at their current locations because there are very few, if any, areas suitable for relocation of these structures; these cabins are historic and contribute to the Glen Aulin High Sierra Camp historic district (the camp was determined eligible for listing on the National Register of Historic Places in 2004). In addition, the camp is closed and the cabins dismantled during the time period when major floods occur (generally during winter rain-on-snow events and spring run-off).

Concern ID: 94 The NPS should clarify if the impact of the Tioga Road bridge is considered transitory.

Page 5-14 addresses transitory impacts. Does the road bridge at Tuolumne Meadows constitute a transitory impact if it impedes water flow only during high water years or does it impede run-off every year?
[Individual, #406]

Response: The impact of the Tioga Road bridge occurs primarily during years of high runoff, though the effects are not so transitory. The abutments for the bridge cause the river to back up during periods of high flows, which can cause the river to deposit sediments upstream of the bridge and cause scouring effects downstream of it. Because the river's energy peaks during the spring runoff (or winter rain-on-snow floods), the much lower flows of summer and fall do not have the energy necessary to reverse these impacts. In this way, disruptions to

these hydrologic processes, even though they might not occur over an extended period of time, can have long-term adverse impacts on river-related habitats.

No Action Alternative

Concern ID: 95 The NPS should select the No Action Alternative

I do not support reducing the current limits on use as detailed in the Tuolumne River Plan. In fact, I support No Action …. I have been going to Yosemite High Country for about 3 decades and have noticed no significant decline in the quality of the trails, the lodgings, etc. In fact, the park seems to be in better shape.

….

So, I recommend the No Action option.

[Individual, #93]

I think that it should stay as it is, no action. The US is in serious debt and these plans will cost a bundle. Keep things as they are because it is hard enough as it is to find a reasonably priced place to stay anywhere in Yosemite.

[Individual, #119]

I wish to cast a vote in favor of leaving all alone. I don't want to see the ability to see Yosemite reduced.

[Individual, #141]

Response: The no-action alternative is not the environmentally preferable alternative and was not selected as the preferred alternative because it would not fully protect river values, particularly at Tuolumne Meadows, where increasing amounts of use would continue to adversely affect ecologically sensitive meadow and riparian areas, archeological resources, scenic values, visitor experience, visitor safety, and park operations. Additionally, aging utilities at Tuolumne Meadows and at Glen Aulin High Sierra Camp would continue to pose risks to water quality under the no-action alternative.

Concern ID: 96 The NPS should not select the no-action alternative.

Thank you for the opportunity to comment on the Tuolumne Wild and Scenic River Draft Comprehensive Management Plan and Environmental Impact Statement. I am impressed by and appreciate the obvious level of effort and thought that NPS staff members have put into developing the plan and the four alternatives. I have been visiting Tuolumne Meadows (T.M.) and the surrounding high country for nearly 60 years and it is one of my favorite places in this country. Over that time I have seen many changes, some for the better, some not. It always has been the "quieter, wilder setting"(quote from the plan) of the Meadows and surroundings that has appealed to me, and I believe it is important to maintain and restore this setting for the future. I have explored much of the Tuolumne River corridor above Hetch-Hetchy, and twice in recent years have hiked the High Sierra Loop, staying in all of the High Sierra Camps.

With that background, my first comment is that "no action" clearly is unacceptable now. The Meadows have been degraded over time and the experience of visiting them has deteriorated in some ways. Elsewhere in the river corridor, there are concerns that need to be addressed.

[Individual, #181]

The no action alternative is not my first choice. There are things that need to be fixed such as the tunnel of cars along the highway by the Cathedral trailhead, the multiple stables, employee housing mixed with camping sites, and the water treatment plant to name a few. Meadow restoration is important as well.

[Individual, #313]

Response: The no-action alternative is not the preferred alternative for the *Tuolumne River Plan*.

Concern ID: 97 **The NPS should clarify why the no-action alternative does not include ongoing actions or actions proposed in other park planning documents.**

Another concern I have is the titles of the alternatives. "No action" is misleading because the Park Service has taken and is taking many actions that have, are and will be affecting the environment and recreational experiences of the public. Furthermore, the National Park Service has a number of proposed actions in other planning documents that will have a direct bearing on the Tuolumne River corridor and the Tuolumne Meadows area regardless of the status of the TRP.
[Individual, #406]

Response: The no-action alternative includes pertinent ongoing actions and actions included in approved plans; however, it is not intended to be a comprehensive catalog of all management occurring in the river corridor. Rather, it focuses on the main differences between the new actions that might occur under alternatives 1–4 and the management that is occurring now. This focus helps to clarify the decisions to be made in preparing the TRP. The no-action alternative does not include actions that, while considered necessary and desirable, still require (or are currently being considered as part of) separate planning and compliance. This is because the purpose of the environmental impact statement is to analyze and compare particular sets of alternative actions in compliance with NEPA. If the no-action alternative, which is required to serve as the baseline for that comparison, was expanded to included future actions that had not yet met the compliance requirements under NEPA, the analysis and comparison would no longer be valid. Rather than reflecting current management, the no-action alternative would start to reflect the management being aspired to.

Concern ID: 98 **The no-action alternative should describe conditions in the river corridor when the Tuolumne River was designated a wild and scenic river (1984).**

What is missing from the TRP is a concise, clear description of what the status was of the natural and cultural resources and visitor experience as it would have been encountered in 1985. Snap shots of the past are offered in different locations of the TRP document but at the beginning of Chapter 7 there should be a vivid word picture of what it was like to have visited the subject region in 1985, with the supporting data. Certainly the Tuolumne River corridor which constitutes the majority of the planning area has maintained the greatest level of integrity but there are documentable changes that have impacted the Hetch Hetchy Reservoir area, the area below the dam, as well as the Tuolumne Meadows area. The reader must hunt throughout the TRP to piece together a picture of what it was like and even then it will not be a complete view.
[Individual, #406]

Response: In compliance with the requirement of the Wild and Scenic Rivers Act to protect and enhance the values that caused the Tuolumne River to be included in the wild and scenic rivers system, the condition of each river value at the time of designation is described and compared to the current condition in chapter 5, "River Values and their Management." In compliance with NEPA, the alternatives under consideration for the TRP include a no-action alternative, which describes the conditions and management actions that would exist if the current management was continued. The no-action alternative does not describe the conditions that existed in the river corridor at the time the Tuolumne River was included in the wild and scenic rivers system in 1984 because those conditions have changed and would not be consistent with the intent of the no-action alternative.

Action Alternatives

Actions Common to All Action Alternatives

Concern ID: 99 The NPS should implement the proposed actions common to alternatives 1-4 because they would protect and enhance river values.

The actions common to all alternatives for free flow, water quality, biological value for both the sub-alpine meadow and low elevation, cultural values, scenic values, and recreational value are all as they should be.
[Individual, #175]

The actions common to Alternatives 1-4 include thoughtful, workable means of restoring the river environment and the river's free-flowing condition; enhancing water quality; protecting viewsheds; reducing negative impacts from stock (also mentioned in Alternative 4); and protecting archeological sites. These actions demonstrate a strong intent to protect the river and make it accessible to visitors in current and future generations.
[Individual, #309]

The Sierra Club supports the Actions Common to all Alternatives which make needed changes to protect the River and the meadows. We support the elimination of undesignated roadside parking in the Tuolumne Meadows area, the improvements to the water systems, the removal of unnecessary structures, and site restoration.
[Conservation/Preservation, #81]

Response: No response required.

Concern ID: 100 The NPS should implement ecosystem restoration projects that tie restoration goals to sensitive species.

All alternatives propose various levels of meadow, vegetation, and ecosystem restoration. However, none of the alternatives tie restoration goals to specific objectives, like re-establishing Yosemite toad, Sierra yellow-legged frog and other sensitive species that have disappeared from Tuolumne Meadows. There should be some sort of more specific proposal for this section.
[Individual, #436]

Please choose ecosystem restoration projects that re-establish sensitive species populations like the yellow-legged frog and Yosemite toad.
[Individual, #27]

The first priority should be restoration and protection of all endangered species in the impact zone. Human activity should be restricted or regulated with that concept kept as priority number one. By definition extinct species are irreplaceable.
[Individual, #30]

Response: No individual special-status species was found to individually meet the criteria of being both river-related or -dependent and unique, rare, or exemplary within the river corridor. All meadow and riparian habitat and species are addressed collectively by the TRP as part of the extensive complex of subalpine meadow and riparian habitats, for which indicators and standards have been selected and will be monitored over time to ensure that the river value is protected. The management of specific special-status species will be coordinated (and consistent) with the implementation of the TRP, but it will be conducted independently as part of the program-specific planning for natural resources management throughout Yosemite National Park, in full compliance with federal and state laws and regulations and NPS policies regarding special status species. The success of any future management action to restore a given species will be facilitated by the broader ecological restoration of meadow and riparian habitat along the Tuolumne River.

Concern ID: 101 The NPS should clarify proposals for restoration of amphibian habitat.

Several brief comments: Have any of the plans for the Park addressed the issue of amphibian losses? I believe fish restocking was halted some years ago, but are there any other measures that can be taken to help protect these endangered animals? Rerouting of trails and more intensive education regarding their plight and the steps backpackers and day hikers can take to reduce human impact come to mind. Hot spots of frog and salamander reproduction areas should be off limits to people. Are there captive breeding and release programs in place or possible?

[Individual, #153]

The Yosemite Toad and the reintroduction of the Sierra Nevada Yellow Legged Frog need to be addressed now without waiting for further studies.

[Individual, #422]

Response: The management of amphibians, notably special-status species, will be coordinated (and consistent) with the implementation of the TRP, but it will be conducted independently as part of the program-specific planning for natural resources management throughout Yosemite National Park, in full compliance with federal and state laws and regulations and NPS policies regarding special status species. The success of any future management action to restore a given species will be facilitated by the broader ecological restoration of meadow and riparian habitat along the Tuolumne River. Please see response to concern #45 regarding protections for the Sierra Nevada yellow legged frog and the Yosemite toad.

Concern ID: 102 Ecological restoration should take priority at Tuolumne Meadows.

Restoration efforts should be a high priority.

Protecting the river corridor and its ecosystem should be a higher priority than keeping high levels of use up.

[Individual, #66]

I am happy to see the restoration of meadow and riparian habitat.

[Individual, #189]

The Tuolumne River, throughout its length is a highly valued for both its ecologic and recreational value. It hosts a tremendous diversity of fish and wildlife, from Chinook salmon and steelhead, to the Great Grey Owl, black bear, and marten. It provides unique recreational opportunities as well, attracting thousands of visitors to paddle its whitewater and hike along its shores. Within Yosemite, the river provides a unique attraction to visitors to experience a large high altitude meadow complex.

The meadows are delicate however and have been heavily used over the past century and the wear and tear is beginning to show. As such, we support efforts to reduce human impacts and restore the meadow system.

[Conservation/Preservation, #355]

Response: The NPS prioritizes river protection and ecological restoration over recreational use, as required by both the Wild and Scenic Rivers Act and the NPS Organic Act. (See also the response to concern #1.)

Concern ID: 103 The NPS has correctly identified actions to correct hydrologic issues at Tuolumne Meadows, and should include more details regarding impacts of bridges and Tioga Road.

Correcting all Hwy 120 culverts and those on Great Sierra Wagon Road (GSWRd) will help hydrology and visual goals. …. I support returning the GSWRd leading across the meadow to the pedestrian bridge near Soda Springs to a condition similar to that in width in or before 1915 including swales in that road for good hydraulic passage in flood, as long as the resulting path retains a mineral surface, a boardwalk is not favored , but would be tolerable.

I support crushing or removal of the abandoned sewer line under GSWRd, p 7-103.

…Are Highway 120 and/or the footbridge near Parson's Lodge/Soda Springs impacting hydrology? If so, I support a study and making changes at these two bridges, page 5-67. …. Improvements are suggested, for both bridges, but no specific date set for study to be completed, p 7-11, 7-97 and Table 7-13 p 7-103, and p 8-24, but the park should assure these potential problems are examined by a date certain so they are not forgotten.

[Individual, #304]

We are pleased to see and very supportive of the actions that would restore the hydrologic integrity of the meadows. The Tioga Road and Great Sierra Wagon Road in particular are disruptive of natural hydrologic flow within the meadows. Erosion is visible due to the culverts and flow across the meadow is impeded by the Great Sierra Wagon Road. Culverts need to be resized and for the Great Sierra Wagon Road, a boardwalk system should be considered. Similarly, the many informal and unofficial footpaths across the meadow must be removed and visitors must be prevented from similar use in the future.
[Conservation/Preservation, #355]

Response: Chapter 5 of the TRP FEIS has been revised to include additional information about the impacts of the Tioga Road bridge at Tuolumne Meadows. The redesign of the bridge to mitigate these impacts will be analyzed in more detail in environmental compliance documents that tier off the TRP FEIS. Although the TRP DEIS also called for actions to mitigate impacts on hydrology caused by the Parsons Memorial Lodge footbridge (also known as the Soda Springs footbridge), subsequent evaluation by the park's hydrologist has determined that the footbridge does not affect the free flow of the river; therefore this action is no longer included in the TRP FEIS.

Concern ID: 104 The NPS should consider introducing prescribed fire at Tuolumne Meadows to improve meadow health.

To improve the overall ecologic health of the meadow complex, we encourage the park to consider and analyze reintroducing fire as a management tool of the meadow system. Conifers are visibly encroaching into the meadows. We believe that many of the meadow grasses, sedges, and forbes would thrive if fire were periodically applied while conifers would be prevented from colonizing the meadows.
[Conservation/Preservation, #355]

Response: Current knowledge of fire history in Tuolumne Meadows is limited, particularly whether fire is a natural ecosystem process in these subalpine meadows, so prescribed fire has not been proposed. Ongoing research might suggest that fires historically occurred in Tuolumne Meadows and that prescribed burning is appropriate to restore an altered fire regime; should that be the conclusion, the NPS will consider reintroducing fire to the meadows.

Concern ID: 105 The NPS should use check dams and willow plantings as part of the ecological restoration plan and should consider studying flow in Ackerson Meadow to help inform this restoration.

I worked on a project with CSERC on a tribuatary creek of the Tuolumne River up near Cherry Lake (don't remember the exact spur road name). …. We made lots of LITTLE check dams to catch silt, making sure the over-flow goes over the center of the dam and onto a rock apron to prevent storm run-off undercutting of the check dam and further downstream erosion. These check dams were about a foot to 2 feet high, no more. In some spots we used log and branch debris to make check dams. This stays in place by proper placement, natural inter-ties, water logging, and sometimes with anchor stones strategically spaced. This is cheap and easy to do with local materials found on the site.

…Brush and log debris dams on larger creeks and rivers are reinforced by materials floating down from upstream - such as spring flood logs, sticks, and uprooted brush. The stream flow correctly directs the debis to the weakest part of the dam - as you likely have seen yourself.

… I was very pleased to see from the presentation that old photos show thickets of willows protecting erosion vulnerable streambanks. I have worked as a volunteer on many, many meadow restorations with CSERC (Central Sierra Environmental Resource Center). These meadows were damaged by logging and cattle practices. It's easy to plant willows. Please, at the very least, start the restoration as soon as possible by planting locally native willows in all areas we know (from photos, etc.) had willows in the past. This is easy to do, as you know, just stick those willow stems in the ground is soil that is well enough watered.

Please send a biologist or soils specialist to study the excellent sheet flow found in the south spur of upper Akerson Meadows. . . . . .The upper section of the meadow found there has supperb sheet flow with correspondingly tall grassess throughout. In contrast, the main stem of Akerson Meadow (where the old, dilapitated ranch house prominently stands east of Evergreen Road) is badly eroded by serpentine channeling. That meadow is parched dry in the summer and the grasses are scrubby, nothing like the beautiful south meadow.
[Individual, #391]

Response: Brush layering and planting willows have proven to be very successful techniques in restoring river banks in Yosemite Valley and the NPS has identified these as techniques to be used in the restoration plan found in the TRP FEIS Appendix H: Ecological Restoration Planning for the Tuolumne Wild and Scenic River Comprehensive Management Plan. In addition, the "Restore Riparian Vegetation along Riverbanks"section in chapter 5 of the TRP FEIS includes meadow restoration prescriptions that are largely based on other successful restorations within the park such as at Cooks Meadow and Wawona Meadow. The NPS will continue to use the best available science and consult with subject matter experts in and outside the park on developing innovative approaches to meadow restoration.

Concern ID: 106 The NPS should clarify if willows were impacted by the 1997 flood.

Could loss of some willows be a result of the 1997 New Year flood?
[Individual, #304]

Response: No data exist on the condition of willows before the 1997 flood. However, willows are adapted to withstand flooding by reproducing through vegetative rooting and have been known to reestablish after major floods.

Concern ID: 107 The NPS should define the terms 'disturbance', specify where new construction would occur and be specific regarding where facilities would be relocated.

What needs clarification, this means define these terms especially disturbance, what new construction and which specific facilities are being relocated and to specific location:
"disturbance for new construction or relocation of facilities."
[Individual, #113]

Response: The phrase the commenter refers to is not in the TRP DEIS, but it is similar to language found in the summary guide for the TRP DEIS distributed during the public review period. The DEIS and FEIS, rather than the summary guide, provide detail regarding facility locations and proposed relocations the commenter requests. Potential or likely disturbance areas are shown graphically in the plan's alternatives chapter, under the site plans for each alternative (chapter 7 in the DEIS and chapter 8 in the FEIS). In addition, areas of existing and potential new disturbance are described, and in some cases quantified, in the impacts analysis for each alternative (chapter 8 in the DEIS and chapter 9 in the FEIS). In addition, the term 'disturbance' has been added to the TRP FEIS glossary.

Concern ID: 108 The NPS should clarify if "eco-friendly" upgrades or renovations were considered for existing public facilities.

I'd be curious to know if any consideration was given to upgrading and/or making the current public facilites more eco-friendly, rather than spending funds on expansion of those facilities, however "slight" that expansion seems.
[Individual, #233]

Response: All visitor facilities would comply with NPS and Yosemite National Park policies and design guidelines governing protection of natural and cultural resources, functionality, energy and water efficiency,

and accessibility. Consistent with this guidance, all new construction and rehabilitation of existing facilities would incorporate technologies for conserving energy and water and minimizing environmental impacts.

Alternative 1

Concern ID: 109 The NPS should select alternative 1 as the preferred alternative.

The Draft Tuolumne River Plan does a good job of defining the issues concerning the outstandingly remarkable values of the Wild and Scenic Tuolumne River. This river and its associated ecosystem is near and dear to my heart and my own sense of place and well being. The most important values of the river to me and for future generations, are water quality and the integrity of natural functions in the surrounding ecosystem of the river. Alternative 1 is the most in keeping with these values, while Alternative 2 is the worst of those presented.

[Individual, #456]

Please vote/enact Alternative #1. Let's keep the riverside as natural as possible.

[Individual, #34]

I prefer alternative 1.

Tuolumne meadow is currently over-congested with too many commercial facilities. During peak summer months, many sections of the road are chock full of cars, akin to a shopping mall parking lot. Fewer visitors and fewer facilities will enhance the scenic value of the meadow.

Other sections of the river are well managed.

[Individual, #111]

Response: The NPS did not select alternative 1 as the preferred alternative; please see the 'Environmentally Preferred Alternative' section of chapter 8.

Concern ID: 110 The NPS should not select alternative 1 as the preferred alternative.

I felt that 2 of the alternatives really aren't viable (alt. 1 & alt. 2) because Alternative 1, in my opinion, is too restrictive in a growing population. I think it is ridiculous to think that visitor day use could realistically be reduced by 41% and visitor overnight use could be reduced by 25% in our growing population. To reduce use by this much, along with completely removing the Tuolumne Meadows Lodge and Glen Aulin restricts use of this area too much! I believe that a better balance of protecting this area and allowing the public to enjoy this area can be achieved. It is vital to Yosemite, and other natural areas as well, that people be able to really connect with the nature and beauty of this area so that they can see how important it is to protect areas like this in the future. I also very much dislike the complete removal of Loop A in the campground in this alternative.

[Individual, #299]

My second observation is that under existing management, with the exception of a couple portions of meadows, all of Outstandingly Remarkable values are supported by the existing condition of the affected environment.

Consequently it is appalling that you would be willing to reduce recreational opportunities under alternative 1 by eliminating Concessioner Accomadations and amenities. Furthermore without reducing or controlling numbers of vehicles entering the Tioga road from both east and west you seem to think that limited parking will somehow solve overcrowding and the need for such amenities. Without adequate parking alternative 1 seems to guarantee gridlock. But there is not even a suggestion of that possibility in the Environmental Consequences analysis.

[Individual, #389]

Response: Alternative 1 is not the NPS preferred alternative; please see the 'Environmentally Preferred Alternative' section of Chapter 8.

Concern ID: 111 The NPS should adopt some actions proposed in alternative 1 into the preferred alternative, including removing overnight lodging and reducing use.

I would like you to consider adopting parts of Alternative 1. That is the alternative that does the most to restore Tuolumne Meadows and the river corridor. It would remove the Tuolumne Lodge facilities and the Glen Aulin High Sierra Camp commercial operation and steer that level of lodging to areas outside the Park such as Lee Vining (20 minute drive away). It also would reduce visitor day use and move some of the throngs of visitors out of the already congested Tuolumne Meadows area by removing most of the undesignated parking spaces and only re-constructing a percentage of those parking spaces that are removed.

[Individual, #273]

It seems to me that the only way to ensure that Tuolumne Meadows is not overly impacted by people that are "loving it to death" is to adopt Alternative 1 and emphasize a self-reliant experience. I have been told that Alternative 1 could never be an option because it leaves out too much of the general public so I will not spend too much time on it. I was never aware that Tuolumne Lodge has 69 units. Cutting the use of pack animals and concessioner horses would certainly cut the use of water. I would have no problem with cutting out loop A in the campground. The total number of people would decrease by 1,611 people at one time. Reducing that number of visitors a day would give Tuolumne a chance to maintain its water levels as well as cut the number of cars invading the park every day.

[Individual, #365]

What I appreciate most from Alternative 1 is the emphasis on restoration within the WSR corridor and on a more natural, self-reliant experience. Removal of facilities at the wastewater ponds, Tuolumne Meadows Lodge, and Glen Aulin HSC, will enhance conditions with the corridor considerably. In addition to restoring campground loop A, I recommend the same for Loop D, and for the same reasons. I would also prefer a smaller acreage devoted to new development, preferably outside of the wild and scenic corridor, perhaps south west of what is proposed. Also moving the combined use stables to the same area might allow for some mitigation of the stock wastes by the meadow-overlook area from Alternative 2 to be situated at location 12 on the existing stables.

[Individual, #456]

Response: The preferred alternative (alternative 4) seeks to balance desires to retain a traditional Tuolumne experience with the need to make visitor use more protective of river values. All of the action alternatives would implement an ecological restoration plan for Tuolumne Meadows, which accounts for the vast majority of proposed ecological restoration activity in both alternatives 1 and 4. In alternative 4, visitor use management would become more restrictive in terms of where visitors could park and access sensitive resources, such meadow and riparian habitat. In addition, concessioner stock day rides are eliminated in alternative 4.

Evaluations conducted as part of this plan indicate that traditional kinds and amounts of overnight use could be retained while protecting and enhancing river values. The facility analysis concluded that Tuolumne Meadows is a major visitor destination, far enough from most visitors' homes or other visitor service centers to necessitate opportunities to spend the night, including camping and some lodging. Some level of affordable accommodations is necessary to provide this opportunity for visitors who choose not to camp or who do not have the ability or the equipment to camp. While lodging is available in Lee Vining, that lodging does not provide visitors with an easy opportunity to experience Tuolumne Meadows in the evening, at night, and in the early morning hours; moreover, most of it is considerably more expensive than the rustic accommodations provided at the Tuolumne Meadows Lodge.

Concern ID: 112 Alternative 1 would not provide a completely self-reliant experience, and the overview description of the alternative should note Glen Aulin High Sierra Camp as a lost recreational opportunity.

Alternative 1 is entitled "Self-Reliant Experience" and refers to the fact that under this management proposal people going to Tuolumne Meadows will need to take their own supplies because the store and gas station will be removed. However, overnight guests will still need a water system infrastructure, a wastewater infrastructure, a solid waste disposal service and a variety of other supportive services to accommodate their needs. So "self-reliant" may be somewhat over stated.

. . .Page 7-34. One of the bullet points for Alternative 1 states "Retain all current recreational opportunities except concessioner day rides and commercial use." Is the removal of Glen Aulin not a lost recreational opportunity?

[Individual, #406]

Response: The overview describes the type of visitor experience to be achieved under alternative 1--the desired conditions that would require the management actions taken under that alternative. It states that the Glen Aulin High Sierra Camp would be removed as one of the major actions. The impact of this action on the visitor experience, including the finding that "removal of the Glen Aulin High Sierra Camp would eliminate the opportunity for visitors to stay at this traditional camp," is analyzed in chapter 9 of the FEIS.

Alternative 2

Concern ID: 113 The NPS should select alternative 2 as the preferred alternative.

I vote for Alternative 2. My second choice is No Action.

I have been coming to Yosemite Na. Park for years, and the High Country never appeared too crowded to us when we went there.

[Individual, #208]

As a frequent visitor to Yosemite National Park and a resident of California, I would like to voice my support for alternative 2 in the final draft of the management plan for the wild and scenic Tuolumne River.

[Individual, #414]

Our Board continues to advocate for maximum accessibility with minimum, unnecessary restrictions. Therefore, any comments submitted by our Board will reflect a desire to emphasize user experience. While the County applauds the fact that Alternatives 2 and 4 maintain the number of visitors to the Tuolumne Meadows region, the County sees greater value to visitors with Alternative 2 due to its continued protection of river and ecological conditions while enhancing the user experience.

[County Government, #378]

Response: Alternative 2 would provide outstanding, diverse recreational opportunities in the river corridor. However, the historic setting at Tuolumne would be altered to a greater extent than under any other alternative, and water consumption and associated risks to water quality would remain relatively higher. This alternative would have the greatest potential for requiring future reductions in service, including reducing the capacities at the lodge and/or campground, to ensure that the level of water consumption remained protective of river flows. For these reasons alternative 2 was not the environmentally preferable alternative or the preferred alternative for the *Tuolumne River Plan*.

Concern ID: 114 The NPS should not select alternative 2 as the preferred alternative.

As for Alternative 2, I think that expanding the recreational opportunities to the degree mentioned in this alternative are too much. ... I think, overall, that this alternative really isn't viable because of the increased water demand put on the water supply and also because of it being the most expensive alternative to implement.

[Individual, #299]

Id support any of the plans EXCEPT #2 Whatever you do, please do not expand recreation.

[Individual, #251]

ALTERNATIVE 2:
The problems currently being experienced are due primarily to overuse. Increased visitation is out of the question. The need is to decrease visitation and abuse of the land.
[Individual, #270]

Response: Alternative 2 is not the preferred alternative. Please see the 'Environmentally Preferred Alternative' section of chapter 8.

Concern ID: 115 The title of alternative 2, "Expanding Recreational Opportunities," is misleading because it does not increase the opportunities for some experiences (e.g., camping) to historic levels.

Alternative 2's title "expanding recreational opportunities" is also misleading. No increase in overnight wilderness use is proposed and it is noted in the TRP that since the adoption of a quota system the number of requests for wilderness permits routinely exceeds the quota limits. The TRP also notes wilderness use is less today than what is believed to have occurred prior to implementing the wilderness reservation system. No increase is proposed for day or overnight use in the Hetch Hetchy area or below the dam. The proposed increase in day visitor parking does not completely off- set the proposed loss in the current number of "informal" parking spaces and, as noted in the TRP, the growing demand for more parking is not met by this alternative in future years. The modest increase in campsites at Tuolumne Meadows comes no where near the historic high of some 600 campsites and it is unclear how many of the added campsites are for the public and how many will be needed for increased employee staffing. Ironically transit service is proposed to be expanded under Alternative 4, but not under Alternative 2. It seems the main expanded recreational activity for Alternative 2 is the consideration of permitting kayaking on the river. That is about as palatable as proposing the permitting of snowmobiling into Tuolumne Meadows during the winter.
[Individual, #406]

Response: Alternative 2 allows for recreational opportunities to the extent that would remain protective of river values. Existing recreational opportunities in the river corridor would be retained, day and overnight user capacities could go above existing use levels, and new opportunities would be provided, including limited amounts of whitewater boating in the Grand Canyon of the Tuolumne and additional picnicking facilities at Tuolumne Meadows. The existing overnight wilderness trailhead quotas would remain at their current levels because, after careful study, the NPS has determined that these quotas are protective of wilderness experience and resource conditions, including the condition of river values. At Tuolumne Meadows, the number of designated parking spaces provided would exceed the number of undesignated parking spaces that would be removed (based on a 2011 parking inventory). The number of individual campsites in the Tuolumne Meadows campground would be increased by 13% to 345 sites. The campground would not be restored to its historic capacity of about 600 sites, primarily because of constraints on water consumption, although the original reduction in campsites also greatly reduced campground congestion and enhanced the naturalness of individual sites.

Alternative 3

Concern ID: 116 The NPS should select alternative 3 as the preferred alternative.

I vote for alternative #3. My runner up is no action. Tuolumne is overburdened with too many visitors as it is and is being loved to death like much of Yosemite.
[Individual, #170]

I oppose Alternative 4 and strongly recommend Alternative 3 with one change - please continue the use of wood for stoves in the camp.
[Individual, #163]

I support Alternative 3.
Yosemite is a treasure that we cannot take for granted. Yet if people do not have access they will not be able to appreciate it. It would be wonderful if we were all self reliant but the fact is many are not and so facilities such as

Tuolumne Meadows and Glen Aulin provide the services needed and I think they should remain but I support cutting back to lessen the impact on the environment. Personally, I have used the "meals only" option at the HS camps, after initially staying in the tent cabins. Having ventured into this area of Yosemite I am encouraged to be more self reliant and I hope this will be the same for other users.

I support measures that encourage less single family vehicles and decreased commercialization

[Individual, #297]

Response: Alternative 3 would provide outstanding recreational opportunities similar to existing conditions and would retain the historic setting of Tuolumne Meadows. However, it would reduce both day and overnight use, and it would not reduce either the risk to water quality at Glen Aulin or the user conflicts on the trail to Glen Aulin to the degree that would be achieved under the preferred alternative. Please see the 'Environmentally Preferred Alternative' section of chapter 8.

Concern ID: 117 The NPS should more clearly tie proposed actions to a long-term vision for Alternatives 3 and 4.

Alternative 3 and 4 have ambiguous titles "Celebrating the Tuolumne Cultural Heritage" versus "Improving the Traditional Tuolumne Experience" and the explanations offered are couched in highly subjective terms. So, does the reduction of the Tuolumne Meadows campground from 600 to 300, the increase in car volume, the introduction of transit service, the allowance of charter/tour buses, the establishing of an overnight permit system, the reduction in the Glen Aulin bed-space and the elimination of the gas station and store contribute to or detract from the "cultural heritage" or "traditional Tuolumne experience?" I could argue both ways on each point depending on where I set the baseline which is the fundamental flaw of these alternatives because the baseline is not clearly defined. Tuolumne Meadows has been in the National Park system for over one hundred years, and cultural awareness and visitation pre-date that timeline. What is the future vision? An area reflecting late 20th century visitation practices and patterns, mid-20th century, early 20th century or is it some other ideal? This should be explained in the TRP.

[Individual, #406]

Response: Some of the actions described by the commenter occurred between the time of the river's designation (1984) and today. Specifically, the reductions in camping at Tuolumne Meadows from a high of 600 campsites, increases in traffic volume on Tioga Road, and the introduction of public transit to the Tuolumne Meadows area all occurred after 1984. As noted in the response to concerns #97 and #98, above, the no-action alternative does not describe the conditions that existed in the river corridor at the time the Tuolumne River was included in the wild and scenic rivers system in 1984 because those conditions have changed and this description would not be consistent with the intent of the no-action alternative. Rather, the plan focuses on the main differences between the new actions that might occur under alternatives 1–4 and the management that is occurring now. However, a description of baseline conditions for river values (rather than all visitor services in the corridor, including camping and transportation) at the time of the river's designation, to the extent known, is provided in chapter 5 in compliance with the Wild and Scenic Rivers Act.

The alternatives under consideration for the TRP address these traditional visitor activities in a range of ways. Retaining all ongoing activities in their current settings, including historic facilities, is a key component of alternative 3. This alternative is linked to cultural heritage because it proposes the fewest changes to the layout and design of the Tuolumne Meadows Historic District. It is the alternative that is closest to no-action in terms of the location and use of facilities. As noted in the response to concern #111, above, the vision for the preferred alternative (alternative 4), which is reflected in the title of the alternative, is to balance desires to retain a traditional Tuolumne experience expressed during public scoping with the need to make visitor use more protective of river values. Alternative 4 would discontinue one traditional activity, concessioner stock day rides, in order to reduce conflicts on trails and reduce the risk to water quality associated with stock use on trails and stables operations. Alternative 4 would also remove the Tuolumne Meadows gas station in order to reduce risks to water quality.

Alternative 4 (NPS Preferred Alternative)

Concern ID: 118 The NPS should implement Alternative 4.

I support Alternative #4. It retains the current level of camping possibilities in the Tuolumne Meadows area. Such visitor accessibility is necessary to allow the public to appreciate the value of the area, and is a long-standing tradition. We raised our children with great familiarity with Tuolumne, and they remain committed lovers of nature. Please select Alternative #4.

[Individual, #90]

Yosemite National Park is one of the prettiest National Parks and we should strive to allow people to visit the park as much as possible without disrupting the natural beauty. I trust the park rangers and those who work in the NPS, so my vote is for plan #4 though I hate to see the hikers limited in the High Sierra Glen Aulin Camp.

[Individual, #88]

While all alternatives have aspects that are positive, negative and a mixture of such, I support the preferred Alternative 4

[Individual, #80]

Response: Alternative 4 is the preferred alternative. Please see the 'Environmentally Preferred Alternative' section of chapter 8.

Concern ID: 119 The NPS should not select Alternative 4 as the preferred alternative because it is too similar to the no-action alternative, does not reduce use, and/or does not encourage visitors to get out of their vehicles to experience the park.

Alternative 4 is not in line with enhancing the outstandingly remarkable values of the Wild and Scenic Tuolumne River. In fact, it is very much like the no action alternative, which would be a waste of a very expensive planning process. But, while I am in favor of eliminating commercial activities and shrinking the NPS footprint, I think a robust educational and interpretive visitor center could be integrated.

[Individual, #456]

I disagree with the preferred alternative in the first place. This is a national park not an amusement park (as it has been treated thus far). There's too much "access" in Yosemite all around. The park is too well loved because it is close to urban areas, has a freeway going through it, has hotel and cabins and hamburger stands and pools and junk stores. There are too many people in the park now to make it enjoyable for anyone, especially the natural residents (who don't ever seem to be accounted for). How many animals get run over every day to accommodate tourists and their cars in the name of "access"?! Your plan should be a more self-reliant one to start off this discussion. Tradition is all well and good if it is sustainable for nature in a national park. This isn't Lincoln's Boyhood Home NP based on a human development. This is a NP based on preserving nature.

[Individual, #392]

The focus of changes should be to encourage people to get out of their cars and experience the park in a non-motor-vehicular way. For this reason several of the changes in the "preferred" alternative are, to be kind, totally illogical, or to be honest, downright stupid.

[Individual, #253]

Response: All of the action alternatives prioritize river protection and ecological restoration over recreational use, as required by both the Wild and Scenic Rivers Act and the NPS Organic Act. (Please also refer to the response to concern #1.) The NPS is also directed by these acts to provide for recreational use that is protective of park and river values. Alternative 4 is the preferred alternative because it would strike a balance between maintaining the historic setting of the river corridor, maintaining a diversity of recreational opportunities, and allowing for extensive natural resource management at Tuolumne Meadows to restore natural ecosystem function to the extent possible.

In the absence of any increase in park facilities or programs, visitation to the Tuolumne Meadows area has

steadily increased, along with an increase in localized impacts to river values. The preferred alternative seeks to eliminate many of these impacts while minimizing disruptions to established visitor use patterns and enhancing opportunities for visitors to get out of their cars. For instance, the gas station and mountaineering shop would be removed in order to reduce risks to water quality and accommodate relocated parking (from the meadows along Tioga Road), and the visitor center function would move to a new facility just west of the campground, immediately across from the most popular short hike in the area, to Parsons Memorial Lodge. These actions, in addition to facilitating ecological restoration of the meadows, would allow visitors to park at one location for orientation, interpretive programming, supplies, and access to trails and trailheads. Currently, visitors drive between the existing visitor center and the visitor services core.

Concern ID: 120 Some actions proposed in Alternative 4 appear to conflict with the description of the Alternative 4 concept.

Alternative 4 concept: The concept seeks to balance traditional Tuolumne experiences with reduced development and with sustainability, while introducing short-term visitors to the river in a meaningful way. Several actions in Alternative 4 seem in opposition to these worthy goals. For example, Alternative 4 calls for new development and increased visitor and employee use, which could conflict with these goals and with the overarching aim of protecting the river.

[Individual, #309]

Alternative 4 is the preferred plan that supposedly improves the traditional Tuolumne experience but I have to ask for whom? Day visitors would increase, thereby encouraging more visitors and drivers to come to the park. I am glad to see that parking would have to be in designated spaces but at the same time I hate to see parking lots built. Would there be enough law enforcement to deal with visitors that would insist on parking on the road if they couldn't find parking spaces. When the park is full would there be signs telling people to move on or would people continue to drive around until they found a parking space thus polluting the air with car exhaust?

[Individual, #365]

Response: Please see the responses to concerns #117 and #119, above.

Concern ID: 121 The name of Alternative 4, "Enhance the Traditional Tuolumne Experience", might be misleading because some visitor services would be reduced or eliminated.

The name of the preferred alternative, "Enhance the Traditional Tuolumne Experience", might be misleading to the general public: as several traditionally offered recreational activities in the Tuolumne River corridor are being removed. While the overall character of the Tuolumne River corridor may not look substantially different, the traditions that characterize the experience will be significantly altered with the removal of the mountaineering school, horseback day-rides, elimination of recreational commercial groups along segments of the Pacific Crest Trail and major reduction of the Glen Aulin High Sierra Camp (HSC) and resulting impacts to the HSC loop system.

[Business, #383]

. I do think the title of the preferred alternative is misleading as many tradtionally offered recreational activities are being affected (elimination of day rides and YMS, reduction at Glen Aulin, eliminating recreational commercial group access to Glen Aulin and Lyell Canyon in July and August). It is unclear what is being enhanced of the Traditional Experience. I do think that the removal of roadside parking and the construction of a parking area is a great idea and will improve the scenic views in the meadows, but other than that, I see the traditional experience being maintained and in some cases eliminated, not enhanced overall. Please reconsider some of these actions so that Tuolumne stays the same!

[Individual, #416]

Response: The defining concept of the preferred alternative is to respond to a range of public concerns by balancing desires to retain a traditional Tuolumne experience with desires to reduce development and make visitor use more sustainable. The title, "Improving the Traditional Tuolumne Experience" does not imply that all existing services and facilities would be retained. Only commercial services are reduced or eliminated, in

accordance with a facilities analysis (required by the Wild and Scenic Rivers Act) and a "determination of extent necessary" for overnight commercial use in designated wilderness (required by the Wilderness Act). Recreational commercial groups are not 'eliminated' from segments of the Pacific Crest Trail in alternative 4, as suggested by one commenter; however the plan does restrict overnight use by commercial recreational groups in the river corridor. Alternative 4 specifies that in wild segments, the Glen Aulin High Sierra Camp and commercial hikes and stock trips provided by guides or outfitters would be retained with some regulations on the timing and levels of service, while concessioner stock day rides would be discontinued (see the TRP FEIS chapter 8 and appendix C). At Tuolumne Meadows, chapter 8 of the FEIS has been clarified to note that the mountaineering school function would be retained- only the structure currently housing the school would be removed.

Concern ID: 122 Alternative 4 summaries provided in planning documents understate the proposed restrictions on visitor use.

The Alternative 4 summary bullets in the TRP, summary guide, fact sheet, etc. state that recreational offerings will be the same as the no action alternative, with the only exception the elimination of commercial stock day-rides. This greatly understates the restrictions, on recreational use included in the preferred alternative and as more fully described below.

[Business, #383]

Response: Summaries show that the amount of day use is slightly increased under alternative 4, compared to the current conditions. To allow for this increase while being protective of river values, the text states that visitors would be directed from trailheads at designated parking lots onto trails and boardwalks, some with fencing or other forms of delineation to discourage dispersed foot traffic through these sensitive environments, and to formal picnic areas. The introduction to alternative 4 includes the statement that visitors would be directed to formally maintained trails and specific destinations to protect and enhance recovering meadow and riparian habitats while accommodating slightly increased levels of day use. The executive summary states that in order to accommodate slightly increased use levels while protecting and enhancing recovering meadow and riparian habitats, day use would generally be confined to formally maintained trails and specific destinations.

Concern ID: 123 The NPS preferred alternative should be the one that includes the most ecological restoration.

In reviewing all the options for the Tuolumne River DEIS, I'm concerned that the preferred option (4) lacks some of the better attributes of restoration than the others. One would think that a preferred outcome from an environmental impact assessment would have restoration of habitat a primary concern and emphasis.

Like myself, those of us who have had the pleasure of enjoying Yosemite NP natural beauty using the facilities that are currently provided, there is a tacit understanding and acceptance that resources are limited. Each year, there will be those who are fortunate, and those that aren't, to make Yosemite a vacation destination due to those limitations. Thus to support an option that does not focus on the best restoration plan seems contradictory to the best interests of our natural resources.

[Individual, #233]

Response: As noted in the response to concern #119 above, all of the action alternatives prioritize river protection and ecological restoration over recreational use, as required by both the Wild and Scenic Rivers Act and the NPS Organic Act. Therefore, all of the action alternatives implement the same ecological restoration plan (see appendix H of the FEIS). The only difference in ecological restoration among alternatives 1-4 is at the location of facilities at Tuolumne Meadows, such as Tuolumne Meadows Lodge.

The NPS is also directed by the Wild and Scenic Rivers Act and NPS Organic Act to provide for recreational use that is protective of park and river values. Alternatives 1-4 examine multiple ways accomplish these goals, with differences in ecological restoration activity primarily at Tuolumne Meadows. For instance, alternative 1

includes the greatest amount of ecological restoration because that alternative would eliminate all commercial visitor services (approximately 208 acres restored), while Alternatives 2, 3, and 4 would include less ecological restoration (170 to 171 acres restored), because they retain more commercial visitor services at Tuolumne Meadows and Glen Aulin High Sierra Camp.

Alternative 4 is the preferred alternative, because it would strike a balance between maintaining the historic setting of the river corridor, maintaining a diversity of recreational opportunities, and allowing for extensive natural resource management at Tuolumne Meadows to restore natural ecosystem function to the extent possible.

Concern ID: 124 The NPS preferred alternative strikes a good balance between ecological restoration and new disturbance.

LAND RESTORATION / DISTURBANCE: Alternative 4 has a good balance. Some disturbance (needed for the new visitors center) but also a good restoration effort for the meadow and riparian lands.
[Individual, #356]

Response: No response required.

Transportation

Shuttle Buses and Public Transit

Concern ID: 125 The NPS should develop, implement and possibly increase the number of shuttles by adding satellite parking areas to mitigate any loss of parking in the preferred alternative.

Alternatively, the Park Service should ensure that a shuttle system is developed and fully implemented as mitigation for the loss of available parking due to implementation of the preferred alternative. In addition to the town of Lee Vining being an appropriate parking area and shuttle stop, other options should also be considered including the popular dirt parking area just east of Tioga Pass (which should be paved to accommodate more cars) and possibly expanded parking somewhere west of Tuolumne Meadows (e.g., Crane Flat vicinity or Porcupine Flat campground?) so that visitors could ride a shuttle to the Meadows from either the west or east side of the Park. In addition to a shuttle from Lee Vining to the Park, a shuttle from Tioga Pass to Tuolumne Meadows should run more frequently to allow visitors to make more frequent and shorter trips into and out of the Park.
[Individual, #257]

Response: The preferred alternative would provide slightly more day-use parking than is currently available in Tuolumne Meadows (counting the designated and undesignated spaces combined), so there would be no loss of day parking under the preferred alternative. Access to the river corridor by regional public transportation would also be increased under the preferred alternative. If the decision is made in the future to further increase the use of public transportation, adjustments in the amount of visitation arriving by private vehicle may be necessary to keep the total visitation within the maximum day use capacity for Tuolumne Meadows as specified by the preferred alternative. Please see chapter 6 and chapter 8 of the TRP FEIS for more detailed information.

Concern ID: 126 The NPS should increase shuttle frequency and reliability to encourage use and improve traffic congestion and circulation.

The shuttle bus service was barely mentioned in the three volumes, but could help visitor and employee circulation to reduce parking problems near the store/grill. More frequent scheduling should be investigated to better move visitors between parking lots and view sites as well as hardening the stops to avoid trampling nearby. I have added to the present traffic problem by circulating from highway through the grill parking time after time until a spot opened.
[Individual, #304]

The current shuttle system is sometimes unreliable and I have heard of hikers being stranded because the shuttle did not come at the designated time or did not come at all. To get people to park in designated areas and get out of their cars to enjoy the area, the shuttle system needs to be more reliable, have more shuttle stops, and also come more frequently. The possibility of more shuttles from Yosemite Valley and the addition of shuttles from the Lee Vining area should be considered.
[Individual, #80]

No more roadside parking is a great change. But please link that with better Transportation to and from Tuolumne as well as within Tuolumne. Shuttles every 15 minutes, like the valley would go a long way towards this. Also better options on how to get to Tuolumne for day use from the valley or the many campgrounds along the Tioga Pass Road. (It is most important to get people to leave their cars at their campsites/lodges, and use the transportation provided - and for that transportation to be as convenient as posible) my current experience has been standing on the side of the road at a sign waiting 1/2 -1 hour or more for the shuttle to arrive.)
[Individual, #258]

Response: The preferred alternative calls for increasing the frequency of shuttle bus service among destinations within the Tuolumne Meadows area, using existing stops at visitor service areas, making it easier for visitors to use public transportation to circulate within the Tuolumne Meadows area.

Concern ID: 127 The NPS correctly proposes increases in public transit capacity and should consider further increasing public transit capacity through cooperative efforts with the U.S. Forest Service in Lee Vining.

The Sierra Club supports the increases in transit and suggests more transit increase. We suggest that the Park Service consider a joint plan with the Forest Service to construct a parking lot outside the Park near Lee Vining with shuttles into the Park, which would also serve the Lee Vining Canyon campgrounds.
[Individual, #81]

I also support Alternative 4's increases in public transit within and into the Park.
[Individual, #169]

Here are some of the key parts of Alternative 4 that I support:
10. Improving transit capacity to T.M. and frequency within the area, again to encourage less driving.
[Individual, #181]

Response: Under the preferred alternative regional public transit capacity would be increased by 135 people, the equivalent of three 45-passenger shuttle buses, to encourage use of regional public transit. The YARTS Highway 120 route provides seasonal service between the Mammoth Lakes area on the east side of the Sierra and Tuolumne Meadows, with continuing service on to Yosemite Valley; the bus makes a scheduled stop at Lee Vining. The NPS might increase the number of such regional bus runs in the future, so long as the total visitor capacity of this alternative was not exceeded (this could require a reduction in available day parking).

Concern ID: 128 The NPS should encourage public transit use for overnight visitors by reserving campsites for people arriving by transit.

The Draft TRP assumes that all transit use will by day visitors,[22] and mentions a number of ways to encourage and increase transit use, including increasing the number and frequency of shuttle buses and the number of stops.[23] Another way to address transportation concerns involving the Tuolumne Meadows area would be to guarantee a campsite in the main campground, or provide a discount, to campers who arrive by transit and who provide the campsite office several days' advance notice of their expected arrival. This would show that the park was serious about accommodating people willing to rely entirely on transit in the park. It would also recognize that most campers can get reservations, and that these campers don't have the means to drive around to other campsites inside and outside the park looking for a place to camp when the main campground is full. This suggestion also ties in nicely with our proposal for more walk-in sites, which would be perfect for campers arriving by transit.
[Recreational Groups, #312]

Finally manage the busses in a manner that encourages use. For example consider a parking area in Lee Vining. And a shuttle from there. Provide one night free in Backpackers Camp for people who arrive on a bus, from either the east or west. Do something creative here, think of other ways to encourage people to give up their cars!
[Individual, #389]

Response: Overnight visitors choosing to arrive by public transportation would benefit from increased levels of regional bus service under the preferred alternative, which proposes service by an additional three regional buses per day capable of accommodating 45 people per bus. Campers can currently guarantee a campsite in the main campground by making an advance reservation. Suggestions such as designating some sites as walk-in-only sites would be considered as part of the site-specific planning for campground rehabilitation. Other incentives could be considered as part of basic park operations if deemed appropriate.

Concern ID: 129 The NPS should increase public transit options to the park and within the river corridor.

Increasing public transit into the park and within the park would allow more people to visit without increasing automobile traffic would help preserve a rewarding visitor experience and help keep air pollution down.
[Individual, #231]

In addition NPCA recommends that regional transportation be expanded even beyond the proposal.
[Conservation/Preservation, #334]

CSERC ASSERTS THAT THE PARK SHOULD MODIFY ITS PREFERRED ALTERNATIVE SO THAT IT OFFERS MORE OPTIONS FOR ARRIVING AT TUOLUMNE MEADOWS OTHER THAN BY PERSONAL VEHICLE. THIS INCLUDES INCREASING THE EASE OF USE OF PUBLIC TRANSIT - IN PART BY INCREASING THE CAPACITY OF THESE SERVICES. TO MAKE PUBLIC TRANSIT EFFECTIVE AND TO REDUCE PRIVATE VEHICLE CONGESTION, THE PARK SHOULD DO MORE TO EDUCATE THE GENERAL PUBLIC ABOUT THE AVAILABILITY OF AND POSITIVE IMPACTS OF UTILIZING TRANSIT OPTIONS. PUBLIC TRANSIT SHOULD BE FEATURED AS A POSITIVE WAY OF REACHING TUOLUMNE MEADOWS AS PART OF THE PARK'S INITIAL, PROACTIVE APPROACH, INSTEAD OF USING IT AS A RESPONSE TO A MANAGEMENT TRIGGER, AS THE PREFERRED ALTERNATIVE PROPOSES.
[Conservation/Preservation, #240]

Response: Private vehicle use would be expected to remain the dominant form of visitor access to Tuolumne Meadows over the life of the plan. However, the preferred alternative proposes to increase the use of public transit over existing conditions. The NPS could further increase the amount of public transportation to the Tuolumne Meadows area over what is proposed, so long as the maximum user capacity for the corridor was not exceeded. Increases in public transit capacity could require decreases in day parking, for instance. The level of service of public transportation is one means of managing user capacity, along with the amount of day parking spaces, the capacity of overnight accommodations, and the wilderness overnight trailhead capacity. Please also see the responses to concerns #130 and #131, below.

Concern ID: 130 The NPS should not equate an increase in public transit use with a decrease in private vehicle use and traffic congestion.

2) The argument that increasing regional transit by 135 people will reduce the quantity of cars (6-21) is unjustly based on the assumption that those 135 people are taking the bus instead of a personal vehicle, when it is equally likely that some of those people would not be able to reach Tuolumne Meadows without the assistance of regional transit because they could not afford it or did not have access to a vehicle.
IN ITS FINAL EIS, THE PARK SHOULD NOT EQUATE AN INCREASE OF 135 PEOPLE USING REGIONAL TRANSIT TO A DIRECT EQUAL DECREASE IN PERSONAL VEHICLES AND THE ASSOCIATED PERSONS ARRIVING AT TUOLUMNE MEADOWS.
[Conservation/Preservation, #240]

Page 7-85. See above comment for page 7-77. Public transit cannot be cited as addressing congestion when there is no evidence to support this, only conjecture. Three additional buses at full capacity would theoretically eliminate the need for 45 cars. Adding 45 parking spaces at Tuolumne Meadows would be a better solution unless the real intent of the National Park Service in introducing public transit and increasing its presence throughout the Park is to start us on the path to eliminating private vehicle access. I want the camel to be pushed back out of the tent.
[Individual, #406]

Response: The TRP does not equate an increase in public transit use with a decrease in private vehicle use and traffic congestion. The description of the methodology used to analyze the environmental consequences on transportation (presented in chapter 8 of the DEIS and chapter 9 of the FEIS) clearly states that "overall traffic volumes through the Tuolumne River corridor would not be affected by the plan alternatives." The level of service of public transit is one of two mechanisms that would be used to manage levels of day use in the river corridor, the other mechanism being the amount of day parking. If NPS decides to increase the level of public transit service in the future, the agency would need to confirm that the total day use remains within the total user capacity established by the TRP, such as by adjusting the number of people private vehicles. The TRP FEIS has been clarified to state that 'arriving' in this context would mean people finding designated parking spaces where they could leave their private vehicles and spend some time in the Tuolumne Meadows area; people driving through Tuolumne Meadows on the Tioga Road who do not park and leave their vehicles are not included in the user capacity calculations for the Tuolumne River corridor. The TRP will not affect the amount of through-traffic on Tioga Road, and the amount of traffic on this trans-Sierra highway might increase in the future, independent of the actions in the TRP.

Concern ID: 131 Increasing public transit would degrade the visitor experience by adding more visitors.

The introduction of more transit service will degrade the visitor experience by bringing in more people per hour to the Tuolumne Meadows area (and bus customers may or may not be displaced by auto-tourists; in other words bus traffic should be viewed as an additive to the visitor population).
[Individual, #406]

Response: The maximum day use under each alternative must be protective of river values, with the primary constraints being limits on water consumption to protect streamflow and limits on facilities and foot and stock traffic to protect sensitive meadow and riparian habitats and water quality. These constraints provided the upper limits for each alternative. Within these limits, day use capacities were further adjusted depending on decisions about the character of the visitor experience under each alternative and the degree to which visitors might be self-sufficient and independent as opposed to being assisted by services and facilities and more tolerant of higher use levels. Once the maximum day-use capacities for each alternative were estimated, more precise decisions about the number of day parking spaces and the level of service provided by public transportation were calculated, and these facility capacities were adopted as the way to measure and manage the visitor use capacity. Because these parking and public transportation capacities are derived from the overall user capacity, they can be adjusted so long as the total number of visitors accessing the corridor does not exceed the maximum capacity established for the corridor. In other words, the number of people arriving at Tuolumne Meadows by public transit could be increased so long as the maximum visitor capacity of the given alternative is not exceeded.

Concern ID: 132 **The NPS should clarify existing and proposed public transit bus numbers, bus capacity and monitoring, the impacts of infrastructure needed to support buses, and when public transportation and shuttle services began in the river corridor.**

Page 5-71. The TRP states that "...day use capacity will be managed through the availability of day parking and the capacity of the buses that serve the Tuolumne River corridor..." While additional language is provided about noting the number of cars that are "...actually parking in the Tuolumne Meadows area..." and at Hetch Hetchy Reservoir there is no mention about monitoring bus impacts. Buses can bring more people per hour into the Tuolumne Meadows area, the larger the bus the greater the impact. The buses need infrastructure support (stops, shoulders, wider turn arounds, etc.) and yet no comments are made about this. Later in the document it is noted that buses are not allowed on the Hetch Hetchy Road with no discussion about why this is or what is considered a "bus." The TRP also notes that charter/tour bus traffic apparently declined between the years 2000 and 2010 but no explanation is given as to why nor is it clear in reading the TRP what use charter/tour buses make of the Tuolumne Meadows area. All this should be addressed. . . .

Page 7-13 When were the shuttle services established and where is the environmental documentation that approved adding this service? What is "regional public transportation" and when did it begin?

[Individual, #406]

3) Increased bus capacity is good, fewer buses is not - I don't understand the table showing only 2 buses with greater capacity. As it is there is a wait of about 30 minutes between buses . . .

[Individual, #154]

Response: The maximum number of visitors who can currently arrive by public transportation (tour bus, in-park shuttle, or regional transit) is estimated at a maximum of 225 people at one time (five buses at 45 people per bus).The preferred alternative would increase regional transit capacity by 135 people, the equivalent of three 45-passenger shuttle buses, to encourage use of regional transit and relieve traffic congestion at Tuolumne Meadows on peak days. Because such buses already pass through Tuolumne Meadows, no additional infrastructure is needed (the buses would use the existing bus stops in Tuolumne Meadows). There are currently two bus parking spots at the visitor center; these will be retained until the new visitor contact station is constructed. As part of the site-specific compliance for that structure (tiered to this document), the need for additional bus parking spots will be assessed and public comment will be solicited on any such need assessment.

Regarding the beginnings of public transportation on Tioga Road, NPS Director's Order 12 states: "An EIS is to be analytic rather than encyclopedic." The TRP EIS analyzes actions needed to protect and enhance river values in the Tuolumne River corridor, and these actions are compared against current management in the river corridor (please see the responses to concerns #36, #97, and #98). The initiation date for in-park shuttle services and regional public transportation and the documentation for those actions are not relevant to the scope of this planning effort.

Concern ID: 133 **The NPS should clarify its authority to manage YARTs and other transit service, and evaluate the impacts of increasing public transit in alternative 4.**

Page 6-21. The TRP goes on to state that the "...regional transit service levels (YARTS, the hiker bus operated by the concessioner, and other transit services) would remain under NPS control, with the number of visitors delivered into the river corridor by such services managed according to the user capacity limits established for alternative 4. The NPS may use any combination of limits on the numbers of buses, the stops they make, the number of passengers they accept, and/or the number or routes they run per day." This is an open ended policy that begs several questions. First, where is the authority to continue to expand the YARTS service which is an external (to the park) transit program. Second, where is the cumulative environmental analysis for increasing bus use including emissions data, fuel consumption data infrastructure impacts, and system costs? The TRP should not embrace or incorporate any proposed transit service increases until environmental and socio-economical analyses have been completed.

[Individual, #406]

Response: As noted on page 2-20 in the TRP DEIS, "As authorized by law (36 CFR 5.3) and NPS Management Policies 2006 and Directors Order 53, the NPS issues commercial use authorizations to business entities that offer services to visitors that are not typically provided by the concessioner. Commercial bus operators, wilderness outfitters and guides, and other small businesses operate in the park under the terms of commercial use authorizations.… Under a formal agreement between the NPS and the Yosemite Area Regional Transportation System (YARTS) Joint Powers Authority, YARTS administers a contract for transportation services to and through Yosemite National Park, including along the Tioga Road in the Tuolumne River corridor." The impacts analysis in chapter 9 of the TRP FEIS has been updated to note a negligible increase in emissions in the corridor from three additional regional transit buses passing through each day, and the positive economic benefit to regional transportation providers.

Tuolumne Meadows Parking

Concern ID: 134 The NPS should remove roadside parking and construct new formal parking, as proposed in alternative 4.

In general, I support Alternative 4. In particular, I like: Having multiple designated parking areas. I was concerned that the plan to remove roadside parking might result in visitors clumping up on a couple of trails accesible from clustered parking areas, but I see that NPS is proposing a string of parking areas along the Tioga Road

[Individual, #7]

I applaud the proposals for restoration activities in the Meadows. In particular, I strongly support plans to remove informal parking areas and the existing Cathedral Lakes trailhead. Parking in these areas creates visual sprawl that seriously detracts from the wilderness setting, not to mention effects on the meadow ecology.

[Individual, #68]

Eliminating the roadside parking on Tioga Road is another long-overdue improvement. The four roadside viewing turnouts will allow those traveling through to stop and see the Meadow. The expanded parking at the new Visitor Center, commercial services area, Wilderness Center, Dog Lake, and Lembert Dome will encourage people to not stop alongside Tioga Road and thus damage the meadow and create traffic hazards, and instead get out of their cars and possibly truly appreciate the Meadow.

[Individual, #175]

Response: These actions are proposed in the preferred alternative.

Concern ID: 135 The NPS should not remove parking along Tioga Road at Tuolumne Meadows as it would restrict visitor access.

Do not eliminate roadside parking! Continue unrestricted access to meadows and rivers. That is the charm - do not overregulate. Let people swim in the river with easy access. Let them use rafts and tubes. Do not block everything off. Your report is totally one sided - supporting your goals without considering alternatives, and makes your intended changes almost impossible to learn about.

[Individual, #92]

I don't agree with taking out roadside parking or having only a limited number of parking spaces. This is a hardship on those who cannot walk far, when you have kids, grandparents or handicapped people in the car or people who just want to look at/ hang out at a particular area for a short time.

[Individual, #262]

The TCTC has reviewed the four proposed action alternatives, each of which provides their own unique concepts independently, but also comprehensively share in the intent to eliminate roadside parking along Tioga Road in favor of expanding existing designated parking spots at current locations. Tioga Road is a main parking alternative for Park visitors because of the limited number of designated parking spots in the Tuolumne River Corridor. The TCTC fears that eliminating roadside parking along Tioga Road will displace a lot of the existing parking capacity if adequate parking supply is not supplemented. A parking survey conducted within the Tuolumne River corridor in

2011 stated that at peak visitor hours an additional 337 vehicles exceed the 533 designated parking spaces, approximately 39% over the designated parking capacity (Chapter 8, 8-234). Any action alternative considered should be able to supplement the loss of parking capacity along Tioga Road. Alternatives that result in a net loss of total capacity do not reflect the interest of the County and are not supported by the TCTC.

[County Government, #380]

Response: The designated parking areas included in the preferred alternative would be dispersed throughout the Tuolumne Meadows area, rather than being consolidated into a small number of central lots. However, undesignated roadside parking would be disallowed to preclude visitors from creating informal trails from the roadside into the meadows, which is causing fragmentation of meadow habitat and impacting archeological sites. Instead, visitors would access the meadows from designated parking areas with trailheads directing them to designated trails and away from highly sensitive resources. The designated parking spaces provided under the preferred alternative would slightly exceed the number of vehicles currently parking in designated and undesignated spaces. The use of public transit is encouraged in the preferred alternative by increasing the frequency of the internal Tuolumne Meadows shuttle system and increasing the number of regional transit buses permitted to deliver visitors to the river corridor.

Concern ID: 136 The NPS should implement the proposed parking modifications in alternative 4 (i.e., replace undesignated parking with new formal parking spaces) only when alternative parking and transportation options are available.

The availability of parking is an issue in many areas of Yosemite Park and there has been a trend to removed undesignated parking without adding equal numbers of replacement parking near those areas. This trend started in Yosemite Valley and now is going to extend to the Tenaya Lake area and might extend to the Tuolumne Meadows area. I heartedly feel that the removal of road side parking and an insufficient shuttle system has added to the adverse traffic conditions in Yosemite Valley and are concerned that this issue will spread to the Tuolumne Meadows area.

. . .Undesignated parking in the Tuolumne Meadows area should not removed until replacement parking is available and shuttle system improved.

[Individual, #80]

However, the undesignated parking should not be removed until the replacement parking is available and/or vigorous additions are made to public transportation shuttle systems to allow and encourage visitors to enjoy Tuolumne Meadows without their cars.

[Individual, #81]

Response: No informal parking would be removed until all the formal parking spaces included in each alternative were available. A phasing schedule for implementing all the actions proposed in the plan has been added to the TRP FEIS (please refer to appendix N).

Concern ID: 137 The NPS should not decrease parking at Tuolumne Meadows; parking lot capacity should accommodate all visitors who would be displaced from parking along Tioga Road.

11) The parking situation is unclear. We do not support the random elimination of parking without analysis and justification. Moreover, we do not support a net reduction in existing parking. People access Tuolumne and its outstanding recreation and solitude opportunities primarily by car; talk to the contrary has left a sense that the NPS will begin to undermine the existing pattern of visitation without justification. We do support the elimination of unauthorized roadside parking. But we ask that further analysis fully justify any such changes by showing no net loss of places to stop. This is a matter directly affecting recreation itself. We ask that the NPS look more carefully at the use of small, dispersed, unobtrusive spots where people can park.

[Conservation/Preservation, #394]

I fully support expanding parking lots in appropriate locations to address the parking problems and eliminating some of the more problematic dirt parking areas (e.g., Cathedral Lakes trailhead and Tuolumne store), but I request that the Park consider expanded parking lot capacity beyond the proposal to increase parking in the Meadows area by only 100 vehicle spaces. Well over 100 cars park daily in summers along Tioga Road in Tuolumne Meadows, and these visitors should be accommodated.

[Individual, #257]

I like the idea of moving parking options to formalized areas off the main road, however completely eliminating road-side parking, and reducing the parking capacity of an area which is already sometimes strained seems excessive. According to Table 7-11 on page 7-86, it looks like the number of parking areas would be reduced by 70 spaces. Rather than eliminating all road-side parking, a detailed review of which areas are more sensitive and creating alternative parking options (directed to less sensitive locations) seems more appropriate and also allows for more people to enjoy the region without creating a large adverse impact. If we want people to get out of their cars and explore the region, we need to give them a place to leave their cars behind. I support the increase of public transit options and capacity, but these are two different populations. People who want to spend a full day hiking or climbing in Tuolumne, but do not have overnight lodging in Tuolumne can't do that with the current public transit schedule, and they will drive their cars.

[Individual, #409]

Response: The designated parking spaces provided under the preferred alternative would slightly exceed the number of vehicles currently parking in designated and undesignated spaces. The capacity would be further increased under alternative 2; however, that alternative was not considered the environmentally preferable alternative. Because the preferred alternative would increase the amount of parking available in Tuolumne Meadows over what can be found there today, including the undesignated roadside parking, the amount of designated day parking provided under the preferred alternative would accommodate all visitors who would be displaced from parking along Tioga Road. Roadside parking would not be eliminated until replacement parking is provided by expanding the existing lots. Please refer to the phasing plan in appendix N.

Concern ID: 138 The NPS should revisit the way existing parking capacity numbers are presented in the TRP.

As noted at the Groveland meeting, CSERC staff identified that, until the small print below Table 7-3 on page 7-16, the numbers of parking spaces do not consistently add up.

[Conservation/Preservation, #241]

Response: The TRP FEIS has been revised to add a discussion of "Existing Visitor Parking at Tuolumne Meadows" to the no-action alternative in chapter 8. That discussion includes a new table of specific parking locations and capacities.

Concern ID: 139 **The TRP should clarify parking counts and shuttle capacity along Tioga Road from Tuolumne Meadows to Olmstead Point, clarify if day use parking is being limited on Tioga Road, and clarify how Tuolumne Meadows day use visitors would be distinguished from visitors passing through.**

The tourism growth rate for Yosemite in recent years is stated to be 3% per year. In the following pages of Chapter 8 there are numbers provided for proposed parking space inventory increases but none of them seem to address increasing demand for the life of the TRP. In fact, it appears that demand for current day use needs will not be met under any of the alternatives. When I read on Page 8-190 that the Tenaya Lake Area Plan proposes a decrease in day parking I am led to the conclusion that the National Park Service has decided to end expansion of day use along Tioga Road or at least cap accommodating private vehicle auto-touring. I would like clarity on the parking space inventory for the greater Tuolumne Meadows area (Tioga Pass to Olmsted Point) and the capacity and frequency of the shuttle service from Tioga Pass to Olmsted Point. I also want to know where the environmental assessment is for expanding bus service in this area to accommodate the increasingly growing number of displaced auto-touring visitors. Finally, for those travelers that are simply in transit through the Tuolumne River planning area (or the park as a whole) is there going to be a separate entrance permit issued or some other means to separate out those that are passing through from those whose destination for the day was Tuolumne Meadows?
[Individual, #406]

Response: Undesignated roadside parking would continue to be allowed along Tioga Road west and east of Tuolumne Meadows. Tioga Road west of Tuolumne Meadows to Olmstead Point is outside the Tuolumne River corridor, and the roadside parking along that section of road was not included in the parking calculations conducted for purposes of determining and managing the user capacity of the river corridor. Although a circulating shuttle bus runs from the Tuolumne Meadows Lodge to Olmstead Point, people parking along the road cannot access the shuttle. Parking for people who might ride the Tuolumne Meadows shuttle from one of the parking areas west of Tuolumne Meadows (notably Tenaya Lake and Olmsted Point) is not included in the parking calculations for Tuolumne Meadows, primarily because most of the parking in these areas is used by Tenaya Lake and Olmsted Point visitors who do not ride the shuttle. Only a small number of visitors ride the shuttle between Tenaya Lake and Tuolumne Meadows. This information was included in the TRP DEIS in chapter 7, under the "Actions Common to Alternatives 1-4" section. This information is now found in chapter 8 of the TRP FEIS, and has been revised to further clarify that the user capacity calculations do not include the shuttle bus ridership on either of the internal circulating shuttle systems serving the Tuolumne Meadows area because the great majority of people riding the shuttles are already captured in the parking counts for Tuolumne Meadows. Neither do the calculations include through-traffic on Tioga Road.

Concern ID: 140 **New, expanded and existing parking areas should be landscaped to screen them from view.**

The Sierra Club supports the construction and expansion of parking lots to replace the loss of roadside parking although some of the loss of roadside parking should be mitigated through substantial and well publicized increase in public transit visitor access to Tuolumne as described below. The lots should be kept out of the open meadow areas and shielded from view by foliage.
[Individual, #81]

Existing parking lots such as the ones at Dog Lake and the Wilderness Center should be landscaped with appropriate vegetation to reduce visual impact. Any new parking should also be screened as much as possible.
[Individual, #80]

Response: The TRP FEIS has been revised in chapter 8, under "Actions Common to Alternatives 1-4, Scenic Segments, Scenic Value: Scenery through Dana and Tuolumne Meadows" to include the following action for protecting scenic values "Incorporate design elements, including material selection and landscaping, to minimize visual intrusions associated with all new or rehabilitated facilities."

Concern ID: 141 The NPS should retain some roadside parking for short-term viewing opportunities.

I venture to Tuolumne Meadows several times each year. I believe some parking should be maintained along Hwy 120 directly adjacent to the Meadows. I often only have 10 minutes to stop and admire the Meadows, but these are a special 10 minutes

[Individual, #276]

WE SUPPORT: Establishment of time-limited roadside turnouts for scenic viewing. It appears that the number of such turnouts should be increased beyond the four proposed.

[Conservation/Preservation, #348]

Scenic turnout is suggested for viewing iconic peaks, e.g. those on the cover of this CMP. I don't think there are enough opportunities to see these peaks clearly as outlined on p 2-16 for "an unobstructed view of the craggy Sierra Nevada", p 5-60, and "vista management", p 5-61. I am spoiled for my first view of these peaks was awaking near Soda Springs after a dark night arrival 55 years ago. I have long wondered if those travelling in closed vehicles can well see the iconic craggy Sierra Nevada in Tuolumne Meadows. Last June I saw a number of busses entering the park at Tioga Pass and I wondered what views of Cathedral Range they would have from the bus.

[Individual, #304]

Response: Under all of the action alternatives four additional designated pullouts for four cars each would be delineated along Tioga Road within the Tuolumne Meadows area to accommodate short-term scenic viewing and traffic safety operations.

Concern ID: 142 The NPS should not retain vehicle access to Parsons Memorial Lodge National Historic Landmark in alternative 4.

The one detail of Alternative 4 that I totally disagree with is retaining vehicle access to Parsons Lodge. It should be possible to provide disabled access without the road. Alternative 1 is the only alternative that eliminates vehicle access.

[Individual, #175]

Parsons Memorial Lodge

There is no legitimate "need" to have a road maintained to provide access to the Parsons Memorial Lodge. The Plan and planning staff suggest that vehicle access is necessary to carry heavy loads to support the educational programs that support the historical value of Parsons Memorial Lodge. Our Center provides educational programs for 8,500+ participants a year at schools. The presenter carries a screen, an extension cord, a large old-style slide projector, and as many as three carousels of slides. The presenter may carry these all around a school to and from distant parking spots. There is no reason that the Park cannot create a pole sling for two people to carry a bulky load of educational items to and from Parsons Lodge without the need for vehicle access. It is up to the Park to be setting an example for keeping Tuolumne Meadows natural and the site surrounding Parsons Memorial Lodge non-motorized.

THE PARK SHOULD ELIMINATE THE UNNEEDED ROAD-VEHICLE ACCESS TO PARSONS MEMORIAL LODGE IN THEIR FINAL EIS SO AS TO BETTER PROTECT WATER QUALITY, BETTER MAINTAIN A MORE NATURAL SETTING, AND TO SHOW THE VISITING PUBLIC THAT THE PARK IS TALKING THE TALK AND WALKING THE WALK BY MINIMIZING ROADS IN THIS ICONIC LANDSCAPE.

[Conservation/Preservation, #240]

Response: Vehicle access to Parsons Memorial Lodge is limited to occasional administrative use and is needed particularly to support historic preservation work and ongoing maintenance work on the stone and timber structure, which is a National Historic Landmark. In addition, if the wastewater treatment ponds remain in their current location (they could move in the preferred alternative, if the technology is available to move all wastewater treatment to one location), administrative vehicle access is needed on this road.

Concern ID: 143 The NPS should provide a new scenic turnout at the "little blue slide" area of Tioga Road to view the Cathedral Range.

However, I see the hint of a possible scenic turnout location just for busses at "little blue slide" shown in a photo, p 5-80, where road embankment work is proposed, p 5-80 & 81. This spot might give those travelling west, especially those traveling through in visually confining busses. I want them to have a chance to stand at roadside (with bus motors off) to see these iconic craggy peaks in the Cathedral Range that are only briefly viewed from a moving a vehicle. This location, if widened for a scenic turnout, may have a "contrast analysis rating sheet" score of only 1 for "other structures" e.g. road signs and widened pavement since this location seems scheduled for embankment work for visual improvement and sediment control if that also might includes the barren slope above the road. However, by closing the comment period in March precludes park staff and my opportunity to go to this location and judge its possible usefulness as a view point. Thus I can only propose it be investigated in conjunction with other already planned remedial slope work that might be done above the road. The goal would be to give these folks on a bus a grand view for the money they are paying since they can't walk to Soda Springs to see this range.

[Individual, #304]

Response: A small scenic turnout already exists at this location. The primary view is to the Cathedral Range to the southwest. In addition there are great vistas to the south of Lyell Canyon, Mount Lyell and Amelia Earhart Peak.

Concern ID: 144 The NPS should eliminate parking along the road to the current concessioner stable.

2. Eliminate parking along the road to the stable, also. The most unpleasant hiking I have done in the area is along that road, which serves as the trail to Glen Aulin from the parking areas at Lembert Dome or closer to the Lodge. The impacts of parking on that roadside are basically the same as along Tioga Road. Allowing parking there encourages people to drive there each day. Eliminating that parking would help create a much more natural environment and experience.
[Individual, #181]

Response: The road to the concessioner stable was determined to be a suitable location for providing parking without having an impact on river values. The amount of parking needed to support the user capacity included in the preferred alternative cannot be provided without parking along the road to the concessioner stable.

Concern ID: 145 The NPS should clarify the proposal for parking along the road from Lembert Dome to the concessioner stable and from Lembert Dome to Parsons Memorial Lodge.

Also, I am unclear whether the Park Service also plans to eliminate parking along the dirt road that leads from the Lembert Dome parking area to the stables; this is a safe place to park off the highway and accommodates many visitors. Rather than eliminate parking here, if that is proposed, the Park Service should improve the way in which parking occurs in this area (e.g., marking spots, avoiding impacting meadow edges) instead of eliminating parking for an additional 100 or more vehicles.
[Individual, #257]

Parking along the road to Parsons Lodge likewise is always heavily used on weekends - can all those cars fit into the Lembert Dome parking
[Individual, #267]

The document is incomplete because it doesn't fully address all proposed changes. For example, what is planned for parking between Lembert Dome and the stables? This is one of my favorite quick stops.
[Individual, #276]

Response: Under the preferred alternative, roadside parking along the road to the concessioner stable would be formalized. Chapter 8 of the FEIS has been updated to note that in alternatives 3 and 4 there would be

additional parking, beyond what currently exists informally, located between Lembert Dome parking and picnicking area and the stable in the areas of the road that do not pass through resource sensitive areas.

Concern ID: 146 The NPS should consider using Gaylor Pit for additional parking.

with regularized shutle bus service, additional day parking could exist just outside Tuolumne Meadows. I believe Gaylor Pit could be better developed for this purpose along with the proposed NPS housing.
[Individual, #243]

I see that the Tuolumne River Draft Plan includes more day use. The great Tuolumne mess is created by the cars parked between the Tuolumne Meadows Campground entrance and the turnout for Pothole Dome. Where are you going to put the additional cars produced by more people? It seems to me you ought to hold off on greater day use until you solve the parking problem. Maybe you could put a huge lot in the lower Gaylor horse space, or severely restrict day use. At the very least, please do NOT expand day use and make a bad situation WORSE.
[Individual, #157]

Response: The amount of parking consistent with the user capacity established for each alternative could be provided at suitable locations without developing parking facilities at Gaylor Pit. Additionally, under the preferred alternative, Gaylor Pit would be needed for campsites for employees on temporary duty in the Tuolumne Meadows area and for use by traditionally associated American Indian tribes wishing to access traditional cultural areas.

Concern ID: 147 The NPS should provide more detail regarding the types of parking spaces available at Tuolumne Meadows and add consider adding parking spaces for motorcycles.

(As an aside, what is the inventory for oversized vehicle parking spaces, motorcycle parking spaces, handicap parking spaces, buses, and vendor parking spaces?)
…Page 2-228. Here we see that automobile means "private passenger vehicle" but even this phrase should be clarified. Since 3% arrive by motorcycle why are parking spaces for motorcycles not common in Yosemite (fewer people use buses but stops for them are being installed throughout the Park).
[Individual, #406]

Response: Parking lots would be designed with a standard ratio of spaces provided for cars/trucks and RVs. More than one motorcycle could share a parking space, as they do now. Currently, parking spaces for motorcycles are not distinguished from standard vehicle spaces for visitors or employees. Oversized vehicles generally park along road shoulders, in informal parking areas, or take up multiple standard spaces in formal lots.

Concern ID: 148 The NPS should consider adding remote parking areas along Tioga Road in combination with additional bus service.

To reduce stress on Tuolumne Meadows, the Park should commit to a plan to create alternative parking areas, hiking trailheads, and bathrooms strategically located all along the Tioga Pass highway in the Park.
[Individual, #273]

I know that one goal is to manage day use and overnight use by managing the parking areas and removing the possibility of informal, roadside parking. I do wonder how effective would additional buses be? Is there any possibility of additional remote parking areas being put in further along the road in either direction from the Meadows to use in conjunction with the additional bus service?
[Individual, #299]

Response: The amount of parking consistent with the user capacity established for each alternative could be provided at suitable locations in the Tuolumne Meadows area without constructing remote parking lots and expanding bus service beyond what is already proposed. Because the user capacity is based on protection of

river values, any adjustment to increase visitor access by public transportation (and off-site parking) would have to be managed such that the maximum visitor capacity was not exceeded.

Concern ID: 149 The NPS should consider the scenic impact of devices to prevent undesignated parking.

There has been discussion of using curbs to prevent people from parking in undesignated parking and to limit people's ability to enter the meadow. I feel that the curbs that were added in Yosemite Valley make the roads look too city like. To achieve a look that is more rustic, instead of the typical concrete curbing, the possibility of using stacked rocks or pressed concrete that looks like rock should be considered. The use of rustic fencing, like in Grand Teton NP, could be used for the prevention of cars and people entering restricted areas.
[Individual, #80]

Response: All new development in the Tuolumne River corridor, including barriers to roadside parking, will meet the visual resource management standards described in chapter 5, as determined through a contrast analysis rating. Both curbing and placement of large boulders have already been utilized in other areas of Yosemite, and boulder placement is already used in some areas of Tuolumne Meadows. Installation of parking barriers will also be consistent with the Design Guidelines for Yosemite National Park and will not detract from the scenic qualities of Tuolumne Meadows.

Concern ID: 150 The NPS should consider the consequences of limiting parking at Tuolumne Meadows on other locations along the Highway 120/Tioga Road corridor.

One unintended consequence of limiting parking in the Tuolumne region is that this may place additional pressure on other areas along highway 120 to accommodate the demand for day hiking. For instance locations such as Tenaya Lake and the Sunrise trailhead or the Porcupine (North Dome) trailhead may become more popular day-hiking destinations, however any increased use of day hiking in these locations should not also be proposed to be limited as a result of the reduction in parking in Tuolumne Meadows.
[Individual, #257]

I am interested about the idea of increasing day use numbers and where people will park. Tuolumne Meadows has become increasingly crowded and people often try to create parking places that impact the edges of the meadow. I am hoping that the plan has made provisions for this.
[Individual, #131]

Response: The potential for these types impacts on transportation, the visitor experience, and vegetation are addressed in chapter 9 under the cumulative impacts analyses.

Concern ID: 151 The NPS should clarify if parking would be available for wilderness permit holders who stay an additional night at Tuolumne Meadows.

Would it be possible designate parking for people staying at the campground (or lodge) before and after a multi-day hike in the backcountry? This has been a logistical challenge in the past.
[Individual, #181]

Please do something when planning for parking to assure there is adequate parking for longterm parking for people with wilderness permits. Perhaps a permit only parking lot.
[Individual, #389]

Response: The TRP FEIS has been revised (in chapter 8, "Actions Common to Alternatives 1-4, Tuolumne Meadows Site Plan, Parking") to clarify that under all the action alternatives the calculations of needed overnight parking would accommodate people moving into and out of lodging on the same day and people who leave their cars for multiple days while backpacking in the wilderness and who often stay in the backpacker area of the campground on the night before and/or after their wilderness trip (hence some wilderness permit

holders, as well as people moving into and out of lodge accommodations, overlap in their need for overnight parking).

Concern ID: 152 The NPS should clarify how the overnight parking numbers were calculated.

3) Overnight Visitor Parking in Alternative 4 is more than is needed using the numbers provided in the proposed Maximum Overnight User Capacity. There are 250 trailhead parking spots allowed for overnight visitation that are not associated with the Tuolumne Meadows Lodge or the Campground (7-112). Since the overnight visitor capacity for the Wilderness and Glen Aulin combined is 370 people per night (7-88) it makes no sense for an allowance of 250 parking spots for this population. We recognize however that 58 of those spots are meant to accommodate the concessionaire stables. Using the Park provided estimates of an average of 2.9 people per car (7-86), 192 overnight parking spots will accommodate over 550 people.

CSERC QUESTIONS THE PURPOSE BEHIND ALLOWING A LARGE NUMBER OF OVERNIGHT VISITOR PARKING SPOTS THAT EXCEEDS THE ALLLOWED NUMBER OF OVERNIGHT VISITORS. IF SUCH A HIGH NUMBER OF PARKING SPACES IS NEEDED TO ACCOMMODATE OVERNIGHT VISITORS, THIS SHOULD BE DISCUSSED IN THE FINAL EIS. IF THERE IS NOT A NEED FOR THIS MANY PARKING SPACES THEY SHOULD BE REMOVED FROM THE PLAN ALTOGETHER.

[Conservation/Preservation, #240]

How is overnight user parking capacity calculated (the TRP mentions a different formula will be used but doesn't explain what it is (page 7-25})?

[Individual, #406]

Response: The no-action alternative has been clarified to describe that overnight parking requirements include overlap by wilderness permit holders who may spend some nights in other wilderness zones or in the Tuolumne Meadows campground backpacker staging area and by visitors arriving at and leaving the Tuolumne Meadows Lodge and Glen Aulin High Sierra Camp. This description can be found in chapter 8, under the "No Action Alternative, Site Development at Tuolumne Meadows, Existing Parking at Tuolumne Meadows."

Concern ID: 153 The NPS should clarify how parking limits would be enforced at Tuolumne Meadows to meet management standards for the recreational ORV. The NPS should use a 'friendly' approach to enforcing day use parking capacity, before using more strict enforcement measures.

How will you enforce limited parking times at the new pull-outs? I know signs were mentioned in the webinar, but time limits have a way of getting stretched without adequate enforcement. Will you have the resources? What will keep social trails from developing at the pull-outs? To a degree, pull-outs encourage motor vehicle use, also.

[Individual, #181]

Carring capacity is only as good as its enforcement. Parking sites need accurate placement and monitoring. Curbing and rock berms do a lot to alleviate roadside parking

[Individual, #243]

These documents are not convincing about how YNP will control day use numbers when the maximum environmental limit of 562 parked user vehicles is exceeded.

Although we are assured that "visitor capacity will be enforced to protect the quality of visitor experience from increasing congestion", etc, p 5-71, we reads in the errata for p 5-70 that adverse impacts for vegetation indicators caused by day use visitors will be tolerated until degradation by informally parked vehicles exceed the parking space supply by 20% of the time at peak hours for three years including visitors arriving by regional busses that serve the Tuolumne River corridor. A limit of formal parking places are set at 562 in Table 7-11a, p 7-93 for Alternate 4 as the amount that will not bring more day users than the environment can withstand after $66 million in restorations and improvements are made as shown in Appendix L. 20% more than the limit is 112 informally parked cars. Parked where, along the highway shoulder as now, obstructing views and presenting a real safety hazard, or on internal roads now, e.g. photo p 2-9?

There are two broad choices, as I see it: Reduce formal parking spaces by 112 spots and let peak period informal parking happen and give the informal parkers large, brightly colored, friendly warning to control the number. Also, increase the frequency of shuttle bus service on peak days to mitigate parking problems. Another parking help on

peak and near-peak days would be to station parking staff at congested places and at remote parking areas, listed on p 7-93, to direct those waiting at congested areas to the more remote, but uncongested parking places. Alternately a poor choice, would have park ranger/traffic cops in bright traffic control jackets, circulating through the internal roads and along Hwy 120 from Tioga Pass to past Pothole Dome on Harleys giving citations carrying federal fines or imprisonment to those parking in illegal places. I dread the thought of tow trucks hauling illegally parked cars to Lee Vining!

I suggest the first three friendly steps be used as the solution to protect park resources because it would be doubly distasteful to be cited in paradise.

[Individual, #304]

Response: Specific enforcement measures are beyond the scope of the TRP and remain at the discretion of law enforcement personnel. However, tactics that were least intrusive on the visitor experience (site design, orientation, education) would be implemented first. More intrusive tactics, including issuing and checking parking permits and ticketing illegally parked vehicles, would be implemented if determined necessary to ensure that visitor use remained within the established capacity. Specific to the comment about scenic pullouts, they would be posted for brief stops only, and the prohibition on parked vehicles would be enforced in these locations just as they would be in other unauthorized parking areas.

Concern ID: 154 The NPS should clarify if there are conflicts between visitor parking and employee parking.

The TRP notes the need to avoid conflicts between day visitors and overnight guests when it comes to parking cars but no mention of avoiding conflicts with employees.

[Individual, #406]

Response: While there may indeed be such conflicts currently, the NPS has little reliable information to utilize in assessing this problem. In the future, however, under all alternatives, employee parking would be restricted to spaces designated for employees in housing and administrative/maintenance areas, and these spaces would be counted and managed separately from visitor parking. Employee parking would be sized to accommodate those employees stationed at the bunkhouse for short time periods or parking at the trailheads for duties in the designated wilderness.

Concern ID: 155 The NPS should include more information on the proposed day use reservation system for day parking and clarify why it would require additional environmental review.

It is noted that day parking could be "managed through a reservation system". This may be an excellent idea, but it is not addressed again. Parking is going to be a thorny issue.

[Individual, #270]

The TRP says the National Park Service will defer management decisions regarding the implementation of a parking reservation system until after completion of both the Tuolumne and Merced Wild and Scenic Rivers plans. Is this not piecemealing the environmental review process?

[Individual, #406]

Response: Because visitors displaced from a full trailhead may choose to hike trails that are outside of the Tuolumne and Merced River corridors, exceedance of the visitor capacities in the two river corridors would likely entail parkwide effects. Consequently, a day use reservation system would have to be implemented on a parkwide basis. It is not possible for either river plan to adequately assess the sociocultural impacts of a day parking reservation system until final maximum day use limits and day parking numbers have been established for both river corridors. Further, under the draft preferred alternatives of both river plans, no day use reservation system would be necessary at this time, as use levels do not warrant the implementation of such. For these reasons, planning and compliance for this management action would be deferred until comprehensive management planning has been completed for the Tuolumne and Merced Wild and Scenic Rivers.

Concern ID: 156 The NPS should clarify if the TRP would remove roadside parking along Tioga Road outside of Tuolumne Meadows.

Although the DEIS states that "undesignated roadside parking would continue to be allowed along Tioga Road west and east of Tuolumne Meadows" (DEIS at 7-28), it states in other parts of the document that "the roadside parking along Tioga Road will be eliminated" (DEIS at ES-9) and "All the action alternatives would eliminate roadside parking along Tioga Road?" (DEIS at 5-68). Thus it is unclear if the Park proposes only to limit parking in the Meadows or if there are existing (or future) plans to also limit parking in other portions of the river corridor, which parallels the Tioga Road nearly up to Tioga Pass. If the latter is a possibility, then the Park must commit to doing additional NEPA analysis and public review if it decides to propose limiting other parking on Tioga Road outside of the Meadows. Included in this public review must be an analysis of alternative sites that could provide access to trails and the river along the Tioga Road outside of Tuolumne Meadows. Dirt parking areas along the highway east of the Meadows access some old trails that allow the visitor to experience the "wilder side" of Yosemite. One example is the lower Gaylor Lakes trail, an historic trail that can only be accessed via a small dirt parking area along the road. Other pullouts allow the visitor to access the unmaintained trail that parallels Tioga Road in many places, and the un-trailed Yosemite wilderness. And, the popular Mono Pass trailhead (promoted by Park staff as a wonderful place to hike) is woefully small for the consistent demand to hike here, thus much parking occurs alongside the highway (as a side-note, the parking lot here really needs to be expanded to provide a reasonable number of parking spaces). Pullouts along this section of the highway also allow the visitor to stop adjacent to the scenic river segments upstream of the Meadows to experience this tumbling section of the river. The impact to visitors of reducing parking in these locations has not been assessed, nor have reasonable alternatives been proposed.

[Individual, #257]

I support the need to rationalize and improve parking at Tuolumne Meadows and along Highway 108 (common to all alternatives). I think it is an excellent idea to eliminate informal roadside parking and the attendant informal trails. All parking should be in clearly designated spaces. This will actually improve the experience of many visitors because it will reduce traffic hazards and their associated stress and strain on drivers. I've witnessed several "near misses" passing through Tuolumne Meadows on 108 when a car pulled out unexpectedly into traffic or a visitor stepped onto the road between parked cars. Although, of course not part of the Tuolumne River drainage, I think this policy should be extended to the many informal "climber" parking spots between Pothole Dome and Tenaya Lake as well. This unregulated parking likely produces even more traffic hazards than the Tuolumne Meadows segment of 108 because of the curvy nature of the road. Plus, there is substantial visual impairment as riders look to the view and instead see tangles of parked cars.

[Individual, #156]

Response: The following action is included in chapter 8 of the FEIS (chapter 7 of the DEIS) under the heading "Actions Common to Alternatives 1-4," subhead "Day Parking": Undesignated roadside parking would continue to be allowed along Tioga Road west and east of Tuolumne Meadows.

Concern ID: 157 The NPS should include management action to prevent potential impacts from displaced visitor parking along Tioga Road outside of Tuolumne Meadows.

The impacts of displaced visitors creating new turnouts is not adequately mitigated or managed for. There are currently 129 pullouts between the Cathedral Lakes Trailhead and Tioga Pass, many of which exhibit damaged vegetation and bare ground, and create erosion problems due to the sloped nature of the pullouts (H-19). We request more management direction to protect against "new impacts on native subalpine vegetation communities along the road corridor" (8-82) from visitors who have been displaced from the Tuolumne Meadows corridor.

[Conservation/Preservation, #241]

How does the National Park Service propose preventing future informal parking encroachment? How will the National Park Service address the impacts of increased informal parking that the TRP identifies will likely occur east and west of the Tuolumne Meadows area?

[Individual, #406]

Response: Visitors who were not able to find parking at Tuolumne Meadows might seek to park along Tioga Road either east of Tuolumne Meadows, which is inside the river corridor, or west of Tuolumne Meadows, which is outside the river corridor. Although no restrictions on roadside parking in those areas are currently

proposed, the NPS would monitor impacts on environmental conditions and traffic safety, and if necessary restrictions on roadside parking might be considered in the future, independent of the TRP.

Concern ID: 158 The NPS should consider that limiting parking would not limit visitation.

I applaud the plan to establish parking areas in an attempt to prevent roadside parking. The current system is dangerous and unsightly. I do not think this will limit day use visitors as stated in the summary. People do not stop coming just because parking is more limited, it just causes more congestion. The plan seems to expect people to come, park and sightsee only. This is not the reality of Tuolumne Meadows and the way people enjoy the area.
[Individual, #298]

Response: People wishing to park and get out of their cars at Tuolumne Meadows would be limited to the number that could be accommodated at designated parking spaces. Under all the action alternatives, curbing or other physical barriers would be installed along the shoulders of Tioga Road through Tuolumne Meadows to prevent undesignated roadside parking and associated informal trails across the meadows. Scenic driving along Tioga Road would not be restricted, as this activity is an established traditional use that does not adversely affect river values.

Concern ID: 159 The NPS should evaluate the impact of oversized vehicles and buses on parking capacity and consider a limit on the numbers and types of oversized vehicles.

On page 2-9 crowding and congestion due to limits on parking spaces is addressed, but the effect that oversized vehicles have on parking capacity or the impact that increasing bus activity at Tuolumne Meadows will have is not mentioned. Bus stops are a footprint that can have a cumulative effect as well as a site specific impact but I did not see a discussion about this in the TRP. The TRP indicates that the Park Service expects a continued increase in vehicle volume on Tioga Road but traffic management strategies used successfully in Yosemite Valley to reduce traffic gridlock should be more fully discussed in the TRP. The suitability and adaptability of the Yosemite Valley policies for the Tuolumne Meadows area would shed light on what infrastructure changes would be most appropriate to both protect the environment and protect visitor experience. In this context, a discussion on the feasibility of caps on vehicle volume and limits on vehicle type should be addressed in the TRP.
[Individual, #406]

Response: Designated parking areas would be designed to accommodate a standard ratio of cars/trucks and RVs. There would be no change in the amount of bus parking allotted or the number of bus stops in the preferred alternative. There are currently two bus parking spots at the visitor center, and parking for two buses would continue to be provided near the visitor center/visitor contact station under all the action alternatives (although the location of this visitor facility and associated parking would vary among the alternatives). The visitor center/visitor contact station would be the only location where buses would be allowed to park in the river corridor. Although the frequency of the internal Tuolumne Meadows shuttle bus runs and number of public transit buses would be increased, there are no new bus stops proposed in the preferred alternative. Internal park shuttles and regional public transit would continue to use existing bus stops.

Tioga Road

Concern ID: 160 The NPS should consider that curbing Tioga Road without widening it could introduce new safety concerns for pedestrians, bicyclists and motorcyclists.

2 - Tioga Road through the Tuolumne Meadows area: Adding roadside curbing to eliminate undesigned roadside parking and associated informal trails into the meadows may sound like a good idea, but it would only work safely for drivers, bikers, cyclists and pedestrians if the road is widen. As it is, Tioga Road is very narrow to accommodate modern vehicles, specially big recreational vehicles (RVs). Curbing this narrow road without changing its width could make it even more dangerous than it currently is for smaller vehicles, bikers and cyclists.
[Individual, #269]

I also drive the roads for work or for pleasure and believe that Tioga road is fantasticly narrow and without a shadow of a doubt unsafe for motorist and horribly DANGEROUS for cyclists. As a cyclist myself I have always felt discriminated against with the lack of ANY appropriate shoulder for bikes or for motorists to avoid hitting cyclists on the many sharp blind corners. The choice to ride in the Park is taken at GREAT risk to cyclists as to the appalling non bike friendly roads. The idea of keeping Tioga the same as to retain a historic feel or to not impact the land on either side is irresponsible and puts visitors safety at risk. Road side curbing will only prove to restrict an already too narrow road and restrictive road. A walking path along side the road is a great idea as long as it is also a bike path, if it were, it would eliminate the bike car conflict on the road, at least that would help for cyclists.
[Individual, #248]

Response: Once roadside parking is eliminated, pedestrian use of Tioga Road should no longer be an issue, both because parking would be available at designated trailheads (where visitors must often walk the roadside now to get from their car to the trailhead, since there is a lack of trailhead parking now) and also because a designated trail would be provided along the south side of Tioga Road to connect visitor facilities at the commercial services core, the campground, and the visitor center. Visitors would be directed to use that trail and to cross Tioga Road at the designated trailhead crossing provided for the trail to Parsons Memorial Lodge. Curbing and boulders would be placed to provide for a 2-4 foot shoulder on either side of the road, which could be used by bicyclists; however, Tioga Road is not wide enough to provide a separate bicycle lane. Motorcyclists are required to use the same travel lanes as other vehicles and should not be affected by roadside curbing.

Concern ID: 161 The TRP should provide long-term guidance on opening/closing dates of Tioga Road.

Plowing of the Hwy 120 should be based on snow conditions and not pushed into early season. Having the road closed creates greater opportunities for wilderness solitude.
[Individual, #401]

While the Park Service has "dismissed" the idea of year round operation of Tioga Road the TRP also acknowledges that the road has been opened in the early winter during dry years. Since climate change is frequently addressed in the TRP and generally is characterized as probably leading to smaller snowpacks and lower river flows it seems logical to conclude that there will be more winter openings. I believe the TRP should have addressed this and the National Park Service should have proposed in the alternatives a discussion on either staying with a fixed closing date and a not-to-exceed opening date or assess what it would mean in the future if there are more Winter openings and earlier Spring openings. The seasonal closure of the wastewater treatment plant, the seasonal closure of the water treatment plant, the safety issues of winter driving, the impact on animals, economic impacts and so on, are significant if in future years the Tioga Road is routinely operated further and further into the "shoulder seasons."
[Individual, #406]

Response: Decisions regarding the plowing of the Tioga Road in spring, and the opening/closing of facilities at Tuolumne Meadows are part of basic park operations and may vary from year to year, depending upon environmental conditions. Park operations will comply with the direction of the TRP, which includes management standards to protect and enhance river values.

Concern ID: 162 The NPS should clarify if Tioga Road exceeds or is close to exceeding its level of service and what actions would be considered to accommodate increasing use in the future.

Another comment about user capacity is the issue of Tioga Road. The TRP does not address what the current "level-of-service" rating is for the Tioga Road. It does not identify when or where level-of-service falls to "unacceptable" levels nor what would be considered unacceptable. The TRP also does not identify design constraints or natural constraints that would prohibit or hinder enlarging the road system. Clearly, the National Park Service is not going to widen Tioga Road into a four-lane highway, but in the absence of such a discussion there is no certainty as to what the National Park Service's policy will be when vehicle volumes exceed the current capacity of the Tioga Road system.
[Individual, #406]

Response: Tioga Road will be rehabilitated to improve public safety and the visitor driving experience, independent of the TRP. (Refer to the 2011 *Tioga Road Rehabilitation Environmental Assessment*, which can be accessed online at *http://parkplanning.nps.gov/tiogaroad*). There is no recent level of service study for Tioga Road at Tuolumne Meadows. The plan does not propose any significant changes to transportation infrastructure (roads, intersections) in Tuolumne, and it does not impact through traffic on Tioga Road. Any potential future projects on Tioga Road would comply with the direction of the the TRP, including protection and enhancement of river values.

Concern ID: 163 The TRP should provide management direction for through-traffic on the Tioga and the Hetch Hetchy roads, including vehicle sizes and volumes.

Page 8-245. As noted here the TRP under all alternatives would "...not affect the amount of through-traffic on Tioga Road." First, I doubt this is true. People traveling over the Sierra Nevada Mountains may change their itinerary based on the perceived opportunities at Tuolumne Meadows even though they are simply driving from one side of the mountain range to the other. Secondly, the National Park Service does have control over through-traffic in volume, vehicle type, and days and hours of operation. If the TRP identifies adverse impacts associated with through-traffic (and it has) it should be providing management direction on this subject.

Restrictions placed on volume and vehicle type to protect the integrity of the road will also have beneficial impacts on protecting the river and the Tuolumne Meadows area. Specifically on page ES-9, statements are made about controlling visitation by controlling the number of designated parking spaces, but if traffic volumes are allowed to increase indefinitely and if oversize vehicle encroachment is not dealt with, environmental degradation will take place (or continue).

. . .Page 8-232. Vehicle length restrictions are noted as in place for the Hetch Hetchy Road to O'Shaughnessy Dam. When did these restrictions go into force and why. It is stated that "buses" are prohibited. What is the definition of a bus in this context? Since the precedent for restricting oversized vehicles has been set, I again ask the National Park Service to respond to the suggestion that restrictions be placed on the Tioga Road.

[Individual, #406]

Response: The level of through-traffic on Tioga Road does not affect river values and is beyond the scope of the *Tuolumne River Plan*. The Tioga Road is one of the few east-west trans-Sierra highways, and any restriction of use on the road would significantly affect regional summer and fall travel patterns across the Sierra. Regulating vehicle size is part of basic park operations and is outside the scope of the TRP.

The restrictions put in place for Hetch Hetchy Road are detailed in the 2009 Superintendent's Compendium (as cited in the DEIS), which states, "The Superintendent has determined restricted access to Hetch Hetchy is necessary for orderly management of the park and the security of associated facilities."

Concern ID: 164 The NPS should clarify that Tioga Road is a historic resource that should be protected regardless of the river's designation.

Page 7-11. How can you take no action on road maintenance issues like culverts and pullouts when the Tioga Road has been identified as eligible for listing on the National Register of Historic Places. This and the other cultural resources located within the planning area will have to be protected whether or not the Tuolumne River had been designated under the Wild and Scenic Rivers Act.

[Individual, #406]

Response: Tioga Road is identified and analyzed as a historic resource in chapter 9 of the final plan/FEIS. The beneficial and adverse impacts of installing curbing, eliminating roadside parking, improving culverts, redesigning the road bridge to protect river flow are also assessed in chapter 9.

Concern ID: 165 The NPS should utilize modern technology to inform visitors of traffic conditions, while recognizing the lack of existing internet and phone service at Tuolumne Meadows.

Regarding increased public transportation, I believe it is important to use modern technology (including appropriate apps for smart phones, information signs with scanable bar codes for smart phones, etc.) that can inform visitors before and upon arrival of the status of designated parking areas and suggest use of inter-area public transportation with indication of things such as time to next "bus" at specific public transportation stops. Such information could also direct visitors to appropriate secondary comparable destinations within the area when one of the more popular areas has reached maximum desirable usage - in terms of parking and trail usage
[Individual, #325]

You say there will be parking info on your website but cell phones, etc. don't work in the mountains!! It would be ridiculous to have to check a website while touring to make sure that you'll be able to enter and "get a parking spot"!
[Individual, #262]

Response: There are projects underway, separate from the TRP, that would improve the park's ability to communicate with visitors and gateway communities regarding traffic conditions in the park. The park currently publishes a weekly traffic management forecast for the entire park (*www.nps.gov/applications/yose/traffic/*). In addition, the upcoming Traffic Management and Information System and the installation of the Communication Data Network, both of which are described in the DEIS and FEIS cumulative projects appendix (appendix L in the FEIS), will provide real time communication of traffic and parking conditions within the park and in gateway communities. The NPS is aware that the river corridor has limited phone and internet service; the intent is provide day visitors with tools to check traffic conditions prior to entering the park (e.g. real time traffic data at park entrances, web updates, etc.). Under the TRP FEIS preferred alternative, overnight visitors should have no trouble finding parking at Tuolumne Meadows.

Bridges

Concern ID: 166 The NPS should consider rebuilding the bridge over Register Creek in Pate Valley.

3) The bridge over Register Creek on the Pate Valley - Glen Aulin trail should be rebuilt. This crossing can be dangerous in early season, and hikers who encounter it may take unnecessary risks instead of backtracking a significant distance due to its location roughly halfway between White Wolf and Tuolumne Meadows. Other significant creeks along the trail are bridged, including nearby Rodgers Creek and Return Creek, so a bridge over Register Creek would not change the wildness or rustic nature of the trail; instead, it would allow more hikers to safely experience one of the most outstanding parts of the Tuolumne River corridor.
[Individual, #400]

Response: Rebuilding the bridge over Register Creek is not identified as a needed action to protect and enhance river values and is therefore not addressed in the *Tuolumne River Plan*. However it could be rebuilt outside of the Tuolumne Wild and Scenic River planning process. This action would be subject to additional analysis under section 7 of the Wild and Scenic Rivers Act (see chapter 4) and a minimum requirements analysis under the Wilderness Act.

Concern ID: 167 The NPS should clarify the number of bridges in the river corridor.

Page 8-214. Please clarify the number of bridges crossing the Tuolumne River. The number here is nine but I believe elsewhere in the document the number eight is cited.
[Individual, #406]

Response: Bridges in the Tuolumne Wild and Scenic River corridor were described in the TRP DEIS chapter 5 in the discussion of the "Free-Flowing Condition" of the river. In that section, eight bridges (one vehicle bridge and seven footbridges) were identified. The DEIS hydrology and park operations affected environment

sections (DEIS chapter 8) described *all* bridges that cross the Tuolumne River within the park, including a single lane bridge at O'Shaughnessy Dam that is outside of the wild and scenic river corridor. In the FEIS, the language in they park operations and hydrology affected environment sections (DEIS chapter 8, now chapter 9 in the FEIS) is clarified to note which bridges are within the wild and scenic river corridor. There are a total of seven footbridges that cross the Tuolumne River within the wild and scenic river corridor, and three additional tributary bridges which are very near the river.

Concern ID: 168 The NPS should make sure bridges do not alter hydrology.

Make sure the bridges do not alter hydrology.
[Individual, #254]

Response: All the action alternatives include actions to improve the Tioga Road bridge at Tuolumne Meadows to mitigate impacts on river hydrology during periods of high flows. Improvements to the bridge would require additional site-specific planning and compliance, which would specify potential impacts and mitigating measures. Although the TRP DEIS also called for actions to mitigate impacts on hydrology caused by the Parsons Memorial Lodge footbridge, subsequent evaluation by the park's hydrologist has determined that the footbridge does not affect the free flow of the river; therefore this action is no longer included in the TRP FEIS.

Concern ID: 169 The NPS should consider adding a pedestrian bridge over the Tuolumne River for better visitor circulation.

Would a pedestrian bridge over the TR help visitor movement?
[Individual, #304]

Response: The existing vehicle bridge has walkways on both sides. The preferred alternative has been revised to specify that the upgraded Tioga Road bridge would include safe pedestrian walkways.

User Capacity

Concern ID: 170 The NPS should clarify why the TRP definition of user capacity is different than the user capacity definition in the 1982 Federal Register, and note that the 1982 Federal Register definition also emphasizes recreation, public health, and safety.

On page ES-5, the TRP identifies user capacity as a "...program that addresses the kinds and amounts of public use that the river corridor can sustain while protecting and enhancing the river's outstandingly remarkable values." However the 1982 Federal Register provides a more expansive definition that user capacity is the "...quantity of recreation use which an area can sustain without adverse impact...on the outstandingly remarkable values and free-flowing character of the river area, the quality of the recreational experience, and public health and safety."

…On page 6-4 the TRP quotes the Ninth Circuit Court in the context that the Wild and Scenic Rivers Act "does not mandate one particular approach to user capacity." However, as noted earlier in my letter the 1982 Federal Register Guidelines does list three significant areas to address. While the TRP is heavy on addressing the protection of the Tuolumne River's outstandingly remarkable values and free-flowing character I believe more work should be done to address the quality of the recreational experience, and public health and safety.
[Individual, #406]

Response: The TRP DEIS uses the definition of "user capacity" from the 1982 Secretarial Guidelines for River Management (USDA and USDI 1982). The Guideline's definition of the term user capacity is discussed in chapter 6 of the TRP and provided in the definitions section of the TRP DEIS at page 11-9 (page 12-9 in the TRP FEIS). As stated in chapter 6, the TRP, including its user capacity program, "was developed to be consistent with WSRA and the Secretaries' Guidelines for River Areas, as interpreted by judicial opinions" (TRP DEIS at page 6-2.) In addition, the TRP FEIS analyzes the effects of each alternative on public health and safety and the recreational experience in chapter 9.

The TRP FEIS has been revised to incorporate the full definition provided in the Secretaries Guidelines for River Management (USDA and USDI 1982) into chapter 6: "the quantity of recreation use which an area can sustain without adverse impact on the outstandingly remarkable values and free-flowing character of the river area, the quality of recreation experience, and public health and safety." The relationship between user capacity and the protection and enhancement of river values is described in detail in chapter 7 of the FEIS. Impacts on the quality of recreational experiences in general and on public health and safety are analyzed in chapter 9.

Concern ID: 171 The TRP DEIS correctly retains the existing wilderness trailhead overnight quotas.

I do appreciate that you have left the overnight trailhead quota system in place as it currently is. I have used this system for decades and feel that it works. Thank you for not reducing the quota numbers on the trailheads!
[Individual, #299]

Response: No response required.

Concern ID: 172 The NPS should clarify how the existing wilderness permit quotas were established and how the TRP impacts wilderness permit quotas.

The TRP focuses primarily on two benchmarks to determine maximum use (i.e. user capacity) in the Tuolumne Meadows area. One is a cap on the total amount of water that can be diverted from the Tuolumne River for consumptive use at Tuolumne Meadows. The other benchmark addresses the number of encounters with people per hour on the trail system. For the rest of the river corridor the existing wilderness permit quotas are cited as the user limit but there is no information provided regarding how those limits were established.

. . .On page 2-15 the TRP states that wilderness zone "capacities and trailhead quotas may be revised as necessary to reflect changing visitor patterns and resource sensitivities under the overall guidance provided by the current Yosemite Wilderness Management Plan or upcoming wilderness stewardship plan. However, in the future all capacities within the river corridor must remain within the maximum levels allowed under this Tuolumne River Plan." Translation: we may increase or decrease the number of people going through the Tuolumne River corridor based on present and future plans and we will only tell you in this plan (the TRP) what the current capacity is within 1/4 mile of the river, unless we change our mind here too. While flexibility is a good thing the absence of absolute guidelines and the constant referral to other planning documents, which seems too common in the draft TRP, creates a disappointing level of uncertainty about the future condition of recreation within the Tuolumne River corridor and at Tuolumne Meadows.
[Individual, #406]

Response: The adoption and current operation of the wilderness overnight trailhead quota system is described in chapter 8 of the DEIS and chapter 9 of the FEIS under "Wilderness Access and Quotas." For the *Tuolumne River Plan* the NPS assessed whether or not the current wilderness zone capacities and associated trailhead quotas are protective of river values in each wild river segment. Without exception, the NPS found the overnight quotas to be protective of river values, so the agency adopted them in the *Tuolumne River Plan* as part of all of the action alternatives. The *Tuolumne River Plan* specifies that under any of the action alternatives, the zone capacities might be reduced in the future if it was determined that reductions were needed to protect wilderness character or the wilderness recreation ORV; however, they would not be increased above the current levels, which have been determined to be protective of river values.

Concern ID: 173 **The NPS should increase the day use estimate and/or wilderness permit quota in the wild Poopenaut Valley segment.**

I am confused as to overnight carrying capacity stated as 400 persons per night for Alternate 4 , Table 7-14 p 7-105, but that limit is clearly divided between the segments above and below O'S Reservoir in Table 6-8 p 6-20, into 50 below and 350 above. My confusion is, does this limit apply to the 320 acre per mile in wild river zone, as discussed in ¶ 2 of Step 3 on p 6-3, or do these limits apply to the park wilderness generally at the permit issuing stations for Hetch Hetchy entry (issued at Hodgdon Meadow station) and at Tuolumne Meadows wilderness permit station? The Pate Valley to Mt Lyell stretch of 35 miles wild, permits 350users, which is equal to just over 10 persons per mile per night. For the 6.4 total miles below O'S Dam to park boundary a limit of 50 is equal to a little less than 8 persons per mile. These seem very limiting, but perhaps reasonable considering the lack of trails in the lower section. Tell how you set these limits. A second issue, will overnight camping be allowed in the one mile zoned scenic below O'S?

A day use limit of "12 people at one time" below O'Shaughnessy Dam, p 7-91, i.e. at Poopenaut trailhead, seems too restrictive for that area since a kayak trip of 8 people might move through that valley quickly and would leave a severely limited knapsack group wanting to use that area. Don't limit your thinking to the small parking area for Poopenaut Valley because kayakers stage shuttle car(s) at different locations to fit parking space and need. I was assured at the Yosemite Valley meeting by Mike Yochim that many cars can now park overnight at the "day use" parking area close by the O'S Dam. I request a limit be increased to 16 people per day for backpackers with Wilderness permits in the area downstream from the dam.

[Individual, #304]

Throughout the TRP day use is identified as a maximum of 12 people for Poopenaut Valley. This is apparently based on the four parking spaces at the trailhead to Poopenaut Valley located along the Hetch Hetchy Road to O'Shaughnessy Dam using a car occupancy rate of 2.9 per car. However, this does not take into account the use of these parking spaces for overnight guests. This does not take into account that organized trips from nearby recreational camps could increase use. The phrase "below the dam" also suggests you've over looked day use in the area of the Tuolumne River that is immediately below the dam structure.

[Individual, #406]

Response: Overnight use in the Poopenaut Valley segment (a maximum of 50 backpackers per night) is managed as part of the system of zone capacities and related overnight trailhead quotas established to protect wilderness character in the 1970s. Under this system the NPS monitors water quality, meadow health, trail conditions, informal trails, day use levels, encounters, people at one time, and campsite numbers and condition. The agency uses that information to establish, review, and revise overnight trailhead quotas as necessary to protect wilderness character. This level of overnight use has been found to be protective of river values and adopted by the TRP. Day use in Poopenaut Valley is currently relatively low (12 people at one time), due in part to the difficulty of the trail accessing this area and also to the limited availability of day parking and the site constraints that prevent any significant increase in parking spaces. Because of these factors the trail to Poopenaut Valley, unlike the wilderness trails accessible from Tuolumne Meadows, offers an outstanding opportunity for solitude and an alternative experience for wilderness day use visitors. For this reason and because of the sensitivity of the outstandingly remarkable low-elevation meadow and riparian habitats in Poopenaut Valley, the NPS has not considered actions to increase wilderness use in Poopenaut Valley under the TRP.

Concern ID: 174 **The NPS should add 12 permits to the Glen Aulin wilderness quota, since the reasons given for reducing the size of Glen Aulin High Sierra Camp are specific to resources, not general corridor user capacity.**

2) Add an additional 12 spots to the Glen Aulin backcountry wilderness quota, since the reasons given for reducing the size of Glen Aulin are specific to HSC use (water treatment, stocking), not general corridor user capacity.

[Individual, #400]

Response: The overnight capacity of the Glen Aulin High Sierra Camp is not included in the overnight trailhead capacity for the Glen Aulin wilderness zone, as visitors to the camp spend the night in a potential wilderness addition outside the designated Wilderness. Although both capacities are included in the total overnight capacity for the river corridor, they are established to be protective of different values. The wilderness overnight trailhead capacity is established to protect wilderness values, including naturalness and solitude, while the High Sierra Camp capacity is established to protect water quality and trail conditions associated with stock use needed to resupply the camp. In the final TRP FEIS the capacity of the Glen Aulin High Sierra Camp has been set at up to 28 guests per night (a decrease of up to 4 guests per night from current conditions), so long as river values can be protected.

Concern ID: 175 The NPS should clarify why the TRP and MRP have different approaches to administrative use capacity.

The TRP and the Merced River Plan (MRP) have taken very different approaches to addressing administrative use in the user capacity programs. The TRP includes administrative use (including numbers of employees, housing, and utility usage) in the user capacity program and analysis, while the MRP omits administrative use from the user capacity discussion and is inconsistent in its treatment of items in and out of the river corridor. The NPS should clarify the reasoning behind its different approach to user capacity between the two river plans.
[Business, #383]

Response: Both the the MRP and the TRP express administrative user capacity in terms of number of employees housed in the river corridor. The Merced River Plan also includes figures for employee day parking because some employees commute into the Merced River corridor (Yosemite Valley, El Portal, and/or Wawona) from outside. All employees who work in Tuolumne Meadows reside in NPS or concessioner housing there for the summer (or, in some cases, NPS-provided camping, but such employees are included in the figures for Tuolumne Meadows housing).

Concern ID: 176 The NPS should include infrastructure and use outside the river corridor, specifically at O'Shaughnessy Dam, when evaluating visitor use downstream of the dam and clarify overnight parking availability for overnight users at Poopenaut Valley.

Furthermore, there is no information in the TRP about the infrastructure to support overnight and day guests at Hetch Hetchy reservoir. This infrastructure has a direct bearing on visitor use of the Tuolumne River corridor and surrounding areas. Additionally, the four vehicle spaces noted as providing access for 12 people below O'Shaughnessy Dam does not take into account that overnight guests may also be using this location to gain access to Poopenaut Valley.

. . .Chapter 1 provides a description for the boundaries of the Tuolumne River Wild and Scenic River. What I have a problem with is the excluding from the planning discussion the 8 mile segment at Hetch Hetchy Reservoir. As noted above, the supportive infrastructure for both overnight and day visitors at the dam site and the trail system that radiates from there has a profound impact on the visitor activity that will occur within the wild or scenic segments of the river. Furthermore, the discussion on page 1-5 about Section 12 management policies seems to reinforce the need for coordination with the City and County of San Francisco and Yosemite Park's other management actions (such as the fire management strategies) to comply with the management directions found in the Wild and Scenic Rivers Act and in the Wilderness Act.
[Individual, #406]

Response: Overnight use in the Poopenaut Valley wild segment downstream of the dam, as well as that in the Grand Canyon of the Tuolumne, is managed under the wilderness overnight trailhead quota system and is not affected by infrastructure or use at White Wolf or the O'Shaughnessy Dam overlook. Day parking at O'Shaughnessy Dam provides access to viewing areas related to the dam (which are outside of the river corridor) but not to trails accessing Poopenaut Valley.

Management of User Capacity

Concern ID: 177 The current use levels and the amount of facilities at Tuolumne Meadows are too high.

The current level of urbanization of Tuolumne Meadows is incompatible with the concept of a wild and scenic river. Alternative 2 perpetuates, and may worsen, current conditions, and it should not even be considered. The Preferred Alternative allows for too much congestion. A compromise between Alternative 1 and Alternative 3 would come closer to what the US Congress wants the NPS to accomplish.

The Preferred Alternative seeks to please everybody, especially the concessionaire, but does not give sufficient emphasis to what is meant by WILD.

Inasmuch as the NPS projects an increased number of visitors to YNP in the future, it should start thinking outside the box. Devil's Postpile NM/Red's Meadow, a miniature YNP, shows none of the congestion and erosion you find at Tuolumne Meadows, despite the large number of visitors. A mandatory shuttle is the key to its success, and, I submit, is what YNP needs.

I have been a regular Yosemite visitor during the past 50 years, I can attest that the visitor experience has deteriorated during the period. I wish future generations could experience what I experienced half a century ago, and not the growing urbanization of the Park ongoing today.

[Individual, #256]

Regarding the Tuolumne River plan, I urge you to emphasize restoration of the river ecosystem to its natural state. It's waaaaay overused currently. There are just too many people tracking through.

[Individual, #63]

The level of visitation at Tuolumne Meadows does the opposite of protecting this precious area for future generations.

[Individual, #66]

Response: Wild and scenic rivers, like national parks, are protected for the benefit and enjoyment of present and future generations. The Wild and Scenic Rivers Act makes clear that visitor use is to be allowed in wild and scenic river corridors. The Secretaries Guidelines (USDI and USDA 1982) advise managing agencies to address the kinds and amounts of public recreation, public facilities, and resource uses that the river area can sustain without adverse impact or degradation of river values. The final TRP manages day and overnight visitor use as necessary to protect river values, while generally retaining current levels of use, though alternative 1 would reduce use significantly, and other alternatives that would reduce day or overnight use were also assessed in the FEIS. The preferred alternative was determined to best balance the two recreational values of the river with other river values.

Concern ID: 178 The NPS should adopt the alternative 3 user capacity to reduce water demand at Tuolumne Meadows.

with the water storage at 60,000gal/day I would feel more comfortable realizing a Tuolumne P.O.A.T. equal to Alternative#3(4,166), with Day use absorbing the difference.

A drought can occure any time and it is best to manage for the worst case senario.

[Individual, #243]

Response: The commenter correctly notes that alternative 3 would reduce water consumption, compared with alternative 4 (the preferred alternative). However, to accomplish this reduction in alternative 3, the overnight capacity of Tuolumne Meadows Lodge would be reduced by one-half and day use visitation would be decreased from existing levels. In the selection of the preferred alternative, the NPS determined that it would be possible to allow slightly more use while reducing reducing the environmental impacts of that use and protecting and enhancing river values. The preferred alternative also seeks to minimize impacts on traditional uses, including overnight lodging at the historic Tuolumne Meadows Lodge.

Concern ID: 179 Alternative 4 provides the most balanced option for visitor use capacity.

There is no doubt that this Alternative is the best attempt of the 4 at a balanced option. Some of the things that I like about this alternative are that there is at least a minimal increase in visitor day use and only a minimal decrease in the visitor overnight use.

[Individual, #299]

CAPACITY: is an overriding factor which dramatically effects the quality of visitor experience and the sustainability of the river and its corridor. Alternative 4's approach seems to me to best walk the line between allowing the public to access its park, making sure they have a quality experience, and protecting the natural resources. Day use is reduced a little but that seems necessary to get roadside parking eliminated. Increased bus delivery from the Vally and the east side provides alternative ways to enter and improved shuttle service along the Tioga road will make a car less essential.

[Individual, #356]

Response: Alternative 4 has been identified as the environmentally preferable alternative.

Concern ID: 180 The Alternative 4 visitor day use capacities and corresponding administrative use capacities should be at or lower than existing conditions.

User and Employee Capacity: Given the goals of the TRP and this alternative, day-use capacity for visitors and overnight capacity for employees seem higher than warranted. Day-use visitor numbers are based on 2011, a high visitation year. In addition, day use is increased (pg. 7-91), and designated parking spaces are added to the Tuolumne area, without explanation for the reasoning behind these decisions.

To support the aims of river protection, visitor enjoyment, reduced development and sustainability, setting the visitor-capacity baseline at some percentage of 2011 numbers (85%, for example) might be more effective. Holding parking spaces at current numbers, rather than increasing them, would also support these goals.

[Individual, #309]

. I support Alternative 4 of the Tuolumne River Wild and Scenic Plan to "Improve the Traditional Tuolumne Experiences", but without any increase in maximum day visitor use, because I appreciate the relative solitude and wilderness experience of the Yosemite High Country.

[Individual, #357]

I support Alternative 4 "Improving the Traditional Tuolumne Experiences."

However, I believe there must not be any increase in maximum day visitor use. Yosemite is so popular and receives so many visitors, any increase would be very harmful to the natural resources and damaging to the river as well as to the visitor experience. Yosemite is a treasure and every American deserves to have it protected and preserved for a wonderful visitor experience for now and for the future. Thank you for a proposed management plan that could afford that protection

[Individual, #231]

Response: The maximum visitor day and overnight use capacity under alternative 4 in the entire river corridor would be only 60 people greater at one time than the estimated current maximum use level (as calculated based on actual 2011 parking counts, transit capacity, and the capacity of overnight facilities). A key component of the preferred alternative is to minimize adverse impacts on the traditional Tuolumne experience and current levels of use, while reducing the environmental impacts of that use and protecting and enhancing river values.

The use levels under alternative 4 have been determined to be protective of river values. If future monitoring of river values identified that they were not being fully protected, additional actions would be taken to manage visitor use, as described in detail in chapter 5 of the TRP FEIS. Alternative 4 was selected as the preferred alternative because it would accommodate existing levels of day and overnight use while reducing overall development and eliminating or reducing localized concerns for river values.

Concern ID: 181 The NPS should maintain existing day use capacity, or reduce it, to reduce the need for additional employee housing and increase sustainability.

If visitor numbers are held steady or reduced, employee housing numbers could also remain steady. This would enhance sustainability, reduce the need for the employee bunkhouse and other new housing, and reduce other impacts on the river. These impacts include increased water consumption for employee use; on page 7-90, this increased use is linked to enhanced free flow of the river, an apparent contradiction.
[Individual, #309]

Response: The increase in staffing under the preferred alternative would be associated primarily with the implementation of the ecological restoration and user capacity programs, both of which would require additional staffing regardless of the specific day use capacity. The preferred alternative has been revised to clarify that while only 13 additional NPS employees would be required in the Tuolumne Meadows area under the preferred alternative, compared to the no-action alternative, NPS housing would be increased by 59 units to accommodate the additional employees plus existing employees who currently have no assigned housing, many of whom currently camp. The NPS will utilize existing buildings more efficiently and use development footprints of previously disturbed areas to the greatest extent feasible when providing more employee housing. Any housing that is relocated or new units that are built built would be located in areas that are not environmentally sensitive, be constructed to be energy efficient, and would be connected to water-conserving fixtures.

Concern ID: 182 The NPS should clarify the justification for increasing visitor day use capacity along the Tuolumne River in Alternative 4.

Clarify the justification for the environmental impact of sixty-five more people camping along the river per day: "Day use will increase slightly from 1,774 to 1,839.
[Individual, #113]

Response: Please see the response to concern #180, above.

Concern ID: 183 The NPS should clarify to what extent the constraints on kinds and amounts of visitor use are driven by day use and overnight use.

Also on page 7-33 is a listing of the "constraints on the kinds and amounts of visitor use in the Tuolumne River." To what degree or percentage does each constraint get driven by overnight guest use versus day visitor use?
[Individual, #406]

Response: Major constraints on kinds and amounts of visitor use in the Tuolumne River corridor can be summarized as total water consumption/disposal needs; localized risks to water quality; potential for impacts to sensitive subalpine meadow and riparian habitat and archeological sites from ground disturbance, foot traffic, and stock use; and potential impacts to river-related recreational experiences. Each of the *Tuolumne River Plan* alternatives would differ in how various kinds and amounts of day and overnight use would be balanced to satisfy all these constraints on user capacity. Overnight use, which currently amounts to 61% of total use, would range from a low of 60% of total use under the preferred alternative to a high of 66% of total use under alternative 1.

Concern ID: 184 The NPS should clarify how visitor use capacity, particularly day use capacity, would be managed at Tuolumne Meadows.

The DEIS also notes (ES-9) that "visitor capacity will be enforced" under all alternatives; I understand that Park intends to do this via applying "social encounter" criteria in designated wilderness along the Wild segment but it's unclear if or how the Park will enforce visitor capacity along the various Scenic River segments adjacent to the Tioga Road.
[Individual, #257]

I am concerned with how the trail day use will be "managed" in the alternatives that implement it. I do advocate a quality experience over "quantity" but am curious about the details of how to ensure this and regulate it. Back country quotas work fairly well but the burden on the system is minimal. Day use is quite another challenge during the high season.

[Individual, #356]

Alternative 4 suggests that limiting parking will limit visitor capacity. But visitors and employees in Tuolumne have historically found creative ways to park in order to be in the area, so this approach seems unlikely to work. Are there other options? Also, enforcing "no parking" in the new roadside pullouts could be very difficult, especially on days when parking is scarce.

[Individual, #309]

Response: All the TRP FEIS action alternatives presented in chapter 8 would provide for the protection and enhancement of river values through some combination of site design, visitor use limits, and mechanisms to direct, and if necessary enforce, visitor activity to avoid adverse impacts on sensitive resources. Mechanisms for managing visitor use would start with the least intrusive, such as information and signing, with more intrusive mechanisms, such as permits and fines, implemented as necessary at the discretion of the staff responsible for resource and visitor protection.The TRP FEIS specifies that under alternatives 2-4 (including the preferred alternative) day use capacity would be managed by restricting day parking to designated parking spaces and by managing the service levels of public transportation that delivers day visitors to the river corridor. Additional details are provided in chapter 8 of the TRP FEIS. Specific to the comment about scenic pullouts, they would be posted for brief stops only, and the prohibition on parked vehicles would be enforced in these locations just as they would be in other unauthorized parking areas.

Concern ID: 185 The NPS should adopt a visitor use capacity that caps the number of visitors who arrive in the river corridor by any mode of transport.

4) The DEIS states in the preferred Alternative 4 that the proposed increased parking spaces "would accommodate 99% of existing peak season parking demand and accommodate the projected 3% annual visitation growth through 2013." (8-241) With a 3% annual growth in visitation projected, it is hard to see how the planned parking strategy effectively handles visitation into the foreseeable future. If the User Capacity is already realized by 2013, allowing more people to enter the area via shuttle and bus services once parking is full (7-26, 8-241) only contributes to congestion of this zone and strains the resources that are already maxed out with the numbers provided in Alternative 4. As shared in the DEIS, "The calculation of day use capacity is based on people at one time and represents the number of people who can be received in the corridor at one time without adverse impact on river values and without substantial interference with public use and enjoyment of those values."(6-5).

CSERC CONTENDS THAT IF THE USER CAPACITY AS PRESENTED IN THE PREFERRED ALTERNATIVE IS TRULY THE CAP WHICH IF EXCEEDED WILL RESULT IN AN IMPACT ON RIVER VALUES, THEN PLANS SHOULD NOT BE INCLUDED (AS ON PAGE 7-26 AND 8-241) ON HOW TO BRING MORE PEOPLE INTO THE TUOLUMNE MEADOWS AREA ONCE PARKING IS AT CAPACITY ON A REGULAR BASIS. THE FINAL REPORT SHOULD ESTABLISH A TRUE USER CAPACITY AND OUTLINE A PLAN THAT WILL RE-DISTRIBUTE VISITORS TO OTHER AREAS OF THE PARK ONCE CAPACITY HAS BEEN REACHED.

[Conservation/Preservation, #240]

Response: The actions common to alternatives 1-4 (see TRP FEIS chapter 8) have been revised to clarify that the maximum use under each alternative must be protective of river values, with the primary constraints being limits on water consumption to protect streamflow and limits on facilities and foot and stock traffic to protect sensitive meadow and riparian habitats and water quality. These constraints provided the upper limits for each alternative. Within these limits, day use capacities were further adjusted depending on decisions about the character of the visitor experience under each alternative and the degree to which visitors might be self-sufficient and independent as opposed to being assisted by services and facilities and more tolerant of higher use levels. Once the maximum day-use capacities for each alternative were estimated, more precise decisions about the number of day parking spaces and the level of service provided by public transportation were calculated, and these facility capacities were adopted as the way to measure and manage the visitor use capacity.

In the future, the mode of transport could be adjusted, but regardless of the mode of transport, the total number of visitors accessing the river corridor would have to remain within the maximum user capacity established by the TRP.

Concern ID: 186 The NPS should include administrative use in user capacity and issue permits for administrative and visitor camping.

2. 7-20: The SFPUC recommends that administrative use needs to be included in zone capacity limits. Issue permits for all camping (Administrative + Visitor Use).
[Public Utility, #446]

Response: Administrative use is included in the calculations of user capacity and water consumption. Although in the past some employees on temporary duty at Tuolumne Meadows had no housing option but to camp in the Tuolumne Meadows campground, that situation would no longer exist under any of the action alternatives considered for the TRP. The preferred alternative would increase housing and provide a designated dry camping area at Gaylor Pit for NPS employees on temporary duty at Tuolumne Meadows. Other alternatives would similarly provide adequate housing for all employees at various locations. Consequently, no permits would be necessary.

Concern ID: 187 The NPS should clarify the relationship between parking, transit, and user capacity.

Page 8-233. The "amount of parking provided is tied to the user capacity for each alternative..." but the demand is greater than what is being offered and it is not correct that the alternatives set a limit on day visitor activity as much as a cap on overnight and employee capacity. Yet the TRP is clear about day visitor parking space numbers and unclear about overnight and employee parking space capacities.
...The TRP also says people may park their cars east and west of the Tuolumne Meadows area and ride the shuttle to Tuolumne Meadows. Doesn't that mean that bus service (expanded or not) has a direct impact on visitor capacity yet the TRP seems to miss this point.
[Individual, #406]

We asked about increasing shuttle services to Tuolumne Meadows, and were told that if shuttle service is increased, then NPS would have to reduce the amount of parking in order to keep the number of people the same. But why does the number of people have to be kept at some arbitrary number? And we emphasize "arbitrary". It seems to have been originally based on parking capacity. However, if people arrive by some means that does not involve parking, they are going to be limited anyway. The reason for limiting the number of people even though parking may not be filled totally escapes us. If a rationale is articulated in the TRP, we have not found it.
[Conservation/Preservation, #348]

Response: The TRP FEIS has been revised to clarify that the maximum day use capacity under each alternative must be protective of river values, with the primary constraints being limits on water consumption to protect streamflow and limits on facilities and foot and stock traffic to protect sensitive meadow and riparian habitats and water quality. These constraints provided the upper limits for each alternative. Within these limits, day use capacities were further adjusted depending on decisions about the character of the visitor experience under each alternative and the degree to which visitors might be self-sufficient and independent as opposed to being assisted by services and facilities and more tolerant of higher use levels. Once the maximum day use capacities for each alternative were estimated, more precise decisions about the number of day parking spaces and the level of service provided by public transportation were calculated, and these facility capacities were adopted as the way to measure and manage the visitor use capacity. If a decision was made in the future to increase the use of public transit, the number of people arriving at Tuolumne Meadows by public transit could be increased, so long as the number of people arriving by private vehicle was decreased.

Concern ID: 188 The NPS should clarify why the TRP does not address visitor day use from the White Wolf trailhead.

Also troubling is the lack of any discussion anywhere in the TRP about the impact or potential impact of day visitors trekking in from the White Wolf resort.

[Individual, #406]

Response: Due to the 4,000 foot elevation difference from White Wolf to the Tuolumne River, and the White Wolf trailhead's distance to the river corridor of over 9 miles, the measurable number of day use hikers from White Wolf is insignificant.

Concern ID: 189 The NPS should consider market-based mechanisms (like a parking fee) and/or a lottery system to manage user capacity in the river corridor, generate income, and encourage public transportation.

Arbitrarily limiting the number of people who have access to the facilities is, in my opinion, not the best way to preserve the wilderness.

It would be much better to use a combination of (a) a lottery and (b) a price-based market mechanism to both limit the number of people who use the facilities and pay for whatever additional water and waste facilities are deemed needed to keep the facilities open to as many people as the price allowed.

1. By allocating a portion of the overnight spots available at Glen Aulin and Tuolumne Meadows Lodge to a lottery mechanism at a modest fixed price, you insure that everyone (with even limited means) has access to the facilities.

2. By using a price-based market mechanism (such as an auction) for the other spots, you increase the revenue to the facilities, thus allowing upgrading of the facilities and improvements to the water and waste facilities.

Please consider some modification to Alternative 4 to allow an increase in the number of people which Glen Aulin in particular can handle.

[Individual, #4]

Very simply, access not only to the Tuolumne River but also to Yosemite National Park should be limited perhaps by a lottery system.

[Individual, #33]

The off-road parking should be priced per unit time (such as a penny per minute) and the earnings should be given to users of the area served by the parking (use your best judgment), of driving age, in proportion to time spent in the area. You will need to develop the technology and the methods. This link will help you understand the needed system, as well as its potential.

http: //sierraclub.typepad.com/files/mike-bullock-parking-paper.pdf

[Individual, #169]

Response: The NPS fee structure is authorized under the Recreational Lands Education Enhancement Act (68 USC 6801-14). Under the provisions of the act, the activity of parking is generally considered as general park access and covered by the park entrance fee. Other allowable fees, such as expanded amenity fees (e.g., campgrounds, boat launches) and special recreation permit fees (e.g. group activities or events), do not generally apply to parking. If a day use reservation system is needed, the NPS will conduct further environmental compliance with opportunities for public input. At that time, actions such as those suggested here will be considered and analyzed.

Concern ID: 190 The NPS should prioritize accommodating overnight use based on a hierarchy, with backcountry camping and campgrounds as the first priorities.

National Park Service management policies that support visitor experiences with a "direct relation" to park resources suggests a natural hierarchy of overnight opportunities. Visitors' overnight experiences that foster the most direct relationship with park resources should be accorded the highest priority in park TRP planning, while those that foster the least direct relationship with park resources should be accorded the lowest priority. In considering visitors' overnight experiences, the TRP should prioritize backcountry camping first, including adequate backpacker campsites in the main campground, followed in order by walk-to and walk-in campsites,[9] drive-in campsites, rustic lodging like Tuolumne Lodge, and finally RV camping, which can offer the amenities of a small house.

[9] A walk-in campsite has been defined as one within 50 feet of parking, while a walk-to site is more than 50 feet from parking. See the Yosemite Campground Study at B-11.

[Recreational Groups, #312]

Response: The NPS does not, by policy, give preference to any particular type of recreational activity. The alternatives considered for the TRP analyze a range of alternatives for managing visitor use, some of which include more overnight use at the Tuolumne Meadows campground and/or the Tuolumne Meadows Lodge than others. Camping would remain the predominant overnight use under any of the alternatives, as it is today. Backcountry camping is managed under the current wilderness overnight trailhead quota system, which is based on protecting wilderness values and is independent of overnight capacity at Tuolumne Meadows.

Concern ID: 191 The NPS should disperse visitors away from Tuolumne Meadows to other locations on Tioga Road or in the park.

Keeping the same amount of crowding and congestion at Tuolumne Meadows is not adequately protecting the precious area for future generations. The Park should disperse visitor use elsewhere along the Tioga Road to reduce impacts on the Tuolumne Meadows core area.

[Individual, #56]

The sensitive Tuolumne Meadows needs to be protected more from the crowding and congestion for our future generations. The Park should disperse visitor use to other less sensitive areas along the Tioga Road to reduce the negative impacts in the core area of Tuolumne Meadows.

[Individual, #62]

The Park could disperse visitor use elsewhere along the Tioga Road to reduce the impact on the Tuolumne Meadows area.

[Individual, #66]

Response: The Secretaries' Guidelines (USDA and USDI 1982) direct managing agencies to address the kinds and amounts of public recreation that a river area can sustain without adverse impact or degradation of river values. The preferred alternative for the TRP would establish a user capacity that could accommodate existing levels of use by directing that use to resilient locations to eliminate or reduce localized impacts on river values. This user capacity would be enforced by controlling the amount of day parking, the level of service of public transportation, the capacity of overnight facilities, and the overnight trailhead quota system. Visitors who could not be accommodated at Tuolumne Meadows might self-disperse to other locations along Tioga Road or in the park; however, many of these areas are also operating at or near capacity. If park visitation continued to increase, a parking reservation system would likely be needed at some point in the future to help minimize visitor frustration, traffic congestion, and other impacts associated with crowding. Such a system would have to be implemented on a parkwide basis, and it would require additional environmental compliance and opportunities for public input.

Concern ID: 192 The NPS should clarify if references to permits "above" and "below" O'Shaughnessy Dam refer to elevation.

On ES-11, and throughout the document, wilderness permits are identified as 350 persons "above the reservoir" and 50 persons "below the dam." Later the document pairs use of Poopenaut Valley with Miguel Meadows implying that they are the same destination. The fact is they are not. Miguel Meadows is higher in elevation than the dam, and could be misunderstood as being "above" the reservoir.

[Individual, #406]

Response: The entire TRP FEIS document has been revised to clarify that actions occur either upstream of or downstream of the dam, rather than 'above' or 'below'.

Climate Change and Sustainability

General

Concern ID: 193 The TRP EIS should include a discussion on methods to address the park's carbon footprint, including changes to transportation and new technology.

Reduce the overall "carbon footprint." Climate change is affecting resources in the park and river corridor, and driving vehicles also diminishes the visitor experience in the T.M. area while contributing to climate change. Therefore, I would like to see a section in the plan focused on reducing the overall carbon footprint and greater efforts to reduce driving. Some proposed steps already address this concern and others could be added:

(1) Eliminating roadside parking, designated parking areas, increased transit capacity and frequency, a new visitor contact station closer to other facilities, not permitting kayaking/canoeing, and a walking path linking facilities will all help.

(2) In addition, eliminating parking on the stable road and removing the grill will decrease destinations for driving.

(3) Also consider making the path connecting facilities suitable for bicycles and having a bike rental service available; limiting trailhead parking and promoting the use of transit to reach trailheads; creative ways to further promote and encourage transit use; and whether the lodge could be required to provide shuttle service from elsewhere.

[Individual, #181]

Since green house emissions are discussed in the TRP should not the subject of carbon sequestration be addressed? And, would a portable biomass generating plant be a possible substitute to the current propane dependent generator system?

[Individual, #406]

Response: The park has a sustainability committee that tracks and seeks to minimize the park's energy use. In the future, if the NPS decides to increase the use of public transit to reduce the park's carbon footprint, the number of people arriving at Tuolumne Meadows by public transit could be increased so long as the maximum visitor capacity for the meadows was not exceeded. (The maximum day use capacity for Tuolumne Meadows directs the capacities of both modes of transportation so that together they equal the maximum day use capacity.)

Regarding bicycle use at Tuolumne Meadows, please see the "Alternatives Considered but Dismissed" section of the TRP FEIS chapter 8 for a discussion on why bicycle paths and bicycle rentals are not included in the plan. Regarding the option of a portable biomass generator; the park has investigated the use of this type of equipment at Tuolumne Meadows, finding that the carbon cost of transporting fuel to it would exceed that of the existing generators (not enough fuel could be obtained locally). New technologies will continued to be evaluated through the NPS planning process and all new facilities would be energy efficient.

Finally, all facilities at Tuolumne Meadows are powered by commercial power through Southern California Edison. A combination of diesel and propane-fueled generators are used for backup power for the utilities there.

Concern ID: 194 The NPS should more explicitly tie preferred alternative actions to sustainability goals, where applicable.

Sustainability: Since sustainability is called out as a key feature of Alternative 4, explicitly including it in alternative actions would support this goal. Adding public transportation, as mentioned, moves in this direction. In addition, new buildings and facilities of all kinds ought to be designed with sustainability in mind, as a model to the public and other NPS sites. Along these lines, adding hard-sided buildings in a seasonal-use area does not seem in line with the goals of sustainability and reduced development.
[Individual, #309]

Response: Many of the actions included in the *Tuolumne River Plan* relate to reducing the use of water, which contributes to sustainability; however, tying these reductions to specific sustainability goals is outside the scope of the *Tuolumne River Plan*. The park continually tracks and seeks ways to minimize the park's use of nonrenewable resources, such as energy and water, as part of basic park operations. All new facilities would be energy efficient and comply with NPS standards for sustainability.

Concern ID: 195 The TRP should include discussion on public safety and the increased risk for catastrophic fire at Tuolumne Meadows due to climate change.

Climate change as characterized in the TRP would suggest that the possibility of catastrophic fire is increasing in Tuolumne Meadows area yet there is no discussion about how people would be protected if such an event occurred.
[Individual, #406]

Response: The risk of catastrophic fire was not considered a development constraint for the *Tuolumne River Plan*. Catastrophic wildfire is considered unlikely, even given climate change, due to the ample number of natural fuelbreaks around Tuolumne Meadows. Lodgepole pines in Yosemite do not bear serotinous cones (which can only be opened by fire), which is consistent with the evidence that canopy/catastrophic fire in the Sierra high country (not the foothills) has historically been rare to nonexistent. Throughout the park, fire safety is an integral part of park operations, and procedures already in place would give highest priority to protection of public safety in the event of fire or risk of fire.

Water Demand and Water Conservation at Tuolumne Meadows

Concern ID: 196 The NPS should provide more detail on and clarify descriptions of water conservation measures proposed in the TRP (including whether adjustments are included for installing low-flow plumbing fixtures).

"[A]additional storage capacity might be needed during periods of low flow in Dana Fork to stay within the standard of withdrawing no more than 10% of follow flow (see Chapter 5)", p 3-50. I did not see a size or plan for additional storage mentioned in Chapter 5.
[Individual, #304]

Water conservation must become a high priority so as to maintain adequate water in the river for the needs of aquatic habitat.
[Individual, #422]

If bathrooms are not remodeled to include showers...could we increase campground capacity in another alternative (other than Alternative 2) and not use as much water? Also, Ref. table 715 (pg. 7-106) doesn't show a reflection of the adjustment in water usage between the current fixtures and low flow fixtures in showers, faucets and toilets that may be installed.

[Individual, #299]

Response: The plan text has been revised to clarify that under all the action alternatives the NPS would cap water withdrawals from the Dana Fork at no more than 10% of low flow or 65,000 gallons per day, whichever is less. This is close to the current maximum withdrawals occurring once or twice per year under the no-action alternative and the estimated maximum consumption that would occur under the preferred alternative. The existing average daily use and the estimated average daily use under alternative 4 is much lower, as noted in the TRP FEIS. (The maximum estimates of use under alternatives 1 and 3 would be lower, and under alternative 2 it would be highest of the alternatives.) The NPS would continue to improve water conservation and sustainability practices, including installation of water meters, repair or replacement of leaking water lines, use of low-flow fixtures (including low-flow toilets and waterless urinals), and continuing visitor and employee education, which would be expected to keep water withdrawals within the standard of no more than 65,000 gallons per day or 10% of low flow under any of the alternatives and to further reduce water consumption. Water conservation efforts would also help ensure that consumption remained within the standard if river flows decreased over time, as could result from global climate change. Additional long-term measures could include systems to reuse gray water and/or to catch and use rain water where feasible in new construction and major renovation of existing facilities.

Concern ID: 197 The NPS should reduce water consumption at Tuolumne Meadows, in light of climate change and for protection of downstream aquatic habitat.

1) Our Center is concerned that if the preferred alternative is selected, the increase in water consumption up to a level so close to the maximum will become quickly problematic. The strategy proposed for the preferred alternative does not take a proactive, climate-change-based approach. A 4.3% buffer is very small, especially considering that the Park admits that an unknown amount of water is leaking from their underground systems. In addition, the water consumption levels do not plan at all for the impacts of climate change.

Additionally, the affect on aquatic habitat from water withdrawals is insufficiently prioritized. The DEIS shares "The Waddle and Holmquist study (2011) concluded that withdrawals at or less than current levels and durations are likely to have a minimal impact on downstream habitat" (5-89). This infers that in increase in withdrawals will have a negative impact (albeit minimal) on aquatic habitat. The document justifies this by stating that they will minimize withdrawals and enact mandatory conservation measures when flows in the Dana Fork reach a critical low flow level of 1 cfs. CSERC contends that allowing minimal impact is already unacceptable in the light that one objective of the Tuolumne River Wild and Scenic River Plan's is to protect and enhance the river's ORVs.

IT IS NECESSARY FOR THE PARK TO REVISE AND REDUCE WATER CONSUMPTION LEVELS TO BETTER ANTICIPATE LONGER, LOWER FLOW PERIODS EXPECTED TO OCCUR BECAUSE OF CLIMATE CHANGE, AS WELL AS TO ENHANCE INSTEAD OF DEGRADE AQAUTIC HABITAT.

[Conservation/Preservation, #241]

--The plan states there will be an upgrade to the shower house at the lodge. I strongly disagree with this. With increasing climate change the flows in the Dana and Lyell Fork are likely to decrease and/or become more unpredictable. Lee Vining, only 30 minutes away, is a perfectly good place to shower. Why not conserve more water for the Tuolumne River. Or if not get rid of showers, limit them to 3 minutes and then the flow shuts off. Three minute showers offer enough water to get clean while conserving gallons of water.

[Individual, #359]

With climate change causing great droughts across the United States, I am very concerned about the water levels of the Tuolumne River as well as the dryness of the meadow. I know that last year there was concern that the campground and Tuolumne Lodge might have to close due to a shortage of water. In my opinion, cutting water use in the meadow and protecting flora and fauna should be the highest priority. As we all know, climate change is expected to get worse, not better.

[Individual, #365]

Response: Chapters 5 and 8 of the TRP FEIS have been revised to clarify that under all the action alternatives the NPS would cap water withdrawals from the Dana Fork at no more than 10% of low flow or 65,000 gallons per day, whichever is less. This is close to the current maximum withdrawals occurring once or twice per year under the no-action alternative and the estimated maximum consumption that would occur under the

preferred alternative. The existing average daily use and the estimated average daily use under alternative 4 is much lower, as noted in the TRP FEIS. (The maximum estimates of use under alternatives 1 and 3 would be lower, and under alternative 2 it would be highest of the alternatives.) The NPS would continue to improve water conservation and sustainability practices, including installation of water meters, repair or replacement of leaking water lines, use of low-flow fixtures (including low-flow toilets and waterless urinals), and visitor and employee education, which would be expected to keep water withdrawals within the standard of no more than 10% of low flow under any of the alternatives. Water conservation efforts would also help ensure that consumption remained within the standard if river flows decreased over time, as could result from global climate change. Additional long-term measures could include systems to reuse gray water and/or to catch and use rain water where feasible in new construction and major renovation of existing facilities.

Concern ID: 198 The NPS should seek alternate options for domestic water supply at Tuolumne Meadows, particularly during low-flow periods.

To supplement water supply late in the season, I suggestion you investigate installing a long subsurface perforated collector that could be tapped to supplement low surface flow in Dana Fork. Possibly such a collector could be located on the uphill shoulder of Tioga Road from Pothole Dome to the present visitor center, with flow pumped to the present treatment site, if that aquifer has sufficient ground water supply and quality, p 8-28, to supplement low Dana Fork diversion when stream flow is less than 1 cfs. Another option that could be considered would be to pump raw water from the main stem near or from under the highway bridge when Dana Fork flow is low. If this source could be used permanently, then Dana Fork diversion structure could be removed. Dana Fork diversion was placed there long before electrical power came to these meadows, but could be now.

Consideration of options for supplementing Dana Fork flow is important because "reduction in visitor services" could result at times of low flow in Dana Fork, p 8-35, and preferred Alternate 4, p 8-33 and 8-43.

[Individual, #304]

Alternative water supply approaches should be analyzed, included rainwater collection systems, cisterns, and reuse of greywater. The Tuolumne River is heavily tapped and any opportunities to use its waters more efficiently and wisely must be considered. This could also complement actions designed to improve the treatment and other management of wastewater.

[Conservation/Preservation, #355]

So if your going to limit water withdrawals at Tuolumne River you need to start planning to drill a well or wells which ever it takes to supply the water needed.

[Individual, #278]

Response: As noted in the DEIS chapter 8, under "Hydrology," the NPS investigated other sources for domestic water at Tuolumne Meadows, drilling two wells to depths of 400 feet in the 1990s. Both wells were dry holes and were plugged. Consequently, the NPS is reliant upon surface water from the Dana Fork for domestic water supply at Tuolumne Meadows. Note also that rainwater collection systems couild be a part of any new permanent building constructed in the meadows.

Concern ID: 199 The NPS should clarify how existing water use calculations were estimated at visitor facilities in Tuolumne Meadows.

2) The Park service has inconsistent, incomplete, and difficult to analyze data concerning water consumption in Tuolumne Meadows. Table 7-15 the Park states that water consumption is at 64,141 gallons per day, yet in Chapter 5 the DEIS shares that water withdrawals presently average at 65,000 gallons a day (5-87). This is over 850 gallons more than the stated present condition, and makes our Center question the accuracy of withdrawal limits proposed for the range of alternatives. This is just an example of the lack of data concerning the water needed for Tuolumne Meadows facilities.

[Conservation/Preservation, #241]

Water usage:

a. I found your estimates for water usage (table 7-15) to be confusing. For example you assume that each visitor to the Store/grill consumes 5 gallons per person per day. The only water consumption available to a visitor would be the grill itself (food preparation and cleanup) and the restroom. Your average consumption figures appear to be high, especially since you've accounted for restroom usage with campers, lodge guests and employees elsewhere. Only day visitor usage should be counted.

b. If your calculations for water usage at the store/grill are correct, assigning the same usage at the visitor center is not. There is no food preparation or cleanup needed at the visitor center, only the restroom. Assuming that each visitor consumes 5 gallons of water for each visit to the visitor center is not reasonable since not every visitor uses the facility. Even if they did, 5 gallons per restroom use is excessive. These calculations are important since the total usage of these two facilities represents 8800 gallons per day of the 67,000 gallons per day.

c. The assumption of 100 gallons per day per campsite in the campground seems high as well and that accounts for about half of water consumption in the Meadows. I could not find any source for your assumptions; perhaps they are buried elsewhere in the document. Since water usage and the capacity to draw water from the Dana Fork is key to your planning, I think you should be more forthcoming in how you arrived at these usage assumptions.

[Individual, #245]

A related note on sustainability: water use for the Tuolumne CG is set at 100 gallons/site. What is the reason for such high use? Would education or repairs help resolve this?

[Individual, #309]

Response: The current water use estimates in the TRP DEIS were based upon best estimates of typical consumption rates associated with various kinds of activities and facilities. However, the water use estimates in the TRP FEIS have been revised significantly, to be based upon actual consumption figures for the past five years from Tuolumne Meadows. Such figures were, indeed, considerably less than the DEIS estimates. This information is included in the TRP FEIS in chapter 8, under the no-action alternative description (table 8-3).

Concern ID: 200 The NPS should install water meters at facilities in Tuolumne Meadows to provide a more accurate measure of water consumption before increasing water withdrawals from the river.

Regarding water diversion for use at Tuolumne Meadows, I find it disappointing that the National Park Service is using conjecture and inference to arrive at consumptive use rates for employees and visitors. It seems to me the National Park Service should have realized the importance of this issue long ago and data collection via the installation of water meters should have been in place before the current planning process was initiated. As it is, the National Park Service still has not installed meters and can only guess at what the consumptive use is by person, location, activity, and through loss from leakage.

[Individual, #406]

In the DEIS section evaluating the free-flowing conditions of the Tuolumne River, the Park shares "An unknown amount of the water withdrawn from the river leaks from underground pipes (part of the aging water delivery system in Tuolumne Meadows) before it can be used" (5-87). It further goes on to state "An aging water supply system that lacks adequate storage capacity, loses water through leaking supply lines, and does not take full advantage of available water conservation technologies poses a management concern because it makes water use less efficient than it could be" (5-88).

The Park clearly acknowledges that unknown quantities of water are being lost daily through its water intake system and that there is a deficiency of water conservation methods. The water being lost could easily provide for the amount of water needed to satisfy the demands of the facilities in the proposed alternative, if the leaky pipes are upgraded and strict water conservation technologies are utilized. The Park shares that "Water use at specific facilities is not metered; therefore, it is not possible to determine use at discrete locations" (8-25). It seems logical that the Park could figure out how much water is being lost between the water treatment facility and specific facilities by installing meters at these locations.

CSERC URGES THAT THE PARK PRIORITIZE FIGURING OUT HOW MUCH WATER IS BEING USED, WHERE THE LOSSES ARE OCCURING IN THE INEFFICIENT SYSTEM, AND HOW MUCH CAN BE CONSERVED. OUR CENTER STRESSES THAT THE PARK ADDRESSES THESE NEEDED FIXES FIRST, BEFORE EVEN CONSIDERING INCREASING THE WATER INTAKE LEVELS FROM THE CURRENT AMOUNT.

[Conservation/Preservation, #241]

The water infrastructure has unknown leakages. This only contributes to the need for conservation.

[Individual, #422]

Response: The TRP FEIS chapters 5 and 8 have been revised to clarify that under all the action alternatives the NPS would cap water withdrawals from the Dana Fork at no more than 10% of low flow or 65,000 gallons per day, whichever is less. This is close to the current maximum withdrawals occurring once or twice per year under the no-action alternative and the estimated maximum consumption that would occur under the preferred alternative (the average daily use is much lower, as noted in the TRP FEIS). The NPS would continue to improve water conservation and sustainability practices, including installation of water meters, repair or replacement of leaking water lines, use of low-flow fixtures (including low-flow toilets and waterless urinals), and visitor and employee education, which would be expected to keep water withdrawals within the standard of no more than 10% of low flow under any of the alternatives. Water conservation efforts would also help ensure that consumption remained within the standard if river flows decreased over time, as could result from global climate change. Additional long-term measures could include systems to reuse gray water and/or to catch and use rain water where feasible in new construction and major renovation of existing facilities. Also, as noted in responses above, actual use figures from the last five years are used to estimate current water use in the FEIS.

Concern ID: 201 The NPS should reduce water demand at Tuolumne Meadows by eliminating the Tuolumne Meadows grill and reducing the number of campsites.

Reduce water demand. The draft states that "any increase in water withdrawals could decrease wetted habitat." I am concerned about the increased demand for water under Alternative 4 and would like to see it reduced. I suggest two steps to do this:

(1) Remove the current grill at T.M. Unless there has been change in the last two years, the current one is inadequate at peak times, with long lines forming and people spreading out around it to eat; the food quality has been poor. It also generates waste that must be disposed of. I do not believe its historical importance justifies retaining it.

(2) Do not replace the few campsites that will be removed, thus slightly lowering campground capacity.

[Individual, #181]

Response: The option of eliminating the grill and lodge and reducing the number of campsites was considered as part of alternative 1, which would reduce water demand to lowest level of all the alternatives. See also the response to concern #200, which discusses conservation measures.

Concern ID: 202 The NPS should conserve water at Tuolumne Meadows by removing the recreational vehicle dump station or monitoring its water use.

Why are you keeping the recreational vehicle dump station? If you are getting rid of the gas station (OK), then save 1600 gallons of water a day and dump the dump. This seems to be an inconsistent priority
[Individual, #245]

Page 7-99 Table 7-12. I again point out that the RV dump station use is projected to be the same under all alternatives (32 dumps per day). Why no growth projection? What is the sewer treatment plant's daily capacity for this? Why no consideration to eliminate this service? Will the National Park Service install flow meters at this facility?
[Individual, #406]

Response: The RV dump station would be retained to protect water quality. Although the dumping of wastewater onto the ground or roadways is illegal, RV dump stations are needed to discourage illegal dumping and reduce the potential risk to water quality. If future periods of low river flow required actions to reduce water consumption, the NPS would temporarily close some facilities, including the dump station, the shower house, some campsites, or lodging, as necessary to protect the free-flowing condition of the river.

Concern ID: 203 The NPS should consider using a rainwater catchment/gray water system to conserve water at Tuolumne Meadows.

Water Conservation Needs to be More Agressive:
On Rainwater Catchment: Rainwater catched from roofs and clean runoff can be stored indefinitely without any treatment if you keep sunshine off of it. You can use is for toilets, washing cars, landscaping, gardens, etc. The trick is to get mass storage for the dry season (although thunder storms may replenish you at the higher altitude). Storage is the expensive part. It can be done economically, but not with conventional civil engineering techniques that will over-design, and go over-budget. Purified rainwater catchment can be used for showers and even drinking too. There are lots of options here. This is a big deal too, because you already have the roofs to catch the water.
[Individual, #391]

Response: The plan text has been revised to clarify that under all the action alternatives, long-term measures could include systems to reuse gray water and/or to catch and use rain water where feasible in new construction and major renovation of existing facilities.

Concern ID: 204 The NPS should add walk-in campsites with water conservation measures for periods of low-flow.

The Draft TRP explains that adding 41 campsites may impact water supply in low water periods, resulting in reduction of visitor services.[10] We understand this and believe that even if these sites only operate in good water periods, they are still worth adding. Also, most walk-in campers are comfortable with simply a drinking water spigot and vault or portable toilets, and the design of these campsites should consider these options for use in low water periods. Implementing the water conservation measures mentioned in the Draft TRP could also address much of the water supply concern. Consequently, the TRP should retain the flexibility to include additional campsites, even if only in conjunction with the redesign of the campground in such a way as to incorporate the water conservation measures necessary to ensure the viability of these additional campsites.
[10] Id., at 5-87 - 5-91, 7-59
[Recreational Groups, #312]

Response: As noted in chapter 5 of the FEIS, potable water availability is limited in Tuolumne Meadows. Alternative 2, the alternative with the highest potential use levels, could reach peak water withdrawals of 65,000 gallons per day relatively faster than the other action alternatives, in part due to the increased number of campsites in that alternative. The NPS agrees that implementing the water conservation measures proposed in the DEIS and FEIS chapter 5 would address some of the concerns about water supply; however these water conservation measures could result in closing Tuolumne Meadows Lodge and/or the campground to protect river flows. This action is less likely to occur under the preferred alternative (alternative 4), which does not

increase overnight use levels. Furthermore, Tuolumne Meadows Campground already has 21 walk-in sites for backpackers and little additional room is available for more sites.

Concern ID: 205 The NPS should consider having campers supply their own water to conserve water at Tuolumne Meadows.

People in RVs, camper trucks, and cars could potentially bring water with them to reduce the per capita need at the campgrounds but I did not find a discussion about this possibility.
[Individual, #406]

Response: Due to the size of the campground at Tuolumne Meadows, which is one of the largest campgrounds in the national park system, the NPS believes a dedicated water supply is necessary to support the proposed level of use, particularly for public health and safety. Allowing the campground to stay open at its current capacity without water would introduce risks to water quality in the river and to public health.

Concern ID: 206 Visitors would accept additional water conservation measures in dry years, including limited camping and services.

Page 8-40-43. The fact that water conservation becomes more immediate under alternative 2 is not surprising. What is surprising is that there is a concern that dry years may require more restrictions than wet years. The public, at least Californians, are used to that concept. Yosemite Park's visitation is often influenced by this fact because one of the biggest attractions are the waterfalls. When they are not as pronounced people don't come. So if water is in short supply they will understand that there will be less camping allowed at Tuolumne Meadows. They will also understand if services are more limited.
[Individual, #406]

Response: No response required.

Recreational Opportunities/Visitor Access

Commercial Services - General

Concern ID: 207 The NPS should select an alternative that reduces unnecessary commercial services.

The density of people at all the commercial facilities is way out of hand for that area. Sure it is convenient to resupply at the store but totally not necessary. There is no reason dayhikers can't be more self reliant too, using the Lee Vining and Yosemite Valley facilities. With the great shuttle busses and fewer cars, limiting day hiking and taking out unnecessary buildings, etc. will truly give people a taste of what Le Conte and Muir and the other early travelers experienced... probably beyond their imaginations. Without distractions of commercial enterprises, maybe they too will find a bit of solitude and quiet, even in their day use wanderings.
[Individual, #345]

I do support the most important points made by the Sierra Club in their comments....2) Removal and reduction of unnecessary commercial activities such as the fueling station and the mountaineering store
[Individual, #325]

Please choose alternatives that reduce commercial services within the park.
[Individual, #27]

Response: Alternative 1 would eliminate most commercial services in Tuolumne Meadows. Alternative 4, the preferred alternative for commercial services in Tuolumne Meadows, reduces commercial services based on an analysis of necessary services and facilities that would be infeasible to locate outside the river corridor (see chapter 7 of the FEIS). The preferred alternative for commercial services in designated Wilderness in the river corridor is based on the finding of the Determination of Extent Necessary for Commercial Services in the

Wilderness Segments of the Tuolumne River Corridor (attached to the DEIS and FEIS as Appendix C) in conformance with the Wilderness Act.

Concern ID: 208 The NPS should consider that some commercial services are necessary for realizing the public purposes of wilderness.

Due to the increasing numbers of climbers who, for various reasons are not able to learn all of the skill sets involved in this lifetime sport, there is a corresponding need for professional mentors - the credentialed mountain guide. It takes year or decades to develop the skills and judgment to independently operate in alpine rock terrain. Style preferences, risk tolerance, skill level, terrain knowledge and equipment expertise vary widely amongst the public. The AMGA believes the public must have the option to experience the outdoors in a style that is appropriate for them. For some, the use of a non-profit or for-profit guide service is an essential option in order to experience the wilderness safely and responsibly.

- Perhaps due to the language employed by the Wilderness Act regarding "commercial services", there has developed among some wilderness managers an underlying bias against guides and members of the public who choose to utilize a guide. It should be noted that all climbers are recreational members of the public, regardless of whether they are guided or self-guided. Hence, a certain amount of commercial services are necessary for realizing the public purposes of wilderness.

[Recreational Groups, #244]

With fewer people proficient in the backcountry guided trips are extremely popular and should be encouraged. Both the stables and the mountaineering school offer opportunities for learning a new skill, brushing up on an old one, or just experiencing a passion with someone who knows the area. This is a vital service the concessionaire offers park guests

[Individual, #263]

Response: The NPS agrees that some commercial services can be utilized to realize the public purposes of wilderness. Please see the Determination of Extent Necessary for Commercial Services in the Wilderness Segments of the Tuolumne River Corridor, attached as appendix C to the DEIS and the FEIS.

Concern ID: 209 The TRP DEIS violates the Wild and Scenic Rivers Act by not adequately addressing commercial use related to High Sierra Camps.

The HSCs and the packtrains used to supply them [are] commercial activities. The Plan essentially continues "business as usual" with only a few minor cosmetic changes to these commercial enterprises. This violates the Wild & Scenic Rivers Act by failing to adequately limit and regulate harmful commercial ventures.

[Recreational Groups, #379]

Response: The final environmental impact statement that recommended the Tuolumne River for inclusion in the wild and scenic river system (USFS and NPS 1979b) acknowledged the presence of the Glen Aulin High Sierra Camp and concluded that "this segment of the river meets the criteria for a 'wild' classification." Congress accepted the recommendation that this river segment--as it was developed in 1979--met the requirements of the Wild and Scenic Rivers Act when it designated the Tuolumne Wild and Scenic River.

The Wild and Scenic Rivers Act allows for commercial uses that are consistent with the purposes of the act, which include recreational use. More specific guidance about commercial use is provided under the Wilderness Act, and the Wild and Scenic Rivers Act specifies that in case of conflict between the provisions of the two acts, the more restrictive provisions shall apply. The Determination of Extent Necessary (DEN) for Commercial Services in the Wilderness Segments of the Tuolumne Wild and Scenic River Corridor (TRP DEIS and FEIS Appendix C), included in this plan pursuant to The Wilderness Act, identifies the Glen Aulin High Sierra Camp as a substantial commercial presence that affects the wilderness experience of visitors in the area, although the camp itself is not in designated wilderness and therefore is not subject to the provisions of the Wilderness Act. Because the High Sierra Camp is surrounded by designated Wilderness, the DEN finds that the Glen Aulin wilderness zone is more commercialized than those zones that have only more traditional outfitter and guide

services. To prevent further commercialization of this area, the DEN indicates that the Glen Aulin zone and trail shall be managed as "restricted" during July and August, when the camp is open, and that the commercial formal education provided by the NPS-concession loop trips will be included in the calculations of overnight and day use allocations for such commercial use, as well as for noncommercial educational use.

Concern ID: 210 The NPS should not reduce or eliminate any existing commercial services in the park, particularly stock use.

The Redwood Unit, Back Country Horsemen of California does not agree with any concept or alternative that would reduce or eliminate any of the existing commercial services provided to visitors to Yosemite National Park. The visitor levels should not be reduced. They should at least be maintained at current levels until such time as better and less biased scientific studies can be done to cover all aspects of our national parks to meet the actual needs of the public, now and in the future.

Changing the combinations of alternatives to better accommodate visitors without reducing or eliminating commercial pack and saddle stock is a far better way to help both visitors and the park.

[Recreational Groups, #455]

Response: The preferred alternative would allow a slight increase in visitor use within the Tuolumne River corridor. Some commercial services are removed, including the fuel station, mountaineering shop, and concessioner stock day rides. The fuel station/mountaineering shop were found to be unnecessary facilities in the river corridor because these services are provided within a reasonable distance of Tuolumne Meadows. Removing the fuel station would eliminate a risk to water quality. Eliminating concessioner stock day rides from Tuolumne Meadows would also reduce the risk to water quality and improve the recreational experience for visitors hiking on trails.

The preferred alternative will have little or no effect on commercial or private stock use in wild segments of the river corridor. The Determination of Extent Necessary for Commercial Services in the Wilderness Segments of the Tuolumne Wild and Scenic River Corridor (DEN) (FEIS Appendix C) has been revised to slightly increase the level of commercial services in the Lyell Canyon zone determined to be consistent with realizing the public purposes of wilderness. Under the revised DEN the currently low levels of commercial use in the Tuolumne River portion of the Yosemite Wilderness, including commercial stock use, could continue. Private stock use, which currently comprises a very small percentage of all stock use, will not be affected by the plan. The reductions in total stock use under the plan will be achieved by eliminating concessioner day rides and greatly reducing the stock trips used to supply the Glen Aulin High Sierra Camp.

Visitor Services - General

Concern ID: 211 The NPS should not encourage visitation to Tuolumne Meadows.

Though not a formal part of the Plan, the Park should take no steps to encourage visitation, and particularly should not promote Tuolumne as a "less-crowded" alternative to visiting Yosemite Valley. Visitors should be allowed to discover the Meadows and its surrounding areas on their own.

[Conservation/Preservation, #315]

Response: The NPS is directed by the NPS Organic Act and the Wild and Scenic Rivers act to provide for recreational use that is protective of park and river values. In the absence of any increase in park facilities or programs, visitation to the Tuolumne Meadows area has steadily increased, along with an increase in localized impacts to river values. The preferred alternative seeks to eliminate many of these impacts while also minimizing disruptions to established visitor use patterns.

Concern ID: 212 The NPS should select an alternative that retains visitor services at Tuolumne Meadows.

During busy summer weekends and holiday periods when Yosemite Valley is congested, maintaining a robust Tuolumne Meadows region is necessary to provide a quality visitor experience. Removing critical visitor features such as the fuel station, mountaineering shop/school, and stock day rides may discourage visitors from venturing to Yosemite's beautiful high country.

[County Government, #378]

Response: The preferred alternative retains most visitor services at Tuolumne Meadows and seeks to reduce risks to river values while enhancing outdoor recreation opportunities for visitors wishing to get out of their cars to spend some time in the river corridor. The final plan/FEIS has been updated to note that the mountaineering school would be retained at Tuolumne Meadows, but would operate out of Tuolumne Meadows Lodge.The fuel station/mountaineering shop were found to be unnecessary facilities in the river corridor because these services are provided within a reasonable distance of Tuolumne Meadows. Removing the fuel station would also eliminate a persistent risk to water quality. Eliminating concessioner stock day rides would also reduce the risk to water quality and improve the recreational experience for visitors hiking on trails. The NPS disagrees that removing the fuel station, mountaineering shop, and discontinuing concessioner stock day rides would discourage visitation to Tuolumne Meadows.

Concern ID: 213 The TRP does not adequately address traditional visitor activities.

These are some of the gaps in logic and lack of explanation found in the TRP summary. The specifics mentioned - improving the water system, establishing a composting toilet at Glen Aulin, removing roadside parking, moving facilities away from wet/riparian areas - are well thought out and explained. They're good actions. But ignoring any activity except for driving and hiking is a weakness in the plan and suggests a strong bias. Traditional activities are important to the public and shouldn't be discontinued.

[Individual, #298]

Response: The description of the visitor experience, and specifically the recreational opportunities enjoyed by visitors to Tuolumne Meadows, has been revised to clarify that the "traditional Tuolumne experience" encompasses a wide variety of activities ranging from scenic driving to overnight wilderness backpacking. The individual activities within this range are described in detail in chapter 9, which also identifies the percentage of visitors currently participating in each type of activity. The description of current use also states that "Many individuals, families, and groups establish and renew traditional ties with the [Tuolumne Meadows] area, as the setting and kinds of activities they enjoy has remained essentially unchanged over decades." The alternatives under consideration for the *Tuolumne River Plan* address these traditional visitor activities in a range of ways. Retaining all ongoing activities in their current settings, including historic facilities, is a key component of alternative 3. Alternative 4 would discontinue one traditional activity, concessioner stock day rides, in order to reduce risks to water quality and reduce conflicts on trails, but would otherwise make only modest changes to facilities, to be more protective of meadow and riparian habitat.

Concern ID: 214 The NPS should not restrict traditional visitor uses.

Our response uses the NPS preferred alternative, Alternative 4 Enhance the Traditional Tuolumne Experience, as the basis for our comments. Basically, we believe that some aspects of the Plan are unduly restrictive on traditional visitor uses, which we hope can be adjusted before the plan is made final.

[Business, #383]

If, by chance, your plan makes any changes to the river and use of it, such as rafting, swimming, floating - then I am entirely against it. Please do not impinge on the simple uses of the water - they are what the average people enjoy - don't take that away

[Individual, #85]

Response: The preferred alternative seeks to balance the desires to retain a traditional Tuolumne experience with desires to reduce development and risks to river values. With the exception of concessioner stock day rides, all traditional recreational activities would be retained in the preferred alternative, limited whitewater boating would be allowed, and outstandingly remarkable recreational values would be enhanced by reducing stock impacts on trails, managing encounter rates, improving scenic viewing opportunities, and improving opportunities for short-term visitors to learn about and experience the river.

Concern ID: 215 The NPS should clarify how access to the river would be managed at Tuolumne Meadows and Glen Aulin High Sierra Camp (e.g., fencing, formal trail access, etc.)

It is important to minimize impacts to the river wherever possible. This is especially true with regards to the Tuolumne Meadows Campground, Tuolumne Meadows Lodge, and Glen Aulin High Sierra Camp. While we recognize the recreational value of the facilities, we believe that it is important to move them away from the river corridor to the greatest extent possible and restrict access to the river's banks so as to reduce erosion and encourage riparian vegetation growth. We request greater specificity be provided as to how access to the banks will be limited. Potential measures that could accomplish this include fencing and formal trails that allow access as specific designated locations, signage directing visitors to stay on designated trails, and revegetating the banks with native riparian vegetation.

[Conservation/Preservation, #355]

Response: In alternatives 2 and 4, visitors would be directed from trailheads at designated parking lots onto trails and boardwalks, some with fencing or other forms of delineation to discourage dispersed foot traffic through sensitive meadow and riparian environments, and to formal picnic areas. Such delineation is common in national parks, where all hikers using a particular trail park in a designated lot and take a designated trail from that lot. In alternatives 1 and 3 visitors would be directed from trailheads at designated parking lots to trails and encouraged to minimize their impacts on sensitive meadow and riparian resources; however, fencing would probably not be necessary to discourage visitors from dispersing into the meadow or along the riverbank as they have done traditionally. In these alternatives the use level would be lower to help reduce foot traffic in sensitive areas; and under all alternatives, additional management action would be taken if necessary to protect sensitive meadow and riparian habitat, including closure of any informal trails that might begin to recur.

Concern ID: 216 The NPS should utilize designated parking to manage visitor numbers at Tuolumne Meadows, otherwise allowing visitors to do as they please.

We don't get this obsession with getting rid of people at Tuolumne when practically all the complaints have been about the unlimited roadside parking eyesore. All that is needed is to ban roadside parking, provide small dispersed parking lots away from the viewing areas, and the sense of congestion would be eliminated.

We agree that the flora and fauna might have different standards, but we are talking about the visual standard.

So long as people are not interfering with others, or impacting the resources excessively, we feel that they should be left free to experience the Park as they see fit. We have a big problem with all this social engineering, telling us what kind of experience we ought to be having.

[Conservation/Preservation, #348]

Response: The preferred alternative does propose designated parking and would allow visitors the freedom to otherwise do as they please, while protecting river values. The Wild and Scenic Rivers Act and its implementing guidelines require river managers to establish the kinds and amounts of use that will be protective of river values. Specifically, WSRA requires the NPS to set a user capacity. The alternatives considered for the *Tuolumne River Plan* analyze a range of ways in which visitor use might be managed while remaining protective of river values. Some alternatives would allow for higher limits on the amount of use than others, depending on the kind of use that would occur.

Concern ID: 217 The NPS should not limit recreational opportunities at Tuolumne Meadows for visitors with special needs.

We are also concerned about complying with ADA standards, as many of the recreational offerings eliminated are a viable quality experience accommodating visitors with special needs. We urge the NPS to listen to the overwhelming public sentiment to keep Tuolumne the same and to not unnecessarily reduce traditional and appropriate visitor experiences.

[Business, #383]

Response: Facilities at Tuolumne Meadows will remain accessible to visitors with special needs, with no change in current opportunities for recreational trail use, fishing, swimming, camping, and lodging; opportunities for picnicking will be enhanced. Visitors with special needs will still be able to access Glen Aulin High Sierra Camp by way of overnight saddle trips, although day rides to the camps will be discontinued.

Concern ID: 218 The NPS should provide bike rentals at Tuolumne Meadows.

I hope the bike rentals continue in the Yosemite Valley and are available in Tuolumne as they are greener than autos or buses. Off road/off bike-path use though may be a problem. Seems like a green option though for transport and recreation for some people.

[Individual, #153]

Response: Improvements to facilitate bicycling as an alternative mode of circulation at Tuolumne Meadows were considered but dismissed to avoid new ground disturbance required for trail construction/improvements, to avoid exacerbating visitors' perceptions of crowding and conflicts on trails, and to minimize commercial services (such as bicycle rentals) in the river corridor.

Concern ID: 219 The NPS should provide more parking and camping facilities at Tuolumne Meadows.

The river habitat and the meadows must be protected, yes, but we need increased parking areas and camp facilities.

[Individual, #22]

Response: The preferred alternative would slightly increase the amount of parking available over existing conditions, including existing designated parking in lots and undesignated parking locations along Tioga Road. Increased parking, over what is proposed in the preferred alternative, and additional camping was evaluated as part of alternative 2. However, in order to accommodate this increased level of use, the historic setting at Tuolumne would be altered to a greater extent than under any other alternative, and water consumption and associated risks to water quality would remain relatively higher than under other alternatives. Alternative 2 would also have the greatest potential for requiring future reductions in service, including reducing the capacities at the lodge and/or campground, to ensure that the level of water consumption remained protective of river flows. For these reasons alternative 2 was not the environmentally preferable alternative or the preferred alternative for the TRP (see FEIS chapter 8).

Concern ID: 220 The NPS should require appropriate professional credentials for mountain guiding in the park.

- The AMGA supports the use of both non-profit and for-profit commercial services - provided they are trained and qualified at the industry standard - as essential options for the public to experience the wilderness. Currently there are seven NPS units that recognize AMGA certification and/or accreditation as important prerequisites for obtaining a Commercial Use Authorization; thus ensuring that their permit holders provide the highest level of safety practices and resource stewardship. While many guides that currently operate in YOSE are AMGA certified, it will be beneficial for the long-term quality of mountain guiding to require appropriate professional credentials

[Recreational Groups, #244]

Response: The requested action would be managed as part of basic park operations and is outside the scope of the *Tuolumne River Plan*.

Stock Use

Stock Use at High Sierra Camps

Concern ID: 221 The NPS should continue to use pack stock to supply the High Sierra Camps.

Because the HSCs were identified early in the process as being an ORV for the Tuolumne River corridor, I also applaud the proposal to continue to allow stock support of the HSCs. These animals are an essential part of making that extraordinary opportunity possible.
[Individual, #409]

Response: The preferred alternative would continue to use pack stock to supply the High Sierra Camps, although it would restrict the amount of pack stock needed to resupply Glen Aulin High Sierra Camp (which is the only High Sierra Camp in the Tuolumne River corridor). Please refer to the response to concern #319.

Concern ID: 222 The NPS should find a way to lessen the impacts of pack stock on trails to the High Sierra Camps.

Have been camping with my family in Tuolumne every summer for the past 25 years. I support alternative 4 while recognizing the real impacts of visitation on the resource. The degradation of the trails is primarily due to horses - do the math on mass of a human vs a loaded horse. Compare the trails without daily pack trains vs those with. I've used the horse services but feel we need to reduce their impact. The pack trains to the high Sierra camps (which I would hate to see closed) are high impact and there must be something we can do to lessen their impact short of diminishing the HSC services. Let's get some smart people working on this with the wranglers and also exploring alternatives to horses.
[Individual, #193]

As a backpacker and lover of Yosemite, I feel tighter controls should be put in place for the High Sierra Camps. It is not necessary that stepping over piles of manure and dealing with polluted water be a part of the Yosemite experience. The pack animals should be kept to the very minimum necessary to supply the camps. Using manure catchers is a viable idea. The camps should offer the minimal amenities to users thereby reducing the need for excessive pack trains. Tighter controls should be put in place for the High Sierra camps.
[Individual, #283]

--I don't understand the need for stock trips daily to the high sierra camps. The trail between Glen Aulin HSC and Parsons Lodge is highly impacted; I hardly hike on it if I can help it. I have had many visitors complain to me as a ranger about the state of this trail, and others like it. Is there another method to deliver goods, such as via helicopter? I strongly support decreasing the number of guests if it will help to limit the impact on these trails.
[Individual, #359]

Response: The NPS acknowledges the impact of pack stock use to support Glen Aulin High Sierra Camp in the Tuolumne River corridor. In response to this concern, under the revised preferred alternative, the camp operator would be limited to a maximum of 2 packstrings (6 mules or horses and 1 rider) per week to supply the camp. Based on usage numbers from 2009-2012, this restriction would reduce packstock use on the Glen Aulin Trail by about 43%. The revised preferred alternative would also limit the number of packstrings used to set the camp up in spring to 10, and the number of packstrings necessary to take the camp down in fall to 9 (10 is the minimum needed to set up the camp from 2009-2012; 9 is the average needed to take down the camp in that same time period). Third, the preferred alternative would discontinue wood for heat stoves in visitor tent cabins to further reduce stock trips to the camp. In addition, the preferred alternative also eliminates concessioner stock day rides to Glen Aulin and limits overnight saddle trips to the camp. Through these measures, the risks to water quality and impacts upon the trail and the experience of other users would be significantly reduced.

Manure catchers are appropriate for short time periods on pack stock, but for longer uses cause chafing on the horses. Helicopters could only be used pursuant to a minimum requirements analysis.

Concern ID: 223 The NPS should specify how many stock trips would be needed to support Glen Aulin High Sierra Camp at a reduced capacity or as a seasonal outfitter camp.

Alternative 4 proposes to eliminate concessioner stock rides to Glen Aulin camp and to reduce stock day rides along the Tuolumne Meadows and Tioga Road corridor (p. 7-88 through 7-89). It is unclear whether the stock rides that transport supplies to the High Sierra camps would be eliminated, as well, or whether they would be reduced or expanded in number. We recommend that the Final EIS provide clarification of the number of commercial versus supply stock rides that would operate in the river corridor under the Preferred Alternative, including the associated impacts.

[Federal Government, #374]

6) In 2011 the Park Service documented 768 stock passes for the purpose of setting up, taking down, and servicing of Glen Aulin High Sierra Camp (7-6). This number clearly demonstrates the intense pressure resources face and the need for stock impacts to be addressed. There is no mention in any of the Alternatives on mandatory reductions of pack stock trips to supply/maintain Glen Aulin HSC, despite the acknowledgement of the impacts that pack stock has on resources as well as the wilderness experience of visitors in that zone (7-6, 7-21). Although trails that fragment wetlands in this area are planned to be re-routed through restoration efforts, the threats to water quality, trail widening, and the impact to visitors' wilderness experience remain.

IF GLEN AULIN IS ALLOWED TO REMAIN IN ITS LOCATION IN THE FINAL EIS (AND AS STATED PREVIOUSLY, CSERC URGES THAT IT IS NOT ALLOWED TO STAY), A PLAN OUTLINING THE REDUCTION OF STOCK NEEDED TO SUPPLY GLEN AULIN SHOULD BE DETAILED ACCORDINGLY WITH THE REDUCED SERVICES THAT WILL BE REQUIRED FROM THE DOWNSIZING OF THE CAMP, TO WHATEVER EXTENT THAT REDUCTION IS.

[Conservation/Preservation, #241]

Response: The TRP FEIS provides this information. Under the revised preferred alternative, 2 packstrings (6 horses or mules plus 1 rider) would be allowed per week to resupply the camp, with an additional 2 strings as needed per season for special needs, 10 strings to set up the camp, and 9 strings to take it down. If the High Sierra Camp was converted to a seasonal outfitter camp, as proposed under alternative 2, stock support for the camp would be similar to existing conditions, because the camp's capacity would be kept the same. See table 8-1 for an overview of recent packstock use necessary to operate the camp.

Concern ID: 224 Pack stock trips to supply the Glen Aulin HSC increase crowding and congestion on trails.

Encounters with the frequent strings of pack stock heading to Glen Aulin cause hikers, backpackers, or equestrian visitors along that main wilderness route to have a sense of crowding and congestion compared to the encounters they would have without the pack stock heavily utilizing the trail.

[Conservation/Preservation, #239]

Response: The FEIS has been updated in chapters 5, 8, and 9 to reflect that packstock use on the Glen Aulin trail increases crowding and congestion on that trail.

Concern ID: 225 The NPS should discontinue guided and pack trips to Glen Aulin HSC.

3) Discontinue guided and pack trips to Glen Aulin. Such trips could still take advantage of "semi-loops" incorporating the other four backcountry camps. This would maximize the number of individual hikers who could complete 5-camp loop itineraries'essentially 20 hikers per day, since Glen Aulin would be by far the smallest HSC and would thus set the upper limit for number of loop hikers. Also, based on advice given by DNC for the HSC lottery application, there is already an oversupply of guided and pack HSC trips relative to individual hikers, compared to relative demand.

[Individual, #400]

Response: The preferred alternative limits the number of guided pack trips to Glen Aulin High Sierra Camp, but retains a modest number (80 clients per summer, the average of the last 4 seasons) to allow access to the camp by those who do not have the physical ability or skills to complete a multi-day backpacking trip.

Stock Use Corridorwide

Concern ID: 226 The NPS should recognize that stock users should have the same rights to use the Tuolumne River corridor as other types of visitors.

The alternatives listed in this document promote large amounts of day use, car traffic and new forms of wilderness recreation. Those that travel on a horse and mule and have their gear carried by pack mule should have equal rights to use this Tuolumne River Corridor.
[Business, #320]

Response: The preferred alternative will have little or no effect on non-concessioner commercial stock use or private stock use in the river corridor. The Determination of Extent Necessary for Commercial Services in the Wilderness Segments of the Tuolumne Wild and Scenic River Corridor (DEN) (FEIS Appendix C) has been revised to slightly increase the level of commercial services in the Lyell Canyon zone determined to be consistent with realizing the public purposes of wilderness. Under the revised DEN the currently low levels of commercial use in the Tuolumne River portion of the Yosemite Wilderness, including commercial stock use, could continue. Private stock use, which currently comprises a very small percentage of all stock use, will not be affected by the plan. The reductions in total stock use under the plan will be achieved by eliminating concessioner day rides and greatly reducing the stock trips used to supply the Glen Aulin High Sierra Camp.

Concern ID: 227 The NPS should more accurately describe the history of stock use in the park.

The DEIS does not adequately describe the historical use of livestock and commercial pack stock in the Tuolumne River drainage. A proper environmental document would look at use levels and the resource condition over a sufficient period time. This document is flawed in that it does not present data from the 1960's through the present last few years.
Looking at data and use figures for 2010 or even a five year recent period is inadequate for an environmental document. If the preparers of this document presented the historical use data and grazing information, decision makers and the public could make an informed decision.
[Business, #320]

Response: During preparation of the plan the NPS conducted a historic study of stock use in Yosemite National Park and the findings of that study have been summarized in the TRP FEIS.

Concern ID: 228 The NPS should not reduce the use of stock as it provides a traditional positive visitor experience.

After reviewing the alternatives, I am dismayed at any further limitations on commercial stock.
I am an avid environmentalist. But I do not believe there is any conclusive evidence that pack trains' use of trails and grazing has any cumulative negative impact.
I believe that studies concluding otherwise have been skewed in favor of extremist viewpoints.
In August of 2011, I participated in a 5 day horseback trek into the high country, camping at the Merced River and at Emeric Lake. This was a lifelong dream fulfilled.
Because of my physical limitations---I have Rheumatoid Arthritis--- this was the only way I could enjoy the interior of my national park.
For people who are unable to hike long distances, there is no option for seeing the grandeur of the high country in person. For the outfitters, the ability to graze is essential for efficient operation.
There is evidence (that has been ignored) that grazing actually improves the health of the meadows.
Mules and horses were instrumental in building the trails and opening the park to tourism. In addition to their historic presence, it has not been proven to my satisfaction that their continued use is detrimental in any significant way. In my experience, people on foot leave far more evidence of their passing. Mountain bike's knobby tires tear up trails far more than hooves.

If you apply more limits to commercial stock in the parks and eliminate day rides, you are not only limiting access. You are harming local economies.

Please be smart about this and amend Alternative 4.

[Individual, #150]

I am against limiting livestock, packtrips, rides, etc. The stock are a historical, important and pleasurable addition to the park experience. Hikers have been using a very specific, elitist and exclusive agenda for many years to get the stock out of the Sierras. Some of these groups actually believe that if you can't walk there, you don't belong there, and that is completely unacceptable!! I have hiked, backpacked and ridden in your mountains and I know for a fact that the Packers have complete respect for the land, the trails, their animals,people,trash pickup and maintainence

[Individual, #262]

Please don't shut down the horse programs and rides. The stock use is already restricted to minimal stock use. Please don't let a very historical part of our country die. We own stock and enjoy the backcountry as a family. Please fight to keep stock use a part of our future not just the past.

[Recreational Groups, #444]

Response: While some visitors enjoy the sight of packstock in Wilderness, many others do not. The TRP seeks to allow an appropriate amount of packstock use to continue. While commercial day-rides would be eliminated, saddle trips to Glen Aulin would still be available, as would some commercial overnight stock use in Lyell Canyon.

Concern ID: 229 The NPS should consider alternative options to reduce stock/hiker interactions including separate stock trails.

As a backpacking and day hiker, I support fewer horses on the hiking trails . . . in fact I'd support separate trails so those that need to ride could still enjoy the backcountry.

[Individual, #154]

Also limit the trails which stock can use.

[Individual, #431]

I also support the discontinuation of the daytrip mule rides out of Tuolumne Meadows. The trails and surrounding areas have been severely impacted due to the constant use by mules. If mule day trips are kept, they should be limited to a small number of trails - preferably those that are not near a water source (admittedly hard to find in the Tuolumne area!).

[Individual, #117]

Response: The provision of a separate trail dedicated to stock use to serve the Glen Aulin High Sierra Camp would require construction of a new trail alignment either parallel to the existing trail or extending from Tioga Road west of Pothole Dome to Glen Aulin. In either case, new trail construction would trigger a minimum-requirement analysis pursuant to the Wilderness Act, which would almost certainly show that a new trail would not be a minimum requirement because a trail to Glen Aulin already exists. For this reason, the option of a separate stock trail was dismissed from further consideration in the FEIS.

Concern ID: 230 The NPS should not limit stock use in wilderness based on the perception of stock/hiker conflicts.

Finally, I do not support the DEIS's statement that stock use should be reduced "to enhance the opportunity for a wilderness experience along the river with a reduced potential for conflicts between hikers/backpackers and stock users." DEIS at 5-75. I feel this statement is discriminatory, unprofessional and unnecessarily suggests an inherent conflict between hikers and equestrians, both of whom legally have the right to utilize and enjoy the wilderness resource, subject to wilderness regulations. A perceived lack of tolerance among wilderness users should not be employed as a reason to reduce either pedestrian or equestrian use in wilderness.

[Individual, #257]

Response: The NPS must protect and enhance all ORVs, including the opportunity for wilderness recreation along the river. While user conflicts are perceived differently by different visitors, people who are concerned about conflicts between hikers and stock use on trails frequently cite dust, odors, and biting flies as reasons for their concern. The preferred alternative will not limit private stock use in wilderness, and the limitations placed on commercial stock use will have little or no effect on current levels of commercial stock use. The impacts of stock use on trails and other trail users will be reduced by eliminating concessioner stock day rides and cutting the amount of pack stock used to supply the Glen Aulin High Sierra Camp by half.

Concern ID: 231 The NPS should use horse manure bags or have employees shovel manure behind packtrains.

I would like it if all mules and horses had to wear mandatory defecation bags as they traveled on trails in the National Parks. It would enhance the experience of all who hike those trails and improve the health aspects of the environment that is now adversly affected by the manure left by these animals. If suitable bags are not available, then having a clean up person assigned to each animal caravan should be mandatory. You don't tolerate human defecations on the trails, why allow animal defecations?

[Individual, #352]

Further improvement to both the recreational and the wilderness experience can be obtained by requiring manure catchers for all stock animals in the subject area. This would be particularly helpful on the trail to Glen Aulin HSC. At a minimum, start with requiring manure catchers on stock animals of the pack trains supplying Glen Aulin HSC. Please add manure catcher requirements.

[Individual, #307]

The amount of stock use and waste on the Yosemite trails really detracts from enjoying the wilderness experience. There need to be limits and controls adopted to reduce the impact of commercial packtrains, such as requiring "manure catchers" on all commercial packtrains, or requiring commercial packstock outfits to send an employee along trails behind each packtrain to shovel manure off of trails

[Individual, #316]

Response: Manure bags are known to chafe the skin of packstock, and the park staff does not consider them a feasible alternative for use on the stock working long distances on the trails in the river corridor. Instead, the amount of stock use on trails will be reduced by about 60% corridorwide, which should result in a significant reduction in manure on trails. Stable employees will continue to rake up manure near the stables, which is where horses and mules tend to defecate.

Concern ID: 232 The NPS should consider the negative impacts on the visitor experience from stock use throughout the Tuolumne River corridor.

The stench on trails is overwhelming. We expect dust and dirt while in the backcountry, and it won't make you sick. But the bacteria, viruses and residue of pack animal manure, urine, or the same dried stuff everywhere along all the trails can not be cleaned off clothes or hands before eating a day snack or meal or preparing for sleep. My kids / students are ready for dirt but not fecal material everywhere and even being part of breathing. Our group being forced off the trail by ramrodding pack animals with so much "stuff" left on the trail is at best disgusting. How do you explain park service trail damage to children? I mean we've taught them to respect and treasure nature, and then they see park officials that treat both them and nature poorly. And how much money is unnecessarily spent reinforcing bridges and trails just for great weight of many stock animals?

[Individual, #291]

My primary concern about the Tuolumne River corridor is the continued excessive amount of packtrains used to supply the commercial "High Sierra Camps" at Vogelsang and Glen Aulin. The trails leading to these commercial camps are horribly torn up and dusty, and littered with manure and biting flies. During my last trip there (a couple summers ago) I actually cried my first afternoon when I sat down to rest after hiking for miles and breathing pulverized trail dust mixed with manure and then being attacked by biting flies when I was just trying to sit and rest for a few minutes. The peaceful mountain and river scene I'd come looking for was stolen by the awful results of large packtrains that seem to exist largely (only?) to supply unnecessary luxuries to a small number of people at the commercial camps.

[Individual, #274]

Response: The TRP DEIS (chapter 8) and FEIS (chapter 9) fully disclose the impacts of packstock use on all river values, including wilderness recreation.

Concern ID: 233 The NPS should discontinue stock use in the Tuolumne River corridor, or limit stock use to only what is necessary for administrative use or disabled visitor access, due to adverse impacts on trails.

I would like to make a plea for you to discontinue all services using stock animals.

These animals inflict severe damage on trails. They leave large amounts of offensive waste on the trails which attract flies and other pests.

Some people have made the argument that stock animals permit assess to the disabled. However, virtually all of the people riding these animals are not disabled. There are already a large number of wheelchair accessible paths in the park for disabled people to use.

I have backpacked extensively in the park and I am tired of wading through manure and flies on trails which have been badly eroded by stock animals. Stock animals are not a "natural" part of the ecosystem. They are a relatively recent introduction by cowboys "conquering" the wilderness. They have no place in the park which suffers severely from their incursion

[Individual, #94]

I think we should keep Yosemite as wild and unspoiled as possible. To that end, I support dropping the horse/mule trekking access. Hiking on trails designed for horse use can be messy, and they tend to be wider and more scarred than necessary for hiking use. Although I think there's a place for horse/mule trekking, they do not fall in line with "leave no trace" - and that's what Yosemite ought to be all about.

[Individual, #151]

Eliminate the use of horses for all but park personnel and the use of pack animals to service the Sierra Camps; the use of stock has identified adverse impacts on hoof punching in meadows, soil compaction, trampling of vegetation, and stream bank erosion, in addition to water contamination from manure;

[Individual, #324]

Response: The preferred alternative would reduce total stock use in the river corridor by more than 60%, by eliminating concessioner stock day rides and by greatly reducing the amount of pack stock used to supply the Glen Aulin High Sierra Camp. It would not be feasible to completely discontinue all stock use for several reasons. NPS administrative stock use, which amounts to about 4% of total stock use, must be continued to support trail maintenance and ranger patrols. Private stock use, which amounts to about 8% of total use, is an appropriate recreational activity in Yosemite National Park that does not adversely affect park or river values and is continued consistent with NPS policies. Non-concessioner commercial stock use in wilderness, which also amounts to about 8% of current use, has been found through a determination of extent necessary process to be consistent with realizing the purposes of the Wilderness Act; because that use does not adversely affect river values, it is continued under the preferred alternative for the *Tuolumne River Plan* (although discontinuing this use is considered under alternative 1 of the TRP FEIS).

Some concessioner stock are based at Tuolumne Meadows to supply the High Sierra Camps outside the Tuolumne River corridor (Vogelsang and Sunrise); these cannot be reduced by the TRP, as the continuing operation of these camps is beyond the scope of this plan. Stock use to supply these camps currently amounts

to about 8% of all stock use in the corridor. Under the preferred alternative the amount of pack stock use needed to set up, resupply, and take down the Glen Aulin High Sierra Camp (which would be the only remaining way the plan could reduce stock use) would be reduced by more than half. Of the total stock use that would continue under the preferred alternative, the stock use associated with the camp would constitute about 27% of the passes on trails within the river corridor. Alternative 1 considered and assessed the effects of eliminating the Glen Aulin High Sierra Camp and the stock use associated with it.

Concern ID: 234 The NPS should consider additional studies, including Derlet and Carlson (2006), when evaluating the impacts of stock use on water quality.

Our scoping comments of September 2006 discussed and provided a copy of a publication by Derlet and Carlson (2006), which documented contamination of surface waters in Yosemite National Park due to pack & saddle stock animals (Leg, horses & mules). Subsequent research has confirmed those findings (see "Risk Factors for Coliform Bacteria in Backcountry Lakes and Streams in the Sierra Nevada Mountains: a 5-Year Study," by R. Derlet and others. Wilderness and Environmental Medicine 19: 82-90).

Because stock animals are known to contaminate surface waters with disease-causing pathogens (and because of the many other stock-related impacts discussed in our September 2006 comments), the use of stock animals should be prohibited within the Tuolumne River corridor, except in cases where they are absolutely necessary. When stock animals must be used, their numbers should be kept as small as possible, and every feasible effort must be made to avoid water pollution from animal wastes, such as by requiring that all stock animals be outfitted with manure catchers, which are now readily available and inexpensive. (See, for example, www.bunbag.com and www.equisan.com.au.)

[Recreational Groups, #379]

I have been particularly offended by the degradation of the pristine beauty of the Sierra Nevada wilderness caused by horse parties which intrude on meadows, drop manure all along the trails, which in turn attracts flies and creates dust. Worst of all the manure finds its way sooner or later into the water systems, which has been documented by scientists at the UC Medical Center.

[Individual, #337]

Response: The NPS acknowledges that packstock use may impact water quality locally but also stresses that these impacts are not well-understood and not quantified to a level sufficient to definitively inform management. Park staff are aware of the publications listed in the letter and have reviewed these carefully once again in response to public comment. Several studies have attempted to discern a link between pack stock use and transport of pathogens to receiving waters (Derlet and Carlson 2002; Derlet and Carlson 2006; and Derlet et al. 2008). These studies were considered for inclusion in the TRP and MRP, but they lack the scientific rigor necessary for drawing conclusions on water quality impacts from pack stock use. In contrast, NPS water quality monitoring (using standard water quality monitoring methods) in wilderness sites downstream of more heavily used pack stock sites (Lyell Fork Tuolumne River at Twin Bridges and Tuolumne River below Conness Creek) show low levels of pathogens over multiple samples and multiple years (Clow et al. 2011). Overall, water quality in wilderness areas appears to be excellent. These sites will continue to be monitored as part of the NPS water quality monitoring program.

In summary, the NPS is aware of the limitations of currently available data to assess packstock use impacts. NPS seeks to limit potential impacts in this and future planning through best management practices (e.g. group size limitation, designated packstock campsites, grazing utilization and timing limitations, and removing manure from waterways within one mile of corral operations), and by supporting and encouraging well-designed research aimed at addressing concerns raised by the public. The NPS seeks the best science to inform management policy and welcomes participation by researchers interested in building a sound body of data to tackle this complex issue.

Concern ID: 235 The NPS should eliminate overnight stock use in Lyell Canyon.

The stretch of Lyell Canyon where overnight use occurs is at most 8 miles from Highway 120. It is not unreasonable for stock users to travel farther than this to protect river values.
THE PARK SHOULD MODIFY ITS SELECTED ALTERNATIVE TO ELIMINATE OVERNIGHT STOCK USE IN LYELL CANYON ENTIRELY.
[Conservation/Preservation, #241]

Similarly no overnight stock use should be permitted in Lyle Canyon (or if most use is currently multiple nights then consider a one night limit.)
[Individual, #389]

Response: It would not be feasible to eliminate all stock use in Lyell Canyon as part of the TRP for several reasons. NPS administrative stock use, which accounts for about 10% of the stock use in Lyell Canyon, must be continued to support trail maintenance and ranger patrols. Private stock use, which accounts for about 19% of the total stock use in Lyell Canyon, is an appropriate recreational activity in Yosemite National Park that does not adversely affect park or river values and is continued consistent with NPS policies. Concessioner stock use that passes through Lyell Canyon to supply the Vogelsang High Sierra Camp (which is outside the Tuolumne Wild and Scenic River corridor) cannot be reduced by the *Tuolumne River Plan*, as operational changes at this camp are beyond the scope of the plan. Concessioner stock use currently amounts to about 35% of all stock use in Lyell Canyon. Alternatives for other commercial stock use, which currently accounts for 36% of total stock use in Lyell Canyon, are considered and assessed as part of the TRP DEIS and FEIS. Under the preferred alternative this use would be maintained at levels established by the Determination of Extent Necessary for Commercial Services in the Wilderness Segments of the Tuolumne Wild and Scenic River Corridor (DEN, see appendix C of the FEIS), which approximate the current levels of use. The elimination of commercial stock use is considered and assessed as part of alternative 1 in the FEIS.

Concern ID: 236 The NPS should clarify the EIS to note that allowing some stock use in Lyell Canyon is not predicated on potential adverse impacts of diverting use elsewhere in the park.

3) The Park's concern about displacing stock to currently less impacted areas by eliminating or greatly limiting stock use in Lyell Canyon is valid. However, that concern can be addressed through education and trailhead quotas. It is not justification for the continual degradation of wetlands and riparian areas that should be protected and enhanced as part of the habitat complexes selected as ORVs.
THE PARK SHOULD REMOVE ANY LANGUAGE THAT JUSTIFIES STOCK USE IN LYELL CANYON BECAUSE OF THE POTENTIAL FOR ADVERSE IMPACTS ELSEWHERE IN THE PARK.
[Conservation/Preservation, #241]

Response: The proposed level of commercial use, including commercial stock use, in Lyell Canyon is based on the determination, required under the Wilderness Act, of the extent of commercial use necessary to fulfill the purposes of the act. Because the trails in Lyell Canyon are built to withstand stock use (unlike many other park trails), commercial stock groups would be given priority over commercial non-stock trips in Lyell Canyon to minimize displacement of commercial stock use to other, less resilient trails. Meadow and riparian habitat in Lyell Canyon would be protected by new stock use regulations regarding entry dates based on meadow readiness, designated campsites and campsite access routes, and total grazing-nights per season.

Stock Use Capacities

Concern ID: 237 The NPS should set opening dates for stock use in Lyell Canyon based on trail conditions, hydrologic conditions, and "range-readiness" to protect trails and biological ORVs.

Stock users are well aware of when to have stock enter the high country to protect meadow and riparian areas. Without this protection they would not have feed for their stock. Stock users also know to pack in enough feed to sustain their stock and not over-use the meadows.

[Recreational Groups, #455]

Stock create a major impact on wet trails, and I support the initiative to establish an opening date for all stock to enter the high country. This date should be flexible based on the year's conditions, and similar to the way that trails are closed or opened based on conditions.

[Individual, #409]

Stock Use

1) The impacts of Stock on wet meadows and riparian areas are dramatic and have substantial consequences. Setting a date for stock to graze in certain river corridor areas based on averages of observations gathered over an unspecified amount of time will not guarantee that these sensitive areas are not being impacted by hoof-punching and trampling by stock. The difference of only a few days can be substantial for these sensitive, highly impacted environments.

IN ORDER TO BETTER PROTECT BIOLOGICAL ORVS, ESPECIALLY IN LYELL CANYON, THE PARK SHOULD SET OPENING DATES FOR STOCK USE EACH SEASON BASED ON HYDROLOGIC AND RANGE READINESS CONDITIONS INSTEAD OF SETTING A SINGLE DATE BASED ON AN UNSPECIFIED RANGE OF DATA COLLECTION.

[Conservation/Preservation, #241]

Response: The TRP FEIS has been revised to clarify that the NPS will establish an opening date for stock to enter the high country, based on hydrologic conditions and range readiness, to protect meadow and riparian areas during the wettest portions of the spring and early summer. Please also see the response to concern #238, below.

Concern ID: 238 The NPS should clarify the relationship between stock capacity and visitor capacity in Lyell Canyon.

I don't exactly remember the text location saying the horse camp limit in the Lyell Fork wild zone is up to 25 persons and 25 stock overnight at one place. How does this fit into the permit system? Is the horse permit numbers subtracted from the hiker limit that day or is horse permits separate? Please make these questions clear in a response to this draft.

[Individual, #304]

Response: The TRP regulates stock-associated visitor use in two different ways to protect two different river values. To protect subalpine meadow and riparian habitat in Lyell Canyon, the plan regulates the number of grazing-nights to not exceed 167 – 249 grazing-nights per season, depending on the year and its snowfall and rainfall patterns. This regulation on stock capacity would apply only to stock grazing-nights; additional stock use nights could be accommodated and still be protective of river values if users packed in their own feed and followed all other regulations regarding opening dates, campsite locations, and campsite access routes. To protect opportunities for a wilderness experience along the river, the plan regulates total overnight use in wilderness zones. This regulation on visitor capacity limits overnight use in Lyell Canyon to 125 people per night. The plan imposes no limit on the number of private stock users who could be accommodated within this capacity, although private stock use is currently a small percentage of overall use. Under the preferred alternative, the plan would restrict commercial use in wilderness, including commercial stock use, to no more than 2 overnight groups per zone per night and no more than 2 day groups per trail per day, and it further caps commercial use at no more than 15% of total use on weekend nights for groups having an educational purpose

and 10% of total use in weekend nights for groups with a scenic/recreational purpose (for the definitions of recreational and educational purposes, please see appendix C of the TRP FEIS). The discussion of impacts on stock users in chapter 9 has been revised to clarify this distinction.

Note also that the park's wilderness regulations allow up to 25 stock and 15 people (not 25) on designated trails and campsites within ¼ mile of trails; on designated off-trail routes/campsites, only 12 packstock are allowed.

Concern ID: 239 The NPS should consider additional studies when determining grazing night capacities in Lyell Canyon and allow the public to review the studies that were used to determine grazing night capacities.

NPS'S omission of key underlying scientific studies supporting the proposed 192 grazing-nights limit prevents meaningful public comments. A critical restriction set out in preferred alternative imposes an annual limit 192 grazing-nights for stock in Lyell Canyon. Draft EIS al 7-19; 701. This limit may seem innocuous to someone unfamiliar with stock activity in the Park. However, this proposal is in reality a very effective way to reduce Outfitter guide services in the Park. Just as "wilderness zone capacities are enforced by controlling overnight access to the wilderness through a trailhead permit system" (Draft EIS at 8-l 96), stock use by guides is similarly controlled by the amount of "stock grazing-nights" in Lyell Canyon. This is because NPS has prohibited guides from hauling in stock to Yosemite National Park by trailer. As a result, they must access it by coming over the mountains on horseback. However, due to the mountain pass many guides must use to access the Park, Lyell Canyon is where many guides must stop upon entering the Park to rest their stock. Draft EIS at 7-19. By regulating Lyell Canyon, NPS is regulating most of the guides' abilities to bring groups into the Park on horseback.
This very critical restriction is purportedly justified by certain meadow condition assessments and past research. However, none of those assessments or research was included in the Draft EIS. Notably, a recent study completed by Sage Associates arrived at exactly the opposite conclusions. (A copy of this study is attached as Attachment l).(2)These facts (or the lack thereof) demonstrate that the proposed 192 grazing-nights limit at Canyon was not based on scientific data or the actual condition of Lyell Canyon. Not only has NPS Failed to include any of the studies it allegedly relied upon to reach its conclusions, NPS has also failed to make the public aware of evidence that directly contradicts NPS's conclusions. This conduct misleads the public and completely prevents anyone from evaluating whether the 192 grazing-nights restriction was merited or, as shown by the Sage Associates study, whether any restriction at all was even necessary. Thus, NPS has not provided a proper opportunity for the public to comment as required by the National Environmental Policy Act.
footnote (2) The report was prepared by Dr. Orrin Sage, a principal with Sage Associates. Dr. Sage has a BA., MA., and PhD. in geological sciences from the University of California Santa Barbara with emphasis in sedimentology
[Recreational, #465]

Response: The paper used to determine grazing night capacity in Lyell Canyon that the commenter refers to can be found on the TRP website under the 'Science' tab: *www.nps.gov/yose/parkmgmt/trp_science.htm*. Since the release of the TRP DEIS, this paper has been peer-reviewed and reissued, with the grazing night capacity revised to a range between 167 – 249 grazing-nights per season, depending on the year and its snowfall and rainfall patterns.

The study the commenter refers to by SAGE Associates fails to meet the minimum standards of scientific inquiry necessary to inform management of NPS lands. The authors of the assessment conducted a photographic analysis of grazed and ungrazed areas in order to assess the impact of free-range packstock. While photographic analysis is a valid scientific assessment tool (e.g., Vale and Vale 1994), controls must be in place when making conclusions regarding observed conditions. These controls could include repeat photography to assess changes over time, or ground-truth quantities that can be related to measureable aspects in the photograph. Instead the authors draw conclusions about meadow and riparian condition, including biodiversity, water clarity, soil moisture, and grazing capacity--without any supporting data. They attempt to compare grazed and ungrazed meadows in the report, but again fail to present any data to assure the reader that these areas are comparable in terms of vegetation community or meadow size and slope. Given the complete lack of supporting data or references, the use of nonstandard analysis techniques, and the apparent lack of peer-review, the NPS cannot accept this assessment as valid science in support of management decisions.

Concern ID: 240 The NPS should reduce the maximum number of stock per party.

Please reduce stock limits to four animals maximum per party
[Recreational Groups, #244]

I mostly support the changes in management's chosen Alternative.
However, I would like it publicly noted that I call for...
Limits to stock use in the wilderness and along trails. 25 stock limit is rediculous, it should be 10-12, and definitely not higher than people allotments.
[Individual, #431]

Response: The preferred alternative (see the FEIS chapter 8) has been revised to specify that the maximum number of pack stock per string used to supply the Glen Aulin High Sierra Camp will be limited to 6 mules or horses and one rider per string. The concessioner stock day rides would be eliminated under the preferred alternative. For other stock users (primarily commercial outfitters and NPS administrative staff) the number of stock per party allowable throughout the Yosemite Wilderness will be more appropriately and consistently addressed in the upcoming Wilderness Stewardship Plan.

Concern ID: 241 The NPS should recognize that a reduction in stock use would not result in a reduction in overnight use; it would shift utilization to more backpacking.

Finally, the trailheads leading into the Tuolumne River Wild and Scenic corridor (White Wolf->Pate Valley, Glen Aulin, Lyell Canyon) are among the most popular in the park and their reservable quotas often fill up months in advance. Discontinuing stock use in the corridor would most likely not result in a reduction in overnight use, but rather would shift utilization from high-impact stock use to lower-impact backpacking use. This discontinuation would also reduce the wear and tear and other negative impacts such as manure and grazing on and near the trails.
[Individual, #400]

Response: To protect opportunities for a wilderness experience along the river, the plan regulates total overnight use in wilderness zones. The plan imposes no limit on the percentage of private stock users who could be accommodated within this capacity, although private stock use is currently a small percentage of overall use. Under the preferred alternative, the plan would restrict total commercial use in wilderness, regardless of whether it did or did not involve stock use. The activity protected by this regulation--noncommercial use--also may or may not involve stock, although as stated above, private stock use currently accounts for only a small percentage of total use in wilderness. The proposed regulations would have little or no effect on current levels of commercial use and would not cause a shift from stock use to backpacking.

Concern ID: 242 The NPS should weight wilderness encounters with stock use parties more heavily in determining encounter limits.

An encounter (with other parties) rate per hour is used as a metric for achieving certain goals such as along the Wild Segments of the subject river. My experience hiking in Tuolumne Meadows dozens of times is that an encounter with a party which includes stock has a much, much greater impact on my recreational and wilderness experience than a party without stock. I strongly recommend that an encounter with a party with stock be counted as five times the impact and effect as an encounter with a party without stock.
5. Further, parties with stock have further degraded my recreational and wilderness experiences in Tuolumne Meadows along Tuolumne River to a much greater degree than parties without stock by what parties with stock leave behind: horse manure, the ensuing flies, the stench of horse urine on the trails, the pulverization of trail beds far beyond non-stock parties, the greater trampling of meadows, and the greater contamination of the Tuolumne River. Please use greater weighting of parities with stock in the impact to the subject area.
[Individual, #307]

Response: The impacts of stock use on trails would be reduced under the preferred alternative by reducing overall stock use by 60% in the Tuolumne River corridor. Factoring in the kind of party or the size of party to

the standard established for encounter rates could be considered in the future as part of adjustments to the monitoring protocols if determined necessary to protect the recreational values of the corridor.

Concessioner Stock Day Rides

Concern ID: 243 The NPS should retain concessioner stock day rides at Tuolumne Meadows.

The plan with the preferred alternative, I support. I believe it is the best way to support the restoration of the meadow while maintaining access to all types of visitors, not just citizens who prefer back packing in. One request I have is to reexamine retaining commercial horse day rides. This is another way for visitors to experience the meadow in a way reminiscent of the original explorers.

[Individual, #232]

I love this park and want to see it preserved so future generations are able to experience the things that make it special to me. Horses and mules are the reason I came here and the reason I stay. Taking them away not only eliminates my job, but it takes away my joy. I love the smiles of the kids who come to pet the mules, the ones who's eyes light up the first time they sit on a horse, and the people who want to take their mule home at the end of a saddle trip. None of this would be possible without rides at the stables and the complete High Sierra Camp Loop. Stables jobs are skilled labor jobs that are disappearing all around the country. Jobs are difficult to find in this economy and the seasonal jobs that are offered in Tuolumne are often filled by college students. Fostering a love of the wilderness in the next generation can't happen without getting them in the backcountry and Tuolumne jobs get them excited about the wilderness. I know I would not be writing this if I hadn't been able to get a job at the stables as a college student 13 summers ago. My experiences here in the park have given me a lifelong love of the backcountry and I don't want to see future generations unable to enjoy it as I do, with my mule as my partner.

[Individual, #263]

I do not support elimination of day-rides in Tuolumne Meadows. I've rarely seen horses on any trails in Yosemite's high country except en route to Glen Aulin and Vogelsang to supply the High Sierra camps, on the Mono Pass Trail during the annual Indian Walk and their sign on the trails in the wet meadows of Lyell Canyon. If some people wish to experience and enjoy their Park wilderness by riding a horse (especially those who are unable to hike), they should be able to do so.

[Individual, #257]

Response: The option of retaining stock day rides was considered and assessed as part of the no-action alternative and alternative 2. Under the preferred alternative the day rides would be eliminated to reduce user conflicts on trails, reduce the impacts of stock on trails themselves, and to reduce the risks to water quality in the Tuolumne Meadows area along trails and at the NPS stables (reducing the size of the concessioner herd at Tuolumne would allow the NPS stables to be combined with the concessioner stable in an upland area). The two-hour rides, which are by far the more popular, currently account for an annual average of 2,264 total stock passes in Tuolumne Meadows and on the Young Lakes trail. Eliminating these rides would effectively eliminate the impacts of stock use found on the Young Lakes Trail. The four-hour and full-day rides, which are only occasionally or rarely filled, currently account for an annual average of 132 stock passes on the Glen Aulin trail. Although these rides account for only a small percentage of the total stock use on the Glen Aulin trail, their elimination, along with a significant reduction in the use of stock to supply the Glen Aulin High Sierra Camp, would greatly reduce the impacts of stock use on that trail, also. The concessioner day rides account for more than half of the total stock passes near the stable in Tuolumne Meadows (compared to all other concessioner, commercial, NPS, and private stock use). Therefore, eliminating the day rides would significantly reduce the potential for user conflicts on these trails, stock impacts upon the trails themselves, and the risk to water quality. Concessioner stock day rides would still be available at Wawona.

Concern ID: 244 The NPS should eliminate concessioner stock day rides in wilderness and nonwilderness.

I favor any NPS efforts in restoring and minimizing the damage incurred by over use of the Tuolumne River area and surrounding wilderness, even if that means reduced access to people like me. I especially favor discontinuing horse/mule rides and combining of NPS and concessioner stable

[Individual, #99]

5) Commercial day stock rides should be ended immediately.

[Conservation/Preservation, #394]

WE SUPPORT: Cessation of stock day-rides.

[Conservation/Preservation, #348]

Response: Under the preferred alternative, concessioner stock day rides would be eliminated for the reasons stated in the response to concern #243.

Concern ID: 245 The NPS should clarify the reasons for elimination of concessioner day stock rides.

The Draft EIS repeatedly states that restrictions on stock activity and stock group sizes are necessary to promote solitude of other visitors. The definition of wilderness includes areas that have "outstanding opportunities for solitude or a primitive and unconfined type of recreation. 16 U.S.C. § 1131(c) (emphasis added), The definition of "solitude" is "the quality or state of being alone or remote from society." However, the vast majority of hikers in Yosemite National Park are not traveling alone. Thus, these individuals cannot be pursuing "solitude" in the sense of seeking to be alone. Therefore, stock activity will not interfere with these visitors' quests for solitude because, by traveling with others, they clearly are not seeking solitude. When carefully analyzed, this reason for restricting stock use appears to be specious.

[Recreational, #465]

Activities such as climbing, stable rides and camping are great ways to get people out of the car and interacting with the area. The TRP ignores these activities' values and does away with them without explanation. Why remove day rides? Mule rides in the Sierra are a traditional, historic activity. It would be very sad if this activity was denied to visitors.

[Individual, #298]

Response: While user conflicts are perceived differently by different visitors, people who are concerned about conflicts between hikers and stock use on trails frequently cite dust, odors, and biting flies as reasons for their concern. The most current calculations of stock use associated with concessioner day rides indicate that concessioner stock day rides account for an annual average of 2,264 stock passes on the Young Lakes Trail (associated with the popular two-hour rides) and an annual average of 132 stock passes on the Glen Aulin Trail (associated with the much less popular four-hour rides and all-day rides). The primary reasons for eliminating concessioner stock day rides are to reduce the potential for user conflicts on these trails, to reduce stock impacts upon the trails themselves, and to reduce the risk to water quality. Please see the response to concern #243, above.

Concern ID: 246 The NPS should clarify why, if the impacts of stock use are consistent for all types of stock users, the concessioner stock day rides would be removed but private stock use, outfitter stock use, and park operations stock use would be retained.

Moreover, there is no scientific difference between the physical impact of a horse ridden by a visitor using a guide service to enjoy a wilderness experience in the Park as compared to a horse ridden by an individual who owns that horse. Therefore, the purportedly scientific basis for NPS'S preference to reduce Stock use in Yosemite National Park applies equally to all equestrians who enjoy Yosemite National Park.

[Recreational, #465]

Eliminating Trail Rides is just another control thing. You as ranger will ride your horses and take pack stock up on those trails justifying it as patrol duties. …….. don't take the fun things away from the rest of us, it's not just fun it is a life-long experience
[Individual, #278]

If there are going to be stock trips on these trails, why not keep day rides from the stables? The trails are going to be impacted by horses anyway. The day rides were part of my Tuolumne experience, and if pack trips to the High Sierra Camps are going to exist I don't see why we should get rid of stable rides. I'm in favor of getting rid of the pack animals altogether as I believe they have a high impact, but it seems like the pack trips are here to stay.
[Individual, #359]

Response: The commenters are correct that stock impacts do not vary by type of stock user. However, concessioner stock day rides are associated with more than 50% of the total stock passes on trails near the stable in Tuolumne Meadows (more than the three other kinds of stock use combined). Consequently, to substantively address the conflicts between stock users and other users on trails, to reduce impacts on trails themselves, and to materially reduce the risk to water quality posed by stock use, the preferred alternative would eliminate concessioner stock day rides that originate at Tuolumne Meadows. The preferred alternative would also significantly reduce stock use associated with the Glen Aulin High Sierra Camp--such stock use is the second most common use of stock in the Tuolumne River corridor, after day rides.

Concern ID: 247 The NPS should consider that concessioner stock day rides as well as commercial packstock operations, are needed for less able or disabled (i.e. ADA) visitors to experience the park.

Continue stable day rides at Tuolumne Meadows. Provides an alternative means for people who have difficulty hiking/walking distances to see some of the back country and enjoy the views that hikers enjoy.
[Individual, #123]

In addition, the elimination of horseback day rides also greatly reduces the ability of a specific segment of the visitor population to access the beautiful, unique and rugged back country of Yosemite. Older individuals and families as well as people with mobility issues, are unable otherwise to explore the park land without guided tours by horseback. Activities such as these also create reasons for visitors to stay an extra day in the region or to return at another time to participate in this activity. There is also a potential negative impact on "generational" travel to the park in which families return year after year to participate in an activity that has become a tradition for generations.
[County Government, #328]

Experiencing the backcountry is a personal experience that should not be limited to those who only wish to experience it on foot. Mules allow access to many people who would not be able to experience this without them. My husband and I had a guest on a four day saddle trip this past summer who has a physical disability that requires her to use a wheelchair, yet she was able to travel to Glen Aulin and experience this piece of wilderness because she could ride a mule. Why do elitists want to deny her the experience they can partake of just because she would not be able to get there on her own? The comments of the other guests at the camps we visited who saw her in the camps was amazing. It was such an inspiring experience for those guests to see that the mules had allowed her to experience the camps..... It is only the vocal minority that is unappreciative of the animals that built the park, and continue to supply those who maintain it. It is these vocal few, the elitists who would take the park away from its people.
[Individual, #263]

Response: Please see the responses to concerns #243 and #245 for reasons why concessioner stock day rides are discontinued in the preferred alternative. Under all alternatives, a wide variety of ways to experience the Tuolumne River corridor for disabled visitors would continue, such as scenic driving, picnicking, camping, and other activities.Under the preferred alternative saddle trips to Glen Aulin High Sierra Camp would continue to allow visitors with disabilities to travel the High Sierra Camp Loop. In addition, commercial pack stock outfitters would continue to access the river corridor in the preferred alternative, with some restrictions on the timing of use based on resource conditions (Lyell Canyon) and the results of the determination of extent

necessary for commercial use in Wilderness (Glen Aulin trail and Lyell Canyon. With the revised Determination of Extent Necessary for Commercial Services in the Wilderness Segments of the Tuolumne Wild and Scenic River Corridor (appendix C of the TRP FEIS), the NPS anticipates little impact on the ability of commercial stock outfitters to access the river corridor.

Concern ID: 248 The NPS should not provide concessioner stock day rides for disabled visitors.

Glad to see the removal of the stable facilities for rental horses. The heavy weight of a horse pulverizes the soil and thus beats up the trails. If people can not hike in this hikers' paradise, they must accept their limitations and not expect horses, escalators, etc. to take them up the mountains. This is similar to only a few disabled people who can't reasonably expect exceptionally expensive services detrimental to thousands of others.
[Individual, #112]

Response: The preferred alternative eliminates concessioner stock day rides to reduce the impact of pack stock use on trails in the Tuolumne River corridor. Access for disabled visitors would continue for other types of activities; please see the response to concern #247.

Concern ID: 249 The NPS should consider retaining the 4-6 day concessioner stock trips.

If I understand the alternative 4 correctly, the concessioner stock day rides are being eliminated. Does this include the High Sierra Camps loop Horse option? If so, I am against that. This opens up a portion of the wilderness for those who are not able to hike it.
[Individual, #427]

Response: Under the preferred alternative, concessioner saddle trips to Glen Aulin High Sierra Camp and commercial outfitter stock use in Lyell Canyon would both continue, though both would be limited to levels similar to the last four years.

Concern ID: 250 The TRP EIS should be updated to clarify how many concessioner stock day rides are currently occurring and why the NPS and concessioner stables would be combined in alternative 4.

Clarify how many "Concessioner stock day rides" are currently in use, then clarify why the NPS and concessioner stables will be combined.
[Individual, #113]

Response: Chapter 8 of the FEIS describes the number of concessioner day rides that currently occur under the no-action alternative, and it has been updated to include the most recent calculations of the number of stock passes on the Young Lakes and Glen Aulin Trails associated with these rides, as follows: Three two-hour rides per day are often fully booked in July and August and account for an annual average of 2,264 total stock passes on the Young Lakes Trail. Two four-hour rides per day are less popular, and they and an occasional full-day ride (which is rare) account for an annual average of 132 stock passes per year on the Glen Aulin Trail. The elimination of concessioner day rides and the reduction in concessioner stock use to resupply the Glen Aulin High Sierra Camp would greatly reduce the needed capacity of the concessioner stable, making it possible to co-locate the NPS stable near the reduced concessioner stable. Relocating the NPS stable would address risks to water quality at the current stable site and concerns about operating a stable facility near employee housing, which is a violation of OSHA codes.

Concern ID: 251 The NPS should clarify why concessioner stock day rides would be eliminated in Yosemite Valley and Tuolumne Meadows, but not Wawona. If day rides are eliminated in Yosemite Valley, they should be retained at Tuolumne Meadows.

It also appears to us that the inconsistency between the treatment of day stock use in Wawona, Yosemite Valley and Tuolumne requires more explanation. The Preferred Alternative for the MRP will allow day-rides at Wawona in a WSR corridor, but not in Yosemite Valley. The TRP eliminates similar use in Tuolumne.

...We do not understand the dissimilar treatment accorded this visitor experience. We do not believe the NPS has provided compelling reasons for the removal of this traditional experience in the Tuolumne River Corridor and do not understand the basis for the disparate treatment between Wawona, Yosemite Valley and Tuolumne Meadows.

[Business, #383]

Although I don't personally ride, I do appreciate the special connection that people form with an area by being able to explore it on a saddle ride. This is a historic use, and especially if stables in Yosemite Valley are removed through the MRP, you may see much more interest in this activity in other regions of the park including Tuolumne and Wawona.

[Individual, #409]

Alternate 4 - Concessioner stock day rides into wilderness should be allowed in either Yosemite Valley or the Tuolumne River area. The preference would be the Tuolumne River area, rather than the Valley since it would be better to get people out of Yosemite Valley and experience horseback riding in the high country. Please reconsider the elimination of concessioner stock day rides in the Tuolumne River area.

My husband and I have a vacation rental in Mariposa and many of our guests from around the world want the option of these stock day rides, which I understand will only be available in the Wawona area if the TRP and MRP are approved.

[Individual, #300]

Response: The preferred alternative eliminates concessioner stock day rides at Tuolumne Meadows to address risks to water quality on trails and at the NPS stables (reducing the size of the herd at Tuolumne would allow the NPS stables to be combined with the concessioner stable in an upland area). In addition, eliminating day rides would substantially reduce packstock on heavily used trails, such as the Young Lakes trail and the Glen Aulin trail. The MRP preferred alternative proposes to eliminate commercial day rides in Yosemite Valley because they are not deemed necessary for public use or resource protection. Commercial day rides are retained at Wawona because that area receives less use and has fewer conflicts between packstock users and other users than Yosemite Valley or Tuolumne Meadows.

Concern ID: 252 The NPS should consider a reduction and not complete elimination of concessioner day rides.

Not in favor of discontinuing the use of stock. Some people are not able to walk around as easily as others. for some it is a the only way to see TM beyond the road. Yosemite has survived with the horses and mules for years. It is not like the stock is roaming free. there are already designated trails for the stock. Maybe reduce the amount of people allowed on the rides or the amount of rides that go out. Do NOT completely take away the day rides. There is a place to meet in the middle, it's called compromise.

[Individual, #188]

I would like to see, if at all possible, the concessioner stock rides still be available at a small amount (as in Alt. 2 & Alt. #3).

[Individual, #299]

. . .... I find that there are some things that I like and some I dislike..... I do like the concessioner stock day rides would be maintained at some level in this alternative. I know that the stock is hard on the trails , etc. but it does still offer an option for people to see other areas of the park that they may not be able to see by foot.

[Individual, #299]

Response: This option was considered and analyzed as part of alternatives 2 and 3. Please see the responses to concerns #243 and #245 for reasons why concessioner stock day rides are discontinued in the preferred alternative. Concessioner stock day rides would still be available at Wawona.

Concern ID: 253 The NPS should evaluate the socioeconomic impact of eliminating concessioner stock day rides as most visitors do not own and/or bring their own stock to the park.

It appears that there are socioeconomic impacts that have not been analyzed relating to eliminating the ability of ordinary citizens to engage in an activity that those who own and bring their own stock can utilize.
[Business, #383]

Commercial packers and stock day rides are part of the concessionaire service and means of access to the wilderness that many people would never experience without this service. To own, train, supply, tack, and maintain one's own animals to make this type of trip is simply not attainable by very many people.
[Recreational Groups, #455]

Response: The socioeconomic impacts of discontinuing stock day rides at Tuolumne Meadows are included in chapter 9 of the FEIS in the "Sociocultural Resources-Socioeconomics" subsection.

Concern ID: 254 The NPS should consider the potential impact of invasive plants from an increase in private stock use that could occur as a result of the elimination of concessioner stock day rides.

Furthermore, having concession options available within the park for a day-ride means that the stock have been as weed-free, preventing the spread of invasive plants from stock being brought into the park. By limiting the opportunities within the park, you may inadvertently increase the number of people bringing horses and other stock in from outside the park.
Please reconsider and continue to allow day rides from the concession stables inside the park where the animals can be fed weed-free feed to reduce the introduction of invasive plants from outside the park.
[Individual, #409]

Response: An increase in private stock use due to the elimination of commercial day rides is speculative; existing private stock use is trivial in amount compared to concessioner stock day rides. Any potential increase in private stock use would be more than compensated for by the elimination of day rides, which would cause significantly less ground disturbance on and along the trails (ground disturbance can encourage the spread of invasive plants). Consequently, the NPS expects that the potential for spread of invasive plants will decrease significantly, even if private use increases some.

Commercial Outfitter Stock Use

Concern ID: 255 The NPS should implement proposals to eliminate or reduce commercial stock use in the Tuolumne River watershed.

I am pleased that the issue of appropriate level of permissible stock use that was raised during scoping was mentioned on page 2-8 and was taken into consideration. In particular, I support the elimination of commercial stock use in the subject areas, or at a minimum, its substantial reduction.
[Individual, #307]

Response: Commercial stock use would be reduced in the Tuolumne River corridor under all the action alternatives. Under the preferred alternative, all stock use would be reduced by 60% corridorwide, primarily by discontinuing concessioner stock day rides originating at Tuolumne Meadows and reducing the number of pack stock used to resupply Glen Aulin High Sierra Camp. Commercial outfitters would be subject to use limits established in the Determination of Extent Necessary for Commercial Services in the Wilderness Segments of the Tuolumne Wild and Scenic River Corridor (see appendix C of the TRP FEIS); however these limits are

expected to have no or little effect on the current amount of commercial outfitter use. Private stock users would be unaffected by the plan, with the exception of restrictions in Lyell Canyon regarding the opening dates (based on 'range readiness') and locations of use on formal stock trails and at stock campsites.

Concern ID: 256 The NPS should not implement the proposed reductions in overnight commercial stock use and should continue to allow hikers to travel the Pacific Crest Trail and John Muir Trail with commercial pack stock.

I also do not support the proposed reduction in overnight commercial use in places like Lyell Canyon. Some packers travel through Yosemite from the Ansel Adams Wilderness and this new restriction might make it difficult for them to continue these trips. Stock use should be managed to protect natural resources and, as with impacts from day-hikers or backpackers, corrective actions should be taken to limit natural resource damage before further restricting use. Instead of the proposed reduction in use, one action that could be taken to mitigate damage to the trail in Lyell Canyon would be to re-route short segments of the trail that go through particularly wet sections of meadow to the adjacent forest habitat. I do not know enough about grazing impacts in the meadows of Lyell Canyon to comment on those.
[Individual, #257]

I think that restricting commercial operations to either 1 or 2 groups per zone per day is too limiting. I feel that commercial operations, (both the park concessionaire and the outside operations) should be allowed to get permits for those areas they wish to enter without restricting it to the leftovers after noncommercial groups. Leftovers make it very difficult to plan and offer trips far enough in advance that guests know the options are available.
[Individual, #263]

I would hope that the Park will prepare a plan that enables the public to continue to use the Pacific Crest Trail with commercial livestock.
. . .The commercial pack stock business is about finished. The proposals outlined in the DEIS essentially eliminate the opportunity for the public to travel the John Muir Trail by horse or mule.
[Business, #320]

Response: The Wilderness Act mandates that no commercial use is to be allowed in wilderness, other than that necessary to realize the purposes of the act. The Determination of Extent Necessary for Commercial Services in the Wilderness Segments of the Tuolumne Wild and Scenic River Corridor (see appendix C of the TRP FEIS) conducted for the designated wilderness inside the Tuolumne River corridor was reevaluated in response to comments on the TRP DEIS, and the amount of commercial use in Lyell Canyon determined to be consistent with the purposes of the act was slightly increased based on that evaluation. The limits under the revised determination (DEN, see appendix C of the TRP FEIS) would have no or little effect on the current amount of commercial use in Lyell Canyon, which is a small proportion of total use in that wilderness zone.

Regarding use on the Pacific Crest Trail and John Muir Trail, the great majority of existing use on these two trails is by private backpackers; only a small percentage of hikers currently use commercial pack stock. Based on an analysis of existing commercial stock use on both trails, the revised DEN would have no or little effect on the current amount of commercial pack stock use on the Pacific Crest Trail and/or the John Muir Trail.

Whitewater Boating

Concern ID: 257 The NPS should prohibit whitewater boating on the Tuolumne River to protect meadow ecosystems and preserve opportunities for solitude.

The Park Service currently prohibits all boating on the Tuolumne within Yosemite Park. This should be continued in order to protect the meadow ecosystem.
[Individual, #436]

There are numerous alternative rivers outside of Yosemite which offer places for modern paddler, none offer the experience to enjoy a river without frequent interruptions by boats.

Such a unique experience -a wild river without modern boats- is the type of river esthetic the Wild and Scenic River Act sought to protect.

[Individual, #206]

As for Alternative 2, I think that expanding the recreational opportunities to the degree mentioned in this alternative are too much. ... I also do not particularly like the whitewater boating that would allowed in this alternative. I have a hard time seeing that as an addition to the park.

[Individual, #299]

Response: Although all boating has historically been prohibited on the Tuolumne River through Yosemite National Park, recreational boating is a common activity on wild and scenic rivers, and it was analyzed as part of alternative 2 in the TRP DEIS. The park received a substantial number of comments on the draft plan requesting that boating be allowed in the Grand Canyon of the Tuolumne. After considering this public response and the impact analysis in the DEIS, park managers revised the preferred alternative to allow limited boating in the Grand Canyon of the Tuolumne (from Pothole Dome to Pate Valley) on a trial basis with monitoring and adjustment as needed to protect river values (please refer to Chapter 8: Alternatives, Alternatives 2 and 4, Wild Segments). All other segments of the Tuolumne River within Yosemite National Park would remain closed to boating.

Concern ID: 258 **The NPS should allow whitewater boating, a suitable, low impact recreational use, on the Tuolumne Wild and Scenic River (as provided in part in alternative 2), and even all rivers in Yosemite National Park, to be consistent with the NPS mission and the Wild and Scenic Rivers Act.**

I am writing to express support for opening ALL segments of the Wild and Scenic Merced and Tuolumne Rivers to boating. Whitewater kayaking, canoeing and rafting is a great way for visitors to experience the immense natural beauties the park has to offer, and is form of recreation in the park that is consistent with the mission statement of the United States National Park Service.

"The mission of the U.S. National Park Service is to conserve the scenery, the natural and historic objects, and the wildlife in United States' national parks, and to provide for the public's enjoyment of these features in a manner that will leave them unimpaired for the enjoyment of future generations."

Let's not forget the last part of that statement, "provide for the public's enjoyment of these features in a manner that will leave them unimpaired for the enjoyment of future generations." Whitewater boating meets that statement word for word: it is low impact, provides for public enjoyment, and leaves the wild intact. Alternatives 1-5 in the Merced River CMP/EIS continue the policy of banning boating between Sentinel Beach and Pohono Bridge on the Merced River, and the alternative for the Tuolumne River also continues the ban on boating for the entire reach.

The thought of continuing this ban is unconscionable to me.

I believe the original advocate for the creation of this park said it best, "In every walk with nature, one receives far more than he seeks." - John Muir By continuing this ban, you are not only denying the public the opportunity to boat these rivers, but you are also denying the public an opportunity to experience nature in a raw and natural way, resulting in a further disconnect between modern society and the natural world.

I thank you for your time and hope you consider the importance of whitewater boating in America's National Parks.

[Individual, #77]

Whitewater kayaking is human-powered recreation fully consistent with the letter and spirit of the Wild and Scenic Rivers Act (as clearly shown by other Wild and Scenic Rivers, National Park units, and wilderness areas that allow or even celebrate boating). Boaters who have previously developed the skill to paddle this stretch will experience the scenic and recreational values of the river (including self-reliance and unconfined recreation) in a way that few others have the opportunity to do.

The proposed level of boating in Alternative 2 is minimal and will result in minimal environmental impacts. Regulating timing, put-in or take-out locations, and other conditions when implementing the permit system can ensure this.

Allowing whitewater boating will allow a category of recreational use that is currently completely - and arbitrarily - banned from the Wild and Scenic River.

[Individual, #280]

Please open Yosemite to paddling. The Merced and Tuolumne are beautiful rivers and should be open to paddling. Paddling is human-powered, place-based, low-impact, quiet, non-consumptive, skill-based, and Wilderness-compliant. In short, it is exactly the kind of activity and experience that the Park system was created to foster. Banning boating on our public rivers doesn't line up with National Park System policy, and prohibiting paddling on Wild and Scenic Rivers is inconsistent with the Wild and Scenic Rivers Act. Boaters should be allowed the freedom to choose whether or not to experience all of the Merced and Tuolumne Rivers given their individual skills and abilities.

[Individual, #220]

Response: The only waters within Yosemite National Park that are within the scope of the TRP are those included in designated segments of the Tuolumne Wild and Scenic River; comments on the Merced River Plan have been referred to that planning effort. The final TRP FEIS preferred alternative (alternative 4) has been revised to allow limited whitewater boating on the Tuolumne River from Pothole Dome to Pate Valley on a trial basis with monitoring and adjustment as needed to protect river values. Boaters would be subject to the same overnight wilderness trailhead quota system as other backcountry visitors. Boating would not be allowed on other segments of the Tuolumne River primarily because of the potential for impacts on outstandingly remarkable biological values in Lyell Canyon, Dana Meadows, Tuolumne Meadows, and Poopenaut Valley; concerns regarding water quality on the Dana Fork (which is the water supply for Tuolumne Meadows); and concerns for visitor safety. Please refer to the TRP FEIS Chapter 8: Alternatives, Alternatives 2 and 4, Wild Segments. Finally, neither the Wild and Scenic Rivers Act nor the National Park Service Organic Act obligates the NPS to provide boating opportunities, although both acts do require the agency to provide for human use.

Concern ID: 259 The NPS should consider the consistency between the TRP and MRP in management planning decisions regarding whitewater boating.

…. the management plan for the nearby Merced allows for boating on the upper reaches, thus making the two management plans consistent.

[Individual, #414]

……. The preferred alternative for the management plan of the wild and scenic Merced allows paddling of the upper reaches of the Merced, a very similar segment of river.

[Individual, #412]

I would like to see the Tuolumne River from below Tuolumne Meadows to Pate Valley opened to whitewater paddling as proposed in alternative 2 of the draft comprehensive management plan.

I believe that floating should be allowed because the Wild and Scenic Rivers Act provides "for public recreation and resource uses which do not adversely impact or degrade those [river] values."

The South Merced within Yosemite National Park is a class V run which has been allowed for many years without issues or conflicts. This history should be considered as evidence that paddling does not "adversely impact or degrade those [river] values."

Boaters will not impact the river corridor more than other river users who hike alongside the river. Boaters can follow the existing permit system and abide by existing regulations.

[Individual, #399]

Response: Please see the responses to concerns #257 and #258. The preferred alternative for the TRP (alternative 4) has been revised to allow limited whitewater boating through the Grand Canyon of the Tuolumne. However, the packrafts proposed in the Merced River Plan would not be appropriate in the Grand Canyon of the Tuolumne due to the steep river gradient.

Concern ID: 260 The NPS should clarify and confirm the location, the number of whitewater boating trips per season and the number of people per party that would be allowed in alternative 2.

RAFTING: I am curious where white-water rafting might be allowed on the Tuolumne River. I cannot envision it anywhere along the Tioga Road corridor. At the very time rafting along the Merced River (at least in the park boundaries)is being considered for removal it seems odd to consider adding it along the Tuolumne. Entry and exit points would have to be highly regulated to protect stream side lands, so would the approaches for rafts and equipment and people.
[Individual, #356]

There is confusion on number of trips and group size that must be corrected. Perhaps the number of trips and group size should be different for the upper vs the two lower segments. The executive Summary gives group and people limits of 8 trips per year with maximum 6 persons/boats, p 7-57, Likewise, 8 trips per year of 6 persons are discussed on p 8-186, again at p 8-206 and again on p 8-321. However, the opposite language occurs for 6 trips per year of 8 persons maximum, p 8-3 to 7. Limited ww boating seems in tune with NEPA requirement in Section 101 at item (3) p 7-113 that indicates 6 float trips per year would have no impact on water quality p 8-38, without discussing the 8 trip option. Six trips per year are discussed in the Vegetation section of the EIS p 8-76. Surely these yearly limits on party size would apply separately to each of the three sections of river: Grand Canyon, O'Shaughnessy Dam to Poopenaut, and below Poopenaut. There is no discussion in the EIS for boating in the section from Poopenaut downstream that I have yet found on p 8-56 through 8-95, but there should have been.
[Individual, #304]

I suggest you let boaters qualified to undertake the two stated reaches help set the safest limit on party size. Perhaps different party size would be best for different runs since there is a trail near one but none for the other, etc.
[Individual, #21]

Response: Please see the responses to concerns #257 and #258. The final TRP FEIS alternatives 2 and 4 (the preferred alternative) have been revised to allow limited whitewater boating on the Tuolumne River from Pothole Dome to Pate Valley on a trial basis with monitoring and adjustment as needed to protect river values. Please refer to to the FEIS Chapter 8: Alternatives, Alternatives 2 and 4, Wild Segments for a description of this action. As noted in previous responses, boaters would be subject to the same overnight wilderness trailhead quota system as other backcountry visitors. Boating would not be allowed on other segments of the Tuolumne River primarily because of the potential for impacts on outstandingly remarkable biological values in Lyell Canyon, Dana Meadows, Tuolumne Meadows, and Poopenaut Valley; concerns regarding water quality on the Dana Fork (which is the water supply for Tuolumne Meadows); and concerns for visitor safety. Specific put-in and take-out locations (and no-landing zones and portage routes) would be determined upon implementation of the plan, using input from the whitewater boating community, NPS resource experts, and associated tribes; the put-in would be in the vicinity of Pothole Dome and the take-out in Pate Valley, with no-landing zones likely in sensitive resource areas.

Concern ID: 261 The NPS should allow whitewater boating from Tuolumne Meadows to Hetch Hetchy Reservoir and from below O'Shaughnessy Dam to Early Intake.

I strongly urge that the Management Plan permit white water kayakers and rafters to boat the Tuolumne River from Tuolumne Meadows to Hetch Hetchy Reservoir and a second stretch of the river from O'Shaughnessy Dam through the Poopenaut Valley to the Park boundary. These two sections of the Tuolumne River have outstanding and remarkable recreational and scenic values that should be managed for the public to experience with boats.

These two sections of river offer exceptional and rare opportunities for the highly skilled boater. Yosemite is known for being a climbers' Mecca. Why not allow the Park to also be known for having one of the most outstanding technical white water boating runs to be found anywhere?

Private boating permits should be required to ensure public safety and resource protection. Boating the approximate 2 miles of river in the Poopenaut Valley from O'Shaughnessy Dam to the trail that leads back up to the road for a one day trip or on down to the Park boundary and to Early Intake for a multi day trip would be an amazing experience that should be allowed.

[Business, #418]

I see no logic in not allowing a run from Poopenaut Valley to Early Intake, since I know that stretch has been run.

[Individual, #21]

Kayaking is a non-damaging activity that is permitted in several other National Parks. The Grand Canyon of the Tuolumne would be one of the premier self support wilderness kayak runs in the country if it was open.

[Individual, #369]

Response: Please see the responses to concerns #257 and #258. The preferred alternative (alternative 4) for the TRP FEIS has been revised to allow whitewater boating through the Grand Canyon of the Tuolumne, from Pothole Dome to Pate Valley, on a trial basis. Boating downstream of the dam was considered but dismissed because of concerns about search-and-rescue in this remote area that lacks cell phone service, trails, and helicopter access. In addition the NPS is concerned about potential impacts on the rare mid-elevation meadow and riparian habitat in Poopenaut Valley, which is a biological ORV of the Tuolumne River.

Concern ID: 262 The NPS should allow whitewater boating on the Lyell Fork.

Whitewater boating. Only alternative 2 offers any solution here and I couldn't find much descriptive detail. I recommend that you extend this solution to the preferred alternative including both the Lyell Fork and Grand Canyon of the Tuolumne. Yosemite is a world class climbing location with similar rescue and safety challenges as would be found by letting boaters have access to this magnificent stretch of river.

[Individual, #245]

Response: Allowing boating on the Lyell Fork was considered but dismissed primarily because of the potential for adverse impacts on the outstandingly remarkable subalpine meadow and riparian habitat along this river segment.

Concern ID: 263 The NPS should reconsider assumptions of safety risks and additional rescue requirements as justification for a continued ban on whitewater boating on the Tuolumne River.

Save for a brief mention concerning the safety of participants, I find no explanatory evidence within the plan concerning the ban on kayaking on the Tuolumne. As with all wilderness activities and recreation, risk management is a key element in kayaking, and one which should be left to the discretion of individual boaters. Moreover, Yosemite Search and Rescue is one of the preeminent Search and Rescue teams in the world, and it is doubtful that additional expenditures would be required to help bolster the safety of the small number of self-selecting individuals interested in boating the more difficult sections of the Tuolumne River.

[Individual, #397]

In the Tuolumne Wild and Scenic River Draft Comprehensive Management Plans and Environmental Impact Statement, Volume One, Chapter 7, Alternatives Dismissed from Further Consideration, I understand the issue of bank erosion and that certain areas may need to be closed to protect sensitive habitats. However, the stretch of water in the Tuolumne Meadows area is Class I and the possibility that boaters may need to be rescued in that stretch indicates that they are inexperienced whitewater boaters. Every year, numerous inexperienced rock climbers need to be rescued in Yosemite, but there are no restrictions on where they climb. The argument that "more boaters would need to be rescued" to ban whitewater boaters is simplistic and not consistent with the management of other recreational activities. There are many sections of the Tuolumne River that offer outstanding whitewater and they should be open for boaters to explore just as a rock climber can explore any peak
[Individual, #295]

While some sections of the Tuolumne River contains areas of technically challenging whitewater, we feel it is a mistake for the Park Service to eliminate paddling based upon its own determination of the risk. The risks of paddling the Tuolumne are not atypical of many treasured recreational experiences that are celebrated elsewhere in Yosemite and across the National Park System. Boaters should be allowed the freedom to choose whether or not to experience the Tuolumne River given their skills and abilities.
[Conservation/Preservation, #355]

Response: As noted in the responses to concerns #257 and #258, the preferred alternative for the final plan/FEIS has been revised to allow whitewater boating through the Grand Canyon of the Tuolumne, from Pothole Dome to Pate Valley, on a trial basis. Concerns about boater safety along segments of the river that pose extreme conditions for search-and-rescue operations remain an important consideration in decisions about whitewater boating; however, they are not the only consideration. Concerns about the potential for adverse effects on outstandingly remarkable meadow and riparian habitat, in particular, are another important reason for disallowing boating along river segments upstream and through Tuolumne Meadows and downstream of Hetch Hetchy Reservoir.

Concern ID: 264 The NPS should consider the economic impacts, both positive and negative and both public and private, of whitewater boating.

Paddling brings much needed tourist dollars to rural towns, opening Yosemite's rivers to controlled use will create demand and help add more tourist dollars to your local towns such as Groveland, Ca or maybe Lee Vining, Ca on the east side.
[Individual, #458]

The cost of issuing permits and monitoring use can be partially covered through the permit fee process. By providing river use you will also broaden support for management activities through the new individuals, clubs, and the river industry. ln the austere times we will be looking at in the foreseeable future that would benefit Yosemite National Park's budget and management activities. ln addition less law enforcement time would have to be spent playing hide and seek with the now illegal river users. In regards to permits l caution you to keep their cost low. I have over 45 years river running on the Colorado plateau, and recently with the rising cost of river permits I have noticed fewer and fewer moderate to low income users. When l talk with the 300 some people on my mailing list they almost always indicate that the high cost of obtaining a permit is a major factor in keeping them away in this economy.
[Individual, #372]

Response: The impact analysis in chapter 9, (see Sociocultural Resources-Socioeconomics) of the FEIS has been updated to consider the economic effects of allowing limited whitewater boating through the Grand Canyon of the Tuolumne. However, because this activity would be restricted to eight parties of up to six people per year, and because boaters would be subject to the existing overnight wilderness trailhead quotas as other backcountry visitors, the economic impact would likely be minimal.

The NPS acknowledges that regulating use through a reservation system involves both operating costs to the agency and a cost to those who must pay for a reservation. Permits issued on a first-come, first-served basis, which currently amount to 40% of wilderness permits, are free; fees for reservations are nominal.

Concern ID: 265 The NPS should implement measures to prevent the introduction of invasive species that could result from whitewater boating.

if any boating/rafting is to be permitted within the Grand Canyon of the Tuolumne River, watercraft inspections/cleansing should be mandatory to mitigate potential for introduction of any invasive species.
[Individual, #39]

Response: The TRP FEIS has been revised to include mitigation measures (see appendix O) addressing the potential for the introduction of invasive species resulting from whitewater boating in the Grand Canyon of the Tuolumne. These measures are to ensure that boating equipment is free from any potentially viable organisms.

Concern ID: 266 The NPS should use a managed permit system to allow for whitewater boating on the Tuolumne River while protecting river values.

I believe that rivers within Yosemite National Park should be open to paddling while protecting the values of the Valley and the river with appropriate and relevant use numbers. Boating should be treated as any other use in Yosemite. The Park has an established method for managing trails throughout the Park, and the rivers should be treated the same. Canyonlands and Dinosaur both limit the amount of rafting with permits, I would think you could do the same with the paddling public in Yosemite.
[Individual, #458]

Boating is a low-impact and Wilderness-compliant way to experience the beauty of Yosemite National Park, and the values of the Valley and these rivers can be protected through appropriate and relevant use numbers. Boating should be treated as any other activity in the Park, and the river can be treated as a trail. Additionally, boaters should be allowed the freedom to choose whether or not to experience all of the Merced and Tuolumne Rivers given their skills and abilities.
[Individual, #203]

I encourage you to lift the ban on boating the Tuolumne River.
It seems like a natural step considering visitors can hike and camp in pristine wilderness areas, climb El Cap and other great rocks, and even hike to the top of Half Dome....all with a permit system that maintains the environment and quality of the experience. It seems like paddling the Tuolumne would fit with all the other incredible experiences. And like climbers, hikers and wilderness backpackers, paddlers tend to be very respectful to their environment that we treasure.
[Individual, #225]

Response: As noted in the responses to concerns #257 and #258, the preferred alternative for the final plan/FEIS has been revised to allow whitewater boating through the Grand Canyon of the Tuolumne, from Pothole Dome to Pate Valley, on a trial basis. Eight parties of up to six boaters each would be allowed per year, with such use to be included within the park's existing wilderness trailhead quota system (and a separate permit system to be developed for day-use boating on the Tuolumne as the need presents itself). The permit system would be adjusted as necessary to ensure protection of river values.

Concern ID: 267 Both commercial river activities and private trips should be allowed on the Tuolumne River.

I am writing in regards to the Merced and Tuolumne River Plan. l urge you to open these rivers to commercial and private river running activities within the park. Other national parks, like Dinosaur National Monument, Canyonlands National Park and the Grand Canyon permit controlled river running to occur.
[Individual, #372]

Response: The Wilderness Act explicitly bars commercial enterprises within designated Wilderness areas with the exception of commercial services such as guides and outfitters if determined necessary for realizing the recreational or other wilderness purposes of the area. The amount of boating that can be accommodated on the Tuolumne River is also limited by the need to protect river values in sensitive meadow and riparian habitats and by concerns for visitor safety in areas of extreme conditions for search and rescue. Based on the public

comments in support of this activity, the demand for noncommercial boating is expected to exceed the amount of this use that would be permitted under the plan. Commercial boating would not be necessary to support this recreational use of wilderness and would compete for limited permits with noncommercial use, which is given precedence under the Wilderness Act. Comments on the Merced River Plan have been referred to that planning effort.

Concern ID: 268 The NPS should recognize the "leave no trace" ethic within the whitewater community would limit the potential impacts of whitewater boating.

This segment of river in the Grand Canyon of the Tuolumne is demanding enough that only expert Whitewater Boaters would attempt to navigate it, and a "leave no trace" ethic is already standard in this user group.
[Individual, #414]

I'm sure part of the Park Service's concern is in regards to minimal impact on its flora, fauna and other elements. Running rivers is no more intrusive than rock climbing, or the roads and commercial developments already within the National Park. Indeed river runners are required to, and most always comply with, removing their trash, human waste, using tarps in kitchen/eating areas and other leave no trace, minimal impact activities.
[Individual, #372]

I am writing to ask that you consider allowing whitewater boating on the Merced and Tuolumne Rivers in Yosemite. Paddling is, by nature, extremely low-impact, and kayakers have an excellent record of environmental responsibility in keeping our rivers clean and healthy.
[Individual, #219]

Response: The assumption of Leave NoTrace practices was factored into decisions about permitted use levels for this activity. All Wilderness users would be expected to adhere to Leave No Trace ethics, as they are now.

Concern ID: 269 The NPS should clarify the decision-making process for not allowing whitewater boating in the DEIS preferred alternative.

There are multiple confusing and conflicting issues about ww boating. I believe planners have assembled this new proposal by violating the method used for a multitude of other issues where YNP asked scientific and behavioral scientists to study situations, present a paper that considers the conflicting issues addressed, then chose the course that balances public use with environmental protection. For ww boating, it appears you have done the reverse, making multiple guesses as to what it takes for a safe run that also protects environmental values.
[Individual, #304]

Response: As noted in the responses to concerns #257 and #258, the preferred alternative for the final plan/FEIS has been revised to allow whitewater boating through the Grand Canyon of the Tuolumne, from Pothole Dome to Pate Valley, on a trial basis. The reasons against allowing boating on other stretches of the river are provided in Chapter 8, "Alternatives Dismissed from Further Consideration."

Concern ID: 270 The NPS should solicit additional public and tribal input regarding whitewater boating on the Tuolumne River.

My suggestion is: ask the experts, declare amnesty for those who have run these segments in the park, request (require) them to attend a conference along with other kayakers qualified to make these runs, along with professional raft outfitters and others who have knowledge of group size needed for safe and efficient runs. Also, invite local American Indians with concerns about their ancestral sites… and any academic scholars with knowledge of boater group dynamic, ww sport user trends and those knowledgeable about environmental values along the routes.

I suggest you discuss with the group of experts assigning a put-in on a bar near Soda Springs and assigned campsite at Pate Valley… [to] reduce inadvertent intrusion into sacred sites as well as using an assigned camping places below O'S Dam, Poopenaut Valley and near Early Intake. Perhaps allowing no kayak trips at times when tribal ceremonies are scheduled along the river would prevent inadvertent intrusion. Also, discuss logistics for vehicles since there needs to be overnight parking near the takeout too. In short, call in those knowledgeable for advice from those who have a stake in aspects of travel on this silver thread of river.

[Individual, #304]

Response: The decision to allow limited whitewater boating on a trial basis through the Grand Canyon of the Tuolumne, but not on other river segments, was based in part on analyses of public comments and concerns expressed by associated American Indian tribes and groups, as well as on the analyses of potential impacts on river values that was included in the DEIS. The potential for overall impacts would be greatest in and upstream from the Tuolumne Meadows segment and the segments below O'Shaughnessy Dam, while the greatest public advocacy for this activity was for boating through the Grand Canyon of the Tuolumne. The concerns of the associated tribes about potential impacts on traditional sites in and near the Grand Canyon segment were considered in setting the preliminary limitations on this activity. The NPS will continue to consult with the tribes, and further restrictions will be imposed if required in the future to protect river values and cultural resources. Sufficient parking is already available at White Wolf for all overnight visitors to the Grand Canyon of the Tuolumne, whether hikers or boaters.

High Sierra Camps

High Sierra Camps - Retain

Concern ID: 271 The National Park Service should retain all of the High Sierra Camps, both in the Tuolumne River corridor and elsewhere in Yosemite, at their current capacities.

I want to express my strong support for the continuation of the High Sierra Camps. They are unique and wonderful and I have enjoyed trips to the Yosemite back country that I would never have done if those camps were not there.

I fully support keeping them the size they are, especially Glen Aulin. I do not support the preferred alternative which would reduce the size of Glen Aulin from 32 beds to 20. That is a big mistake.

Please, please do not shrink the size of these camps. They provide a wonderful wilderness experience to people who would otherwise not have the opportunity to have that experience.

[Individual, #74]

I hope you leave all the Sierra High Camps open. There are so many ways to make less of an environmental impact and still stay open.

[Individual, #331]

It has been a couple of years since I've been to the high camps. However, I think it would be a shame to close the camps completely. I do think that environmentally sensitive measures can be better applied for their maintenance, but I would be sad if the camps were completely removed. They are not only historical but provide a unique form of high country touring. In my lifetime I've done a fair amount of backpacking. However, the fact that certain creature comforts are provided for the high camps makes the high mountains accessible for many who might not otherwise reach these more remote regions. If we had to, I would carry a sleeping bag and food for an overnight stay. But I don't want the camps to go away.
[Individual, #339]

Response: The preferred alternative retains both of the High Sierra Camps within the Tuolumne River corridor, the Glen Aulin High Sierra Camp and Tuolumne Meadows Lodge, as an integral part of the High Sierra Camp system in Yosemite National Park. The final plan and FEIS have been revised to recommend that Glen Aulin High Sierra Camp be retained at a capacity of up to 28 guests, with the level of service adjusted as necessary to keep water consumption at or below 500 gallons per day and to limit the number of pack stock trips to supply the camp to two trips per week. At this capacity the Glen Aulin camp, which is already the smallest camp in the system, will remain available for visitors desiring to enjoy a camp-to-camp loop trip. Within these constraints, the concerns about threats to water quality and stock impacts on the trail to Glen Aulin will be significantly reduced.

Decisions about the other High Sierra Camps (Vogelsang, Sunrise, May Lake, and Merced Lake) are outside the scope of the TRP. The Merced River Plan will include actions at the Merced Lake High Sierra Camp, and the forthcoming Wilderness Stewardship Plan will address all the high camps, including Vogelsang, Sunrise, and May Lake.

Concern ID: 272 **The National Park Service should retain the High Sierra Camps (including Glen Aulin) because they provide an introduction to the wilderness for visitors who might otherwise not experience it (such as visitors with limited outdoor skills and/or disabilities), and because they teach conservation and foster an appreciation of wilderness and the national park system.**

the proposed drastic reduction of guest lodging would have a severe and immediate impact on persons of limited physical abilities (to wit, the young, the elderly and the mildly disabled) who rely on available accommodations in High Sierra Camps to provide them access to the Yosemite wilderness. Persons impaired by physical limitations need the High Sierra Camps in order to participate in the Yosemite wilderness experience. The High Sierra Camps are frequently used by grandparents to introduce their grandchildren to the wonders of Yosemite, thereby passing on to future generations the stewardship necessary to preserve this magnificent resource. The proposal to reduce the accommodations for overnight guests at Glen Aulin HSC would severely impact those who are unable to carry camping gear. That impact seems especially unfair to the young, the elderly and the mildly disabled when the stated goal of reducing water use can be met by other means - and indeed appears to be already met by the proposal to eliminate flush toilets and provide composting toilets for guests.
[Individual, #237]

I lived and worked in the park for years - for both the park service and the high camps.
The high camps are a vital part of the park in that they let people who normally could or would not experience the joys of the back country do so. These people, from all walks of life, take that experience with them for the rest of their lives and become spokespeople for the park and its wonders. To curtail or reduce that opportunity for people would be wrong and a shame. I have run into many of these people outside the park who to this day praise the value, the history, and the unique wonderful experience that the high camps provide. I have roughed it and done without amenities for days and weeks at a time, but that does not mean that everyone who want to visit the backcountry needs to be an elite outdoorsman - in fact that would be wrong and in the long run detrimental to conservation overall. If you make access to things so difficult that no one can experience them to fall in love with them, people will stop caring, stop supporting, and would certainly stop fighting for something they never had a chance to experience.
[Individual, #69]

Ranger-guided trips to the High Sierra Camps provide the best way to educate our citizens regarding the value of wilderness and of Yosemite in particular. If we are to have more influence in this direction, we need more trips, not fewer. Please upgrade and preserve the High Sierra Camps as a ways to provide ranger-guided trips into Yosemite back country where people will learn to preserve and protect wilderness areas
[Individual, #461]

Response: Please refer to the response to concern #271. The preferred alternative retains both High Sierra Camps in the Tuolumne River corridor. In addition, the preferred alternative retains saddle trips to Glen Aulin High Sierra Camp, so those with limited abilities or disabilities would be able to access the High Sierra Camps using stock.

Concern ID: 273 The NPS should retain Glen Aulin HSC at its current overnight capacity of 32 beds.

It would be a mistake to decrease the capacity of Glen Aulin High Sierra Camp. The High Sierra Camps are an excellent opportunity for people to get into the back country and experience the Yosemite high sierra region. They make it practical for a family with children to go into the high country. They also make it feasable for people to get there without investing in a huge amount of camping gear. The existence of the high sierra camps is for many people the only way they will spend an extended amount of time in the back country. This is a very valuable recreational opportunity.
[Individual, #341]

I agree with the plan with the exception of the reduction of tents/beds at Glen Aulin. The incredible experience of spending the night in a tent cabin at any of the High Sierra Camps should not be limited any further than at present unless you find that reservations are dropping off enough to warrant that approach.
[Individual, #149]

Please do not reduce the size of Glen Aulin camp. The high Sierra camps provide great opportunities for the very young and older folks to experience the back country.
I have visited the camps and my love for Yosemite and our parks system has deepened from these experiences. The camps need to be upgraded to reduce their impact on the environment. They appear to have been neglected over the years. We should invest in them, not eliminate spaces at them. Please allow future generations to experience the beauty of the backcountry and keep Glen Aulin at present size.
[Individual, #249]

Response: The preferred alternative has been revised to retain the Glen Aulin High Sierra Camp at no more than 28 guests, thereby continuing to offer the opportunity for visitors with a broader range of physical abilities to connect with the river in a remote setting. In order to increase the capacity from what was proposed in the DEIS (20 beds), and continue to protect river values at this location, camp operations would be allowed a maximum withdrawal of 500 gallons of water per day for treatment for the camp and maximum generation of 500 gallons of wastewater (gray water only) per day. In addition, the camp operator would be allowed a maximum of 2 packstrings (6 mules or horses and 1 rider) per week to supply the camp, to improve the recreational experience, reduce impacts on trails, and reduce the risk to water quality from animal droppings. To help meet these requirements, the NPS would install composting toilets for guests and employees (limiting wastewater to gray water only), eliminate meals-only services for backpackers (to reduce water and wastewater use) and eliminate wood for heating the guest cabins (to reduce the need for packstock). Further, the camp capacity will be reduced if, after a two-year implementation period, either of these restrictions continues to be exceeded.

Concern ID: 274 The NPS should clarify how reducing the capacity of Glen Aulin High Sierra Camp is consistent with NPS policy and direction from the Wild and Scenic Rivers Act.

We question whether the tradeoff between a negligible gain in natural resource protection (which will likely result from improving infrastructure as contemplated in the plan) as compared to a major reduction in a traditional recreational experience is consistent with NPS objectives and also question whether it is required under WSRA.
[Business, #383]

Response: The Wild and Scenic Rivers Act directs the NPS to protect and enhance river values, and it is NPS policy to protect all park resources unimpaired for the enjoyment of future generations. The operation of the Glen Aulin High Sierra Camp at its current capacity and level of service causes a risk to water quality, which is a river value protected under the act and a park resource to be protected. The current limit of 600 gallons of wastewater per day was implemented after the leach mound failed four times between 1996 and 2003. Under this current limit, the leach mound operates at capacity, with some seepage occurring during wet periods. To further mitigate the risk of leach mound failure, the preferred alternative proposes to restrict water use to 500 gallons of wastewater per day and remove human waste from the wastewater going to the mound (wastewater would be gray water only). The TRP FEIS has been revised to allow for a capacity of 28 guests per night at the camp, so long as the wastewater load does not exceed 500 gallons per day. The final plan has also been revised to replace all flush toilets, including facilities used by employees living at the camp, to composting toilets to help achieve this capacity. See also the response to concern #273.

Concern ID: 275 The NPS should explore additional options for addressing environmental concerns at the Glen Aulin High Sierra Camp in ways that minimize the need to reduce the capacity of the camp.

I also recommend that the planners take the approach of looking at the supply and waste disposal problems from a positive (what do we have to do to make this work) rather than from a negative (what do we have to eliminate) approach. With the exception of upgrading the waste water treatment facility, I could not find any discussion of this kind of positive approach problem solving in the document. Looking at how other wilderness camps similar to Yosemite's HSCs solve these problems either in the US or elsewhere in the world would be one idea. Use or development of new technology would be another. One of strengths of Yosemite's managers over the years has been the innovative approach to problem solving. I trust you will take a similar approach to the High Sierra camps.
[Individual, #245]

I understand that some older people cannot backpack and thus there is a purpose for the camp (Vogelsang). However, the impact on the rest of us should be minimized.
1) Move the camp into the woods so it is less visible.
2) Minimize the transport of goods to the camp by only serving food which is compact and light weight, like freeze dried.
3) Minimize use of fuel (no hot water except for cooking).
4) People bring their own sheet sack.
Probably the same should occur at the Glen Aulin HSC, but I am less familiar with this one. (I think it is already in the woods).
[Individual, #286]

As a strong supporter of the High Sierra Camp system, I have read with much interest the Tuolumne River Plan's discussion of water usage, waste disposal, septic system, etc. at Glen Aulin High Sierra Camp. I agree completely with replacing the flush toilets with composting units, eliminating day saddle trips, and all reasonable efforts to reduce water usage… Prohibiting stays for more than 2 nights at the Camp would also help. Restricting usage of the nearby backpacker's campground would also help -- they get their potable water fron the spigot at the High Sierra Camp! I reluctantly support the idea of eliminating the meals-only option at Glen Aulin -- it would help achieve some of the Plan's goals, but at the detriment of those who are only capable of light backpacking (without food, bear canister, etc.). You could always make a further capacity reduction to 24 or 20 beds later if necessary, but an excessive initial reduction would be hard to reverse.
[Individual, #202]

Response: The TRP FEIS has been revised to allow for a capacity of 28 guests per night at the camp, so long as the wastewater load does not exceed 500 gallons per day and the camp can be supplied using a maximum of two packstrings per week. The final plan has also been revised to replace all flush toilets, including facilities used by employees living at the camp, to composting toilets to reduce water use. The NPS will work with the concessioner to explore additional ways of conserving water and reducing pack stock needs at the camp while allowing up to 28 guests per night; however, if limits on water and pack stock use cannot be achieved at that capacity, the capacity will be reduced to protect water quality and reduce the impacts of stock use on trails.

Concern ID: 276 Reduced overnight capacity at Glen Aulin HSC would deny some visitors with limited abilities or disabilities the opportunity to access the backcountry

My wife is 65 years old with back injuries that prevent her from carrying a full pack. We still love the Yosemite back-country. The High Sierra camps allow us to enjoy the Yosemite back country without having to carry the weight of a full pack loaded with tent, sleeping bag, pad and stove.

By reducing the tent sites at the High Sierra camp, you are discriminating against people with age and disabilities who still love the wilderness.

[Individual, #200]

This plan only accommodates those who camp in tents. The rest of the population pays taxes and has a right to use the wilderness in ways that fulfill their needs and desires. Many cannot or do not want to sleep on the ground or do the physical labor camping requires. This does not mean they cannot experience the wilderness that is a National Park, not just a park for the elite athletes . This plan shuts out a large part of the population and I for one resent the attitude of the park service and environmentalists that the only way to enjoy it is their way. And the only people who have a right to use the park must use it as they deem fit. What could possibly the purpose to limit beds in Glen Aulin? How does 12 less beds per night make that much difference? It would decrease the amount of people, both tax payers and foreign visitors that can enjoy the high country. The same is true of Tuolumne high camp. All I can see of this is to make this part of the park less accessible to regular people. The National Parks belong to every citizen, not just those who consider themselves the chosen few.

[Individual, #134]

Response: Please see the response to concerns #271 and #272. The preferred alternative retains Glen Aulin High Sierra Camp at a reduced capacity of 28 beds, and saddle trips to the camp would remain available for those with limited abilities and/or disabilities.

Concern ID: 277 Reducing overnight capacity at Glen Aulin High Sierra Camp would impact the entire High Sierra Camp system.

I'm not sure I see any overwhelming need to reduce the capacity of the Glen Aulin High Sierra Camp from 32 to 20 beds. To begin with, that decision should be taken in the context of the entire High Sierra Loop, since many people sign up for the whole trip. If you reduce the capacity of one by 37%, how does that effect the rest? Would there be any room left for people who just want to go down to Glen Aulin or to one or two High Sierra camps?

[Individual, #107]

My dream is to go on a ranger led 7 day loop trip in the next few years. With the reduction of the size of the camp, I fear that you will be taking away that dream. (The ranger led loop trips stop in every camp, and have a total of 14 participants. With anoccupancy of 20 - I can't imagine that these ranger led loops will be able to continue. And that would be tragic. It would signal the end of an accessible way to experience the backcountry/wilderness for people like me.)

[Individual, #258]

The plan looks ok except for the reduced capacity at Glen Aulin. People like to do guided or unguided loop hikes through all of the High Sierra Camps. Having such low capacity at one camp would create a bottleneck, allowing fewer people to do the whole 7 day loop.

[Individual, #311]

Response: Please refer to the response to concern #271. The preferred alternative has been revised in to increase the capacity of Glen Aulin High Sierra Camp to 28 beds per night. The saddle trips to the camp would continue under the preferred alternative. Chapter 9 of the FEIS has been revised to note this impact in the "Visitor Experience" section.

Concern ID: 278 The NPS should implement the proposed actions at the Glen Aulin High Sierra Camp.

I strongly support the adoption of alternative 4. This plan makes improvements important to the future of our park yet still preserves many of the key features that make visiting Yosemite a wonderful experience.

Preserving the Glen Aulin High Sierra Camp is a prerequisite of my support for any proposed improvement. . . . Alternative 4 reduces the capacity of the camp, but still preserves the facility for generations to enjoy.

[Individual, #10]

I fully support the proposed alternative four.

I spent a wonderful week last fall in the park doing the High Sierra Loop Trail. I noticed the heavy negative environmental impact of the horse trips, particularly in the Tuolumne Meadows area. The Glen Aulin area also seemed to be overused as well with quite a bit of degradation to the trail and camp area. It seems to me that the measured reductions of use would be most beneficial to the long term health of the park while still allowing significant use by visitors.

[Individual, #192]

I support Alternative 4. I have heard concerns that reducing the number of overnight guests at Glen Aulin will impact loop trips. I don't think the impact on loop trips should be the primary concern. The group size of the loop trips could be reduced so that they could still be accommodated at Glen Aulin. Also, during the course of a 'normal' summer, there aren't that many loop trips -- not enough that the loop trips should factor into the decision on how best to preserve the environment surrounding Glen Aulin.

[Individual, #117]

Response: No response required.

Concern ID: 279 The NPS should consider the economic viability of Glen Aulin High Sierra Camp at a reduced capacity.

Would reducing the camp from 8 to 5 tent cabins endanger its economic viability? I'm not concerned about DNC's bottom line, but about the longterm availability of this camp to visitors. Hauling all those tents and other supplies up and down every year is a hassle. If DNC (or a future concessioner) can't justify the expense of setting up the camp when revenues drop almost 30% (proposed 20 people/night vs. current 28 people/night), they could decide to delete this camp. (Revenues will actually drop more if backpackers are no longer allowed to get meals at the HSC.) Perhaps they wouldn't ever drop it because it's a vital part of the HSC network, but I wouldn't want to take that chance.

[Individual, #7]

I am concerned about eliminating three cabins there, however, because it will significantly reduce the number of people who can experience staying there and, I assume, necessitate an increase in prices to cover expenses with fewer guests. I even wonder how it might affect the economic viability of the camp. Yet, I appreciate all of the reasons for proposing this reduction. Nevertheless, I recommend that you carefully consider reducing capacity by less than the amount proposed in Alternative 4, perhaps removing just one or two of the cabins. Could you set a limit to occupancy independent of the number of cabins? This would eliminate the need to make capacity reductions in multiples of four people and might allow the camp more flexibility in accommodating parties of different sizes.

[Individual, #181]

The reduction in tents at Glen Aulin would seem to make it less economically viable to run the High Sierra Camp and would reduce availability to independent hikers if the same number of saddle trips and ranger led trips were maintained. Same comment about Alternative 4

[Individual, #389]

Response: Under the terms of contracts in the national parks, there are required concessioner services that individually do not generate a profit. However, the NPS does not evaluate profitability of services individually; rather, the NPS evaluates profitability on the operation as a whole.

Concern ID: 280 The NPS should consider relocating the Glen Aulin High Sierra Camp.

I also know that the current location of the Camp has it's own natural constraints. If there is a nearby suitable location, I would support relocation.

[Individual, #67]

Your plan #4 for the Tuolumne River sounds reasonable. Would you be able to re-locate rather than eliminate the 12 tents at Glen Aulin? That camp is one of the smaller ones already. It would impact the Loopers negatively.

[Individual, #264]

While mostly in favor of alternative 4, I would hope you will consider the reduction in size of the Glen Aulin camp. . . .

There must be some alternatives such as relocating the camp that would satisfy your requirements while preserving a virtually unique hut-to-hut hike.

[Individual, #327]

Response: The NPS has evaluated this option, but no suitable location exists within the boundary of the camp. The area surrounding the camp is within designated Wilderness, which precludes the NPS from constructing any new development in that area.

Concern ID: 281 The NPS should consider constructing a stock-use only trail from Twin Bridges to Glen Aulin.

2) Similarly, consideration should be given to constructing a stock-use-only trail from the Twin Bridges above Glen Aulin to the stock corral area, moving the stock impacts (manure) further from the river and visitors hiking to Glen Aulin. Current stock use often results in significant manure on this trail, the sight and smell of which detract from enjoying the natural, outstanding values associated with the Tuolumne River along this particularly scenic section.

[Individual, #400]

Response: The provision of a separate trail dedicated to stock use to serve the Glen Aulin High Sierra Camp would require construction of a new trail alignment either parallel to the existing trail or extending from Tioga Road west of Pothole Dome to Glen Aulin. In either case, new trail construction would trigger a minimum-requirement analysis pursuant to the Wilderness Act, which would almost certainly show that a new trail would not be a minimum requirement because a trail to Glen Aulin already exists. For this reason, the option of a separate stock trail was dismissed from further consideration in the FEIS.

Concern ID: 282 The NPS should consider converting the Glen Aulin High Sierra Camp to a backpackers camp to reduce impacts associated with stock use.

The Glen Aulin High Sierra Camp is causing a major negative impact with the use of stock transporting gear and supplies to benefit a very small minority of recreational visitors. This camp should be either phased out or converted to just a backpackers camp to lessen the impacts.

[Individual, #62]

Although Glen Aulin High Sierra Camp is used by some visitors to Yosemite, it has a huge impact on the wilderness values of the Tuolumne River. Stock impacts are impressive (I have hiked many times to Glen Aulin, and have backpacked along the Grand Canyon of Tuolumne several times). This camp should be converted into a backpackers camp or removed to lessen the impact to the Tuolumne River.

[Individual, #235]

The Glen Aulin High Sierra Camp unfairly causes large amounts of wilderness impacts because of so much stock use transporting gear and supplies to benefit a tiny minority of recreational visitors. It should be phased out or converted to a backpackers camp with less impacts.
[Individual, #56]

Response: Almost all guests at the Glen Aulin High Sierra Camp already hike to the camp. An average of only 82 guests per season in the last four years took saddle trips to the camp, which amounted to 15% of average overall packstock use on the Glen Aulin trail. Because packstock use poses a risk to water quality, results in conflicts with hikers, and causes trail impacts, the preferred alternative addresses the bulk of such stock use by limiting the packstrings used to resupply the camp to two per week, with additional restrictions on the number of such packstrings used to set up and take down the camp; the preferred alternative further limits the number of saddle trips to their recent average (plus 1 horse or mule for every 2 guests, to transport their gear). The modest number of saddle trips allowed under the preferred alternative would continue to allow those guests who cannot hike from camp to camp to experience the camps and the Yosemite Wilderness. The idea of closing or converting the High Sierra Camp to a backpacker's camp was considered in alternative 1, which proposed closing the camp and leaving just the nearby backpacker's camp.

Concern ID: 283 The NPS should not convert Glen Aulin High Sierra Camp to a seasonal outfitter camp.

As for Alternative 2, I think that expanding the recreational opportunities to the degree mentioned in this alternative are too much. ... I am also not clear how an "outfitter camp" would work for the public in the Glen Aulin area. I do not like the idea of completely removing the solid structures in Glen Aulin.
[Individual, #299]

I am confused by the alternative which proposes a "seasonal outfitters camp;" Glen Aulin is already seasonal. I prefer an alternative which allows continuity in the Loop and availability provided through the Park concessionaire
[Individual, #333]

I do not support the Glen Aulin solution offered in alternative 2. Reducing the camp to a seasonal outfitters camp is a bad idea as it destroys the whole High Sierra Camp experience
[Individual, #245]

Response: The preferred alternative continues use of the Glen Aulin High Sierra Camp.

Concern ID: 284 The NPS should convert Glen Aulin High Sierra Camp to a seasonal outfitter camp, as proposed in alternative 2, to meet legal requirements of the Wild and Scenic Rivers Act and the Wilderness Act.

Alternative 2's approach of removing all of GAHSC (except the vault toilet) and replacing it with a smaller, temporary outfitter-style tent camp may be a reasonable compromise that would seem to meet legal requirements under both WSRA and the Wilderness Act while still fulfilling the role the High Sierra Camps have traditionally played. Additionally, implementing this proposal has the same cost as implementing the more impactful proposal contained in alternative 4.
[Individual, #338]

Even if either Alternative 3 or 4 are adopted, consider adding significant protections, such as: Stop encouraging visitors to be served luxury conveniences at the Glen Aulin High Sierra Camp when the area is located in the heart of wilderness. It could still be a commercial operation, but instead of permanent structures (concrete floors, wood stoves for heating, etc.) and a water system that extends into the wilderness and violates the Wilderness Act, the Glen Aulin High Sierra Camp would become a less luxurious, more basic camp.
[Individual, #273]

9) IF ELIMINATION OF THE CAMP IS NOT SELECTED, ADOPT ALTERNATIVE 2

IF THE PARK SERVICE IS NOT WILLING TO CLOSE GLEN AULIN CAMP AND NATURALIZE AS IN ALTERNATIVE 1, THEN CSERC STRONGLY URGES THE PARK TO MANAGE GLEN AULIN AS SPELLED OUT IN ALTERNATIVE 2 AND CONVERT THE CAMP TO A SEASONAL OUTFITTER CAMP, BUT WITH THE LOWER NUMBER OF GUESTS THAT IS SUGGESTED IN THE PREFERRED ALTERNATIVE (20 RATHER THAN 32).

THIS IS TRULY THE MIDDLE-GROUND COMPROMISE, LEGALLY COMPLIANT ALTERNATIVE. CONVERTING GLEN AULIN TO A SEASONAL OUTFITTER CAMP WOULD GREATLY REDUCE WATER USE (WHICH OUR CENTER NOTES WOULD ELIMINATE A POTENTIAL NEGATIVE PUBLICITY LAWSUIT OVER A WATER LINE AND INTAKE TRESPASSING INTO CONGRESSIONALLY DESIGNATED WILDERNESS). A SEASONAL OUTFITTER CAMP WITH NO MORE THAN 20 GUESTS WOULD ALLOW THE CAMP TO BE NATURALIZED AND BECOME FULLY ELIGIBLE FOR POTENTIAL DESIGNATION AS A WILDERNESS ADDITION, WHICH CERTAINLY IS MORE COMPATIBLE WITH THE SURROUNDING VAST WILDERNESS AND MORE COMPATIBLE WITH THE WILD RIVER DESIGNATION FOR THAT RIVER SEGMENT. THE STONE BUILDINGS, CONCRETE CABIN FLOORS, AND THE WATER TREATMENT SYSTEM WOULD BE REMOVED. WITH THE COMPOSTING TOILET, THERE WOULD BE NO WASTEWATER SEPTIC TANK AND LEACH MOUND TO FAIL. BECAUSE OVERNIGHT SADDLE TRIPS WOULD NOT BE ALLOWED, THE RIPPLE EFFECT OF STOCK USE ON THE TRAIL AND IN SURROUNDING AREAS WOULD BE REDUCED CONSIDERABLY.

[Conservation/Preservation, #239]

Response: The final environmental impact statement that recommended the Tuolumne River for inclusion in the wild and scenic river system (USFS and NPS 1979b) acknowledged the presence of the Glen Aulin High Sierra Camp and concluded that "this segment of the river meets the criteria for a 'wild' classification." Congress accepted the recommendation that this river segment--as it was developed in 1979--met the requirements of the Wild and Scenic Rivers Act when it designated the Tuolumne Wild and Scenic River. The Wild and Scenic Rivers Act directs the managing agency to protect designated rivers in their free-flowing state, along with the water quality and the river's outstandingly remarkable values.

The preferred alternative would retain the Glen Aulin High Sierra Camp while protecting and enhancing river values. It would replace all of the camp's flush toilets with composting toilets so that only a reduced amount of waste water--all gray water--would be received at the camp's leach mound. Water use would be capped at 500 gallons per day to keep the leach mound within its capacity. Packstock use on the Glen Aulin trail leading to the camp would be reduced by at about 43%, to address risks to water quality and to protect the recreational value identified in that river segment.

The California Wilderness Act of 1984 designated Glen Aulin High Sierra Camp as a potential wilderness addition (PWA). Section 108 of the act states that "lands designated as PWA shall be managed by the Secretary insofar as practicable as wilderness until such time as said lands are designated wilderness." The park's General Management Plan, which predates the California Wilderness Act, also addressed management of PWAs, stating that "The National Park Service has recommended to Congress that certain lands be reclassified as wilderness or potential wilderness additions, changing the management policies for the areas. Potential wilderness classifications will prevent any further development of facilities or services; should existing developments be removed, there will be no reconstruction of facilities." The TRP preferred alternative would not result in additional development of services at Glen Aulin. Many amenities have been removed at the camp over the years, such as guest showers. Some services, such as wood heating in guest cabins and meals for backpackers, would be eliminated under the preferred alternative for the TRP. Regarding camp infrastructure in designated wilderness, the preferred alternative has been revised to relocate any infrastructure located in designated wilderness back into the potential wilderness addition (e.g., the camp's water intake).

Concern ID: 285 The NPS should consider the use of human porters or llamas to supply the High Sierra Camps

Park Planners Should Consider Use of Porters to Supply the High Sierra Camps
The Appalachian Mountain Club supplies all their backcountry facilities using human porters, with occasional use of off-season helicopter flights. Yosemite should consider doing the same, with some use of stock for items too large or heavy for people to carry.[21] Using human porters in lieu of horses would have a number of benefits: it would greatly reduce the tremendous damage the stock use causes to the trails and the heavy maintenance burden it imposes on the park. It would eliminate the manure, dust and urine on the trails now caused by stock use. And it would bring more young people into the park to work and start a life-long relationship with Yosemite. We are confident that the concessionaire would have no trouble finding young people, including climbers, eager to do this work.

[Recreational Groups, #312]

Additionally, NPCA recommends NPS consider using human porters for concessionaire trips when appropriate and feasible.

[Conservation/Preservation, #334]

Stock manure is talked about but again no mention of substituting pack mules and horses with some other means of transport.

[Individual, #406]

Response: The preferred alternative would not preclude the camp operator from using llamas or human porters to resupply the camps, so long as their freight carrying capacity does not exceed that of two horse or mule packstrings per week.

Concern ID: 286 The NPS should consider adding 12 additional spots to the Glen Aulin backcountry wilderness quota, since the proposed reduction in the capacity of the HSC is based on water and stock impacts, not the general user capacity.

2) Add an additional 12 spots to the Glen Aulin backcountry wilderness quota, since the reasons given for reducing the size of Glen Aulin are specific to HSC use (water treatment, stocking), not general corridor user capacity.

[Individual, #400]

Response: High Sierra Camp guests are not included in the wilderness trailhead quota system because they spend the night outside of designated Wilderness (the High Sierra Camps are potential wilderness additions). In user capacity terms, the wilderness trailhead quota is for overnight backpackers; High Sierra Camp guests are limited by the number of beds at the camps.

Concern ID: 287 The NPS should clarify if tent cabins would be removed at Glen Aulin High Sierra Camp and if the adjacent backpacker campground would remain open.

Also I notice there is nothing about the backpackers camp at Glen Aulin mentioned at all. Does that mean its being removed completely? If so, some disclosure is warranted. Or if it is to be retained that should be mentioned too.

[Individual, #121]

If the capacity of the Glen Aulin High Sierra Camp is to be reduced, platform tents should be removed, in accordance with the new capacity, and the tent sites restored.

[Individual, #23]

Response: The preferred alternative has been updated to retain all of the historic tent cabins at Glen Aulin High Sierra Camp. The backpacker campground would remain at Glen Aulin in all alternatives, as presented in Chapter 8, "Actions Common to Alternatives 1-4, Wild Segments".

Concern ID: 288 The NPS should reconsider changing the color of the tents at Glen Aulin as white is the historically correct color.

First your common to all action alternative actions seem to be appropriate given your description of the Outstandingly Remarkable Values and the existing condition description. (except changing the colors of tents at Glen Aulin, the white is historically correct and it fits with the light colored granite of the region)
[Individual, #389]

Response: The National Register of Historic Places nomination form for the Glen Aulin Historic District (2004) does not mention the color of the canvas on the tent cabins. In addition, some historic photos show tents from that era in shades of tan or brown. The NPS is proposing the change in the tent cabin canvas color from white to tan, brown, or gray to reduce the scenic impact of the camp, and does not consider this change to be an impact on the historic resource.

High Sierra Camps - Remove

Concern ID: 289 The NPS should reduce the size of, or remove High Sierra Camps because their presence adversely impacts the environment and other visitors.

High Sierra Camps including Glen Aulin and Vogelsang should be removed. They have done and continue to do irreparable damage including permanent structural cement, water treatment, buried plastic sheeting and pipes, and nearby widespread contamination. Camp personnel do not protect nature and show a disregard, even disrespect, for other trail users. Plus these folks are kept out of favored natural areas and some park restrooms.
[Individual, #291]

Also, the impact of each and every High Sierra Camp should be studied with the possibility of decreasing their size or eliminating them.
[Individual, #175]

This Tuolumne Plan is the best opportunity in decades (since passage of the CA Wilderness Act) to REMOVE the commercial High Sierra Camps at Vogelsang and Glen Aulin. The only question is whether the Nat'l Park Service has the courage and foresight to do the right thing.
You know that the existence of both these commercial camps is harming the Tuolumne River. And you know that the existence of both these camps is harming the experience of the majority of visitors to these areas. The time has come to REMOVE these scars and abominations from the precious Yosemite landscape.
The High Sierra Camps at Vogelsang and Glen Aulin completely RUIN my own Tuolumne River experience from all of the noise and intrusion in the backcountry (i.e., crowding, helicopters, ugly slum camps, etc.) and the destruction and pollution caused by the numerous recurring frequent repeated persistent regular ongoing never-ending ceaseless PACKTRAINS needed to supply tons of unnecessary comforts & luxuries to the privileged few who visit these commercial camps.
[Individual, #322]

Response: The TRP only addresses the two High Sierra Camps (Tuolumne Meadows Lodge and Glen Aulin High Sierra Camp) that are inside the river corridor. The impacts of these camps on river flow, water quality, and the subalpine meadow and riparian habitat at Tuolumne Meadows were fully analyzed in chapter 8 of the TRP DEIS, and the preferred alternative in the FEIS has been revised based on that analysis to further reduce impacts associated with the camps. Under the preferred alternative, a number of actions would be taken at these camps to eliminate or mitigate their effects on river values. At the Tuolumne Meadows Lodge, these actions would include relocating all the employee housing, three guest tent cabins, and the dining hall/kitchen structure to locations more than 150 feet away from the river, directing visitors away from sensitive meadow and riparian resources, upgrading the wastewater collection and treatment facilities, and implementing water-conservation measures. At Glen Aulin these actions would include restricting water use to 500 gallons per day, replacing flush toilets with composting toilets so that only gray water goes to the leach mound, moving an employee cabin further from Conness Creek, and limiting the capacity and level of service at the camp such that it can be supplied by only two packstrings per week. The impacts of operating the camps under this and the

other alternatives are fully analyzed in chapter 9 of the TRP FEIS. The Vogelsang High Sierra Camp is outside the river corridor and therefore outside of the scope of this plan; the forthcoming Wilderness Stewardship Plan will address actions and impacts there and at all the High Sierra Camps.

Concern ID: 290 The NPS should remove all High Sierra Camps supplied by pack trains in the Tuolumne River corridor because of the impacts of pack stock on water quality and visitor experience.

My request [to remove High Sierra Camps] is motivated by water quality testing conducted by Mr. Tom Suk, a back country ranger working in conjunction with the USGS found high concentrations of giardia in the waters downstream of the HSCs. These findings were confirmed by scientists from the UC Davis Medical School published studies in 2006 and 2008 that document high concentrations of bacteria and other pollution in Yosemite's waters, including the Tuolumne River, and concluded that "pack animals are most likely the source of coliform pollution." Many if not most of the pack animals in the Tuolumne area are used for the constant pack trains which supply the HSCs with luxury foods and other unnecessary suburban comforts to the wilderness.
[Individual, #310]

High Sierra is especially concerned about the commercial "High Sierra Camps" (HSCs) at Glen Aulin, Tuolumne Meadows, and Vogelsang. These aged and ugly facilities create significant, profound, and harmful negative impacts on the Tuolumne River corridor and on the environment of Tuolumne Meadows. For example, all the by-products of human occupancy are produced at the camps: sewage (human body wastes), "gray water" from showers, grease and detergent from kitchens, etc. Wastewater, sewage, and other wastes from these developments continue to pollute the meadows, soils, and waters of Yosemite National Park. Further, the numerous "packtrains" needed to supply the camps significantly damage and pollute trails and surrounding areas, including the Tuolumne River.
[Recreational Groups, #379]

Glen Aulin's presence along the main river corridor and the main trail along the Tuolumne River means that for the majority of backpackers, equestrian trekkers, and hikers who travel that Wilderness and Wild River segment corridor, the Glen Aulin encampment (and the ripple of high use that spreads from the Camp) detracts from the wilderness experience. In particular, seasonal structures with cement floors, the presence of all of the supply facilities, the concessionaire employee facilities, the water tank, pipelines, showers, corrals, and assorted other facilities all CUMULATIVELY combine at the site and in the surrounding area to eliminate the sense of undisturbed natural wildness of a Wilderness Experience or a sense of wild, untrammeled nature where man leaves only footprints and takes only memories.
[Conservation/Preservation, #239]

Response: The NPS acknowledges that packstock have an impact on visitor experience for some visitors, and that packstock use poses a risk to water quality (see the response to concern #234 regarding the impacts of packstock use on water quality). To address these issues, the revised preferred alternative substantially reduces packstock use on the Glen Aulin trail to supply the Glen Aulin High Sierra Camp. The camp operator would be limited to a maximum of 2 packstrings (6 mules or horses and 1 rider) per week to supply the camp. Based on usage numbers from 2009-2012, this restriction would reduce total overall packstock use on the Glen Aulin trail (including commercial, administrative, and private) by about 43%. Concessioner stock use based at Tuolumne Meadows to supply the High Sierra Camps outside the Tuolumne River corridor (Vogelsang and Sunrise) cannot be reduced by the TRP, as the continuing operation of these camps is beyond the scope of this plan; this use currently amounts to about 8% of all stock use in the corridor, and stock are in the corridor for a relatively short distance.

The preferred alternative in TRP FEIS has also been revised to address many of the concerns about impacts on wilderness experience, as follows: the elimination of all flush toilets will eliminate the need for helicopter flights to annually remove sludge from the wastewater treatment system; the composted material from the composting toilets can be removed by pack stock in the fall; and the wastewater(leach) mound would be gray water only, allowing it to function effectively with little risk to the water quality of Conness Creek and the Tuolumne River. Camp-related infrastructure would be pulled back inside the boundary of the potential

wilderness addition, and the color of the tents could be changed to mitigate visual intrusions into the wilderness experience.

All the High Sierra Camps will be addressed in the upcoming Wilderness Stewardship Plan.

Concern ID: 291 The High Sierra Camps should not be considered a historic resource.

Others have tried to rationalize the retention of the aged, unsightly/and polluting commercial High Sierra Camps on the grounds that they are "historic" and/or somehow an important part of our heritage that should be continued. This is a bankrupt abuse of language that has been used repeatedly throughout Yosemite's history to justify continuing ruinous practices that were, many years too late, recognized as the uninformed, anti-social, and anti-environmental practices that they were.

[Recreational Groups, #379]

Response: The Glen Aulin High Sierra Camp was determined eligible for listing on the National Register of Historic Places in 2004 and is, therefore, a historic resource. Actions at Glen Aulin, including removal of the camp as proposed in alternatives 1 and 2, would be undertaken pursuant to the processes stipulated by the National Historic Preservation Act and in consultation with the California State Historic Preservation Officer.

Concern ID: 292 The High Sierra Camps, which were constructed to attract visitors to wilderness, have outlived their usefulness and should be removed.

The HSCs are an anachronism-an out-of-date holdover from bad old days of the 1920s through the early 1960s, when more development and more commercialism were considered desirable and beneficial. It is time for the National Park Service to catch up with the times (and heed its Organic Act) by choosing preservation of park resources, scenery, wilderness character, and wild river values over ongoing exploitation and impairment.

[Recreational Groups, #379]

The Glen Aulin High Sierra Camp reflects a philosophical management direction that is no longer consistent with more enlightened Park Service objectives and management direction of recent decades. In the past, Park Service officials desired to build political support for the Park system and for preservation of wilderness by enticing well-to-do and politically connected visitors to come to luxurious lodges such as the Ahwahnee or other prominent facilities. They made it convenient for city dwellers to "rough it" in conveniently located tent cabins with hot meals easily available as at the Tuolumne Meadows Lodge. The High Sierra Camps, including Glen Aulin, were created to provide for unnecessary, but "desired" amenities such as clean beds, wood heat, showers, and hot meals that softened the ruggedness of "wilderness" camping.

Today the Park Service overall recognizes that the core NPS mission is not to provide convenient lodging that brings in profit for concessionaires or even for gateway communities. As will be emphasized numerous times in these comments and also in our Center's Merced River Plan comments, the Park cannot justify satisfying visitors' desires for lodging facilities if those facilities create any significant negative impact (especially within a designated Wilderness or within a Wild and Scenic designated river segment).

[Conservation/Preservation, #239]

I think it is time to close all of the High Sierra Camps, including Glen Aulin. After all, although given special exemption, they ARE nonconforming uses in wilderness areas. Historically, they provided access to the Yosemite backcountry where such access was difficult. In the era of lightweight backpacking equipment, however, access to areas like Glen Aulin or Vogelsang is not difficult for most visitors. I understand the argument that the camps are a multiple-generation family tradition for some. I maintain that even more visitors would like to visit Glen Aulin and find a wild place, not what amounts to an unsightly resort. Perhaps the camps can be phased out over time. This will at least solve the sewage pollution issues that have affected the river.

[Individual, #156]

Response: The Glen Aulin High Sierra Camp and Tuolumne Meadows Lodge are the only High Sierra Camps within the Tuolumne Wild and Scenic River corridor; therefore they were the only High Sierra Camps considered in this planning effort. This planning effort considers the High Sierra Camps in the context of the protection and enhancement of river values, and the alternatives include actions considered to address those

issues. The commenters' concern regarding the life of the High Sierra Camps is an issue that will be addressed in the upcoming Wilderness Stewardship Plan.

Concern ID: 293 **The NPS should remove the Glen Aulin and Vogelsang High Sierra Camps because they are designated potential wilderness additions and are impacting wilderness experience.**

I am writing to comment on the Tuolumne River Plan and specifically to support the complete and permanent removal of the Glen Aulin and Vogelsang "High Sierra Camps," the restoration of those sites, and designation of the potential wilderness additions as wilderness. It is not fair for a handful of privileged commercial visitors to create the pollution and destruction of scenery, trails, and quietude that I value so much. Generations of park visitors would benefit greatly if these commercial camps were closed and the sites restored.

[Individual, #354]

I am writing to comment on the NPS's draft plan for the Tuolumne River that proposes to retain both of the Tuolumne-area backcountry "High Sierra Camps" (at Glen Aulin & Vogelsang).

In 1984 Congress passed the California Wilderness Act which designated the commercial High Sierra Camps (HSCs) as "potential wilderness additions." Congress directed NPS to closely monitor conditions at the camps, and to remove them if impacts at the camps (or surrounding areas) became apparent. The NPS and its concessioner, who is determined to retain these lucrative commercial ventures---never conducted the monitoring requested by Congress and have continually covered up the problems (such as sewage leaks, water pollution, trail damage, etc.).

In reviewing this plan it appears to do little to address the damage and pollution caused by these commercial camps and the numerous pack trains that supply them. Basically, business as usual.

I am writing to request that would like to see these commercial camps removed, the sites restored, and the areas designated as wilderness.

[Individual, #310]

The notion of Wilderness is severely compromised by the resource intensive nature of these camps. Though I would prefer they be removed completely for a return to true wilderness character and experience, at the very least I believe the following could and should happen to reduce impact and improve our backcountry experience:

[Individual, #321]

Response: Please see the response to concern #289, above. The Glen Aulin High Sierra Camp and Tuolumne Meadows Lodge are the only High Sierra Camps within the Tuolumne Wild and Scenic River corridor; therefore they were the only High Sierra Camps considered in this planning effort. Alternative 1 evaluates the option of permanently closing both and adding those potential wilderness additions to the Yosemite Wilderness.

Concern ID: 294 **The NPS should remove Glen Aulin High Sierra Camp because it does not provide a wilderness experience under the definition of Wilderness Purposes included in the TRP DEIS Appendix C (Determination of Extent Necessary).**

B. Most important in response to the EIS claim, CSERC counters that the Glen Aulin High Sierra Camp itself is not technically Wilderness, nor does the experience one has at the Camp itself constitute a "wilderness experience." The experience of staying at Glen Aulin High Sierra Camp is not a Wilderness experience, as stated under the Definition of Wilderness Purposes (C-8 - C-11) for the following reasons:

o Education - While there are educational opportunities presented by the interpretive tours and talks offered by the NPS and commercial groups at and near the camp, those educational opportunities do not depend on the presence of an overnight commercial camp. In addition, the Glen Aulin High Sierra Camp is not educating people about true Wilderness experiences or teaching them Wilderness skills because those staying at the camp do not have to utilize many Wilderness skills because the concessioner is being paid to complete many of the tasks that would require use of Wilderness skills. . . .

Historic - "Historic uses" (in a designated Wilderness) are defined by court rulings as those that "emphasize the wild, untrammeled, and natural character of the land in its historic state?" (C-11) " '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" (C-11). These rulings lead to the declaration that "no commercial services are necessary for the realization of the historical purposes" (C-11). Glen Aulin absolutely does not meet the

criteria for a historic use in Wilderness, and thus it should not be considered "necessary" to providing visitors with a Wilderness experience, regardless of the physical capabilities of those visitors. In addition, the court ruling for Olympic Park v. Mainella states that despite the Park service referencing "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' ? while this may be true, this type of usage is in the past and a new value has been placed on the land?" (C-10, C-11). Glen Aulin does not emphasize the wild, untrammeled natural character of the land, nor does it allow visitors to experience the land as undeveloped as it was when the first humans experienced it. . ..

Conservation - The numerous resource impacts caused by the extensive amount of stock use needed to supply Glen Aulin directly conflicts with the conservation purpose, which calls for "actions that help to maintain the Wilderness in a largely natural and untrammeled state, with native biodiversity intact and natural processes uninterrupted" (C-10). There are marked impacts from the camp-supply stock animals on natural processes and biodiversity, including direct impacts on wetlands in and around the Glen Aulin High Sierra Camp, as well as impacts on water quality and vegetation in the camp, along trails and in corrals. . ..

Scenic - Glen Aulin, while surrounded by scenic areas, itself violates the definition of a scenic area because it is not fully "natural and untrammeled," and it certainly does not provide for visitors the opportunity to "observe the natural landscape of wilderness." It is a human development that in terms of wilderness purism can be viewed as marring the otherwise pristine landscape surrounding it.

[Conservation/Preservation, #239]

Response: The purpose of the Determination of Extent Necessary for Commercial Services in the Wilderness Segments of the Tuolumne Wild and Scenic River Corridor (DEN) in appendix C is to identify the maximum amount of commercial services that would be allowed in the wilderness portions of the Tuolumne Wild and Scenic River Corridor. Under the Wilderness Act, commercial services are allowed in wilderness to the extent necessary for activities that are proper for realizing the purposes of the Act, including the Act's recreational purpose.

As part of the DEN process, NPS identified proper wilderness activities. Horseback riding and hiking were both found to be appropriate activities for realizing the recreational purpose of wilderness. Visitors to the camp (which is within a potential wilderness addition and not in the Yosemite Wilderness, so the camp itself is not subject to the commercial use restrictions of the Wilderness Act) arrive either on horseback or on foot. One of the ways in which the educational purpose of wilderness is fulfilled is through the formal interpretive programs offered to guests at the Glen Aulin High Sierra Camp and nearby backpacker campground. The NPS therefore determined that guests of the camp engage in activities that properly realize the recreational and educational purposes of wilderness. The DEN also imposed quotas on the amount of commercial use that would be allowed in this segment of the river corridor to ensure that wilderness character would be protected. These limits are described in the DEN. Because visitors to the High Sierra Camp are engaged in activities that appropriately further wilderness purposes and because the amount of commercial use associated with the camp would be limited, the NPS has proposed to retain the camp in the preferred alternative, albeit at a reduced capacity.

Concern ID: 295 The NPS should remove the Glen Aulin High Sierra Camp because it is inconsistent with the Wilderness Act of 1964 and/or the 1984 California Wilderness Act.

phase out the Glen Aulin High Sierra Camp; it doesn't belong in a wilderness setting - it detracts from the basic premise of preserving the wilderness character. Similarly the Tuolumne Lodge should be removed. If wilderness preservation is the goal then structures should go, even if they are popular etc. Why try and make for more amenities even though popular if they are contrary to the stated goal

[Individual, #82]

Whether GAHSC [Glen Aulin High Sierra Camp] is necessary under the Wild and Scenic Rivers Act is irrelevant because it was Congress' intent in the California Wilderness Act that GAHSC be removed as soon as practicable. Additionally, potential wilderness areas must be managed as wilderness insofar as practicable. When a conflict arises between the WSRA and the Wilderness Act, the more restrictive (protective) prevails. Unlike in the similar case of Drakes Bay at Point Reyes, in which removal of the non-conforming use within potential wilderness was delayed by a contract, there is no such complication in the case of GAHSC. Since it is immediately practicable for GAHSC to be removed and that area provided wilderness designation by the secretary of the Interior, this must be what happens, as provided by law.

[Individual, #338]

Glen Aulin results in commercial food service, lodging and over-night stays taking place within an island of non-wilderness that lies within the heart of a Congressionally-designated Wilderness - a direct conflict with the surrounding land's designated purpose.

[Conservation/Preservation, #239]

Response: Because the Glen Aulin High Sierra Camp was present when Congress designated the Yosemite Wilderness in 1984, the camp was excluded from the designation as a potential wilderness addition.

The California Wilderness Act of 1984 designated the area containing the Glen Aulin High Sierra Camp as potential wilderness. A report issued by the House of Representatives (House Report 98-40, March 18, 1983) explained the intent of the California Wilderness Act with regard to Yosemite's High Sierra Camps. The report stated that if future operational standards for the camps resulted in increased adverse impacts on the adjacent wilderness environment or increased adverse impacts on the natural environment within the camp area, the camps should be promptly terminated and the areas converted to full wilderness status.

The analysis in chapter 9 of the TRP FEIS natural resources and sociocultural resources sections indicates that the proposed actions for the Glen Aulin High Sierra Camp under alternative 4 would not result in increased adverse impacts on designated Wilderness or on the natural environment within the area of the camp. If alternative 4 is selected in the Record of Decision for this plan, the camp would be able to remain and the area would retain its potential wilderness designation.

Concern ID: 296 The NPS should remove Glen Aulin High Sierra Camp in order to meet the directives of the Wild and Scenic Rivers Act.

REMOVING GLEN AULIN BEST MEETS LEGAL DIRECTION OF THE WSRA

CSERC asserts that to most fully comply with the WSRA requirement to remove unnecessary facilities from the river corridor, the entire Glen Aulin High Sierra Camp should be phased out and removed. Elimination of the entire Camp would also allow the area to be eligible to be designated as Wilderness, which would be most compatible with the surrounding landscape and the WILD designation of that river segment. The Park's argument that the camp is "necessary to allow visitors with a broader range of physical abilities to enjoy a wilderness experience along the river" is invalid and unjustifiable for the following reasons:

[Conservation/Preservation, #239]

Response: The 1979 designation study for the Tuolumne Wild and Scenic River specifically noted the presence of the Glen Aulin High Sierra Camp in proposing the "wild" designation for this stretch of river. The Tuolumne Final Study (USFS and NPS 1979b), which established the eligibility of the Tuolumne River for inclusion in the national wild and scenic rivers system, noted that the segment from the wilderness boundary downstream through the Grand Canyon of the Tuolumne "is inaccessible by road and is served by a system of trails. The only man-made developments along this stretch of the river, with the exception of several foot bridges, are the temporary facilities of the High Sierra Camp at Glen Aulin. Any detraction caused by the camp is minor when compared with the over-all primitive character of this section of the river. This segment of the river meets criteria for a 'wild' classification."

The situation remains the same today. Except for several footbridges and the facilities at the High Sierra Camp, this 24 mile river segment has no other development. Wild segments are defined as being essentially primitive in character, free of impoundments, and generally inaccessible except by trail. This segment of the river still meets these criteria.

The NPS also analyzed whether the camp adversely affected river values and whether it was feasible to remove or relocate the camp outside the river corridor. This analysis is found in chapters 5, 7, and 8 of the plan. Although the Wild and Scenic Rivers Act does not require the NPS to remove Glen Aulin High Sierra Camp, alternative 4 proposes to reduce the size of the camp and the types of services it provides. Other design modifications are also proposed to further reduce impacts. The modifications proposed in alternative 4 would not adversely affect or degrade river values. The NPS's preferred alternative therefore proposed retention of the camp albeit at a reduced scale.

Concern ID: 297 Glen Aulin High Sierra Camp is not necessary for those with physical limitations or disabilities to access the Yosemite Wilderness.

The Wilderness accessed en route to Glen Aulin can be accessed by those same users on a day visit to areas in close proximity to Tuolumne Meadows. There is nothing implicit in defining a wilderness experience that it must take place far beyond the portal into a vast wilderness. Those with physical limitations who cannot hike for long distances or carry their own pack a long distance (such as all the way to Glen Aulin) have countless options for enjoying a wilderness experience along the river even if Glen Aulin is eliminated. There is nothing inherent in a Wilderness experience that requires an overnight stay. Visiting the river close in to Tuolumne Meadows and within officially designated wilderness does not require someone to carry a heavy pack. Thus, those with some physical limitations are fully able to have a wilderness experience even if they are not transported to and from a camp with amenities plopped down amidst surrounding wilderness.

[Conservation/Preservation, #239]

The TRP describes GAHSC as necessary "to allow visitors with a broader range of physical abilities to enjoy a wilderness experience along the river" (p. 7-27). This determination is false for the following reasons:

1. Anyone capable getting to GAHSC is capable of having a wilderness experience along the river by walking or riding a short distance from Tuolumne Meadows; the GAHSC is not necessary for such an experience and, as stated elsewhere in the TRP, detracts from it. (If, in the context of the TRP, "wilderness experience" means "overnight wilderness experience," the TRP should state this explicitly. However, staying at GAHSC isn't a wilderness experience because the portion of the trip spent overnight is spent in an area excluded from wilderness.)

[Individual, #338]

Response: As the commenter notes, the Glen Aulin High Sierra Camp is not in the Yosemite Wilderness, but is a potential wilderness addition. Other commenters have noted that the Glen Aulin camp offers another opportunity, less logistically challenging than independently hiring a commercial outfitter, for people who are unable to carry a pack or unskilled in wilderness backpacking to experience the wilderness on a multiday trip. People with disabilities, families with children, and older visitors have commented that such camps have allowed them to experience a wilderness area they otherwise never could visit. The Tuolumne Final Study (USFS and NPS 1979b), which established the eligibility of the Tuolumne River for inclusion in the national wild and scenic rivers system, noted the existence of the "temporary facilities of the High Sierra Camp at Glen Aulin" and stated that "any detraction caused by the camp is minor when compared with the over-all primitive character of this section of the river. This segment of the river meets criteria for a 'wild' classification."

Glen Aulin High Sierra Camp Services and Facilities

Concern ID: 298 The NPS should discontinue nonessential visitor services at Glen Aulin High Sierra Camp

. . .at Glen Aulin and Vogelsang, . . . at least reduce dramatically the number of animals by prohibiting the camps from providing unnecessary luxuries such as fresh foods, beverages, linens, etc. The customers at these camps could easily eat lightweight, compact, dried foods, and go a few days without showers, like the rest of us, and still enjoy the mountains. They do not need to be so pampered with such comforts and luxuries in the wilderness.
[Individual, #274]

Those who visit the camps do not truly need showers, linens, fresh meat, fruits, and vegetables. (They can easily go a few days without showering and eat dried foods just like other backcountry visitors.)
[Individual, #349]

Response: Non-essential services have already been addressed at Glen Aulin High Sierra Camp, including the elimination of guest showers, elimination of towel and linen service, conversion to disposable tableware, and menu revisions that conserve water. In addition, the TRP FEIS preferred alternative would remove meals-only service for backpackers, replace flush toilets with composting toilets for High Sierra Camp guests and employees, and eliminate wood heating at guest cabins.

Concern ID: 299 The NPS should reevaluate and clarify staff requirements at the Glen Aulin HSC.

Alternatives 3 and 4 provide for a reduction in the use level of the Glen Aulin High Sierra Camp (HSC), but there does not appear to be a commensurate reduction in Concessionaire Administrative Capacity. Please explain why Concessionaire Administrative Capacity is not effected or take the reduction of the needed staffing into account
[Individual, #307]

Response: The preferred alternative has been revised to keep the Glen Aulin High Sierra Camp at a capacity of no more than 28 guests per night. The number of employees needed to operate the camp would remain the same as existing conditions (8 concessioner employees).

Concern ID: 300 The NPS should acknowledge that even with proposed wastewater treatment upgrades and lowered water consumption, the wastewater treatment system at Glen Aulin High Sierra Camp would remain a risk to water quality and wetlands.

7) UPGRADE OF SEPTIC SYSTEM WILL NOT ENSURE END TO INCIDENTS
CSERC is aware from past years of communication with Park staff that there have been at least two incidents of septic leaching at Glen Aulin over past years. The preferred alternative would spend $1.1 million for various improvements at the Camp including a new septic tank. However it appears that the tank and leach field would still be located in an area that is mapped as a legal wetland and is potentially in the Conness Creek floodplain. The potential for future new leaching incidents would remain.
CSERC ASSERTS THAT THE FEIS SHOULD ACKNOWLEDGE THAT REPLACING THE EXISTING SEPTIC SYSTEM DOES NOT GUARANTEE THAT FURTHER LEACHING INCIDENTS WILL BE PREVENTED AND THAT THE LOCATION OF THE SEPTIC SYSTEM AND LEACH FIELD ARE INDEED IN AN AREA THAT MAY POTENTIALLY BE DEFINED AS A WETLAND.
[Conservation/Preservation, #239]

Response: The NPS acknowledges there is always a localized risk to water quality and wetlands wherever there is any kind of development, including campgrounds and trails. The risk to water quality and wetlands at Glen Aulinwould be greatly reduced under the revised preferred alternative because all flush toilets would be replaced with composting toilets and only gray water would be discharged to the leach mound.

Concern ID: 301 The NPS should clarify if the leach mound or other wastewater facilities at Glen Aulin High Sierra Camp are within 300 feet of any streams, in order to comply with the Raker Act.

8- 30: Figure 8-2: The Raker Act section 9(a) prohibits the placement of human excrement in or within 300 feet thereof of any stream in the watershed above Hetch Hetchy or Eleanor Reservoirs. Is the Glen Aulin leach mound or other wastewater facilities within 300 feet of any stream? The SFPUC has an ongoing concern with the Glen Aulin leach mound overflowing into Conness Creek. Overflow events would appear to violate section 9(a)'s prohibition against placement of human excrement into the stream itself. The TRP should discuss whether the Glen Aulin leach mound or other wastewater facilities comply with the Raker Act, and, if required, the plan must address relocation to a point beyond 300 feet of any stream.
[Public Utility, #446]

Response: The leach mound at Glen Aulin High Sierra Camp is within 300 feet of the Tuolumne River; however, it only receives treated wastewater, not raw sewage. Under the revised preferred alternative, no human excrement would be treated by the wastewater treatment system because all human excrement would be placed in composting toilets, which the San Francisco Public Utilities Commission (SFPUC) noted (in the 2012 Hetch Hetchy Sanitary Survey) would be compliant with the Raker Act.

Concern ID: 302 The NPS should clarify how many times the wastewater treatment system at Glen Aulin High Sierra Camp has failed and why.

How many times did the Glen Aulin septic tank and leachfield system fail? Did they both fail? What were the causes of the failures?
[Individual, #406]

Response: The "Hydrology" subsection of chapter 9 has been revised to note that the leach mound at Glen Aulin High Sierra Camp failed four times between 1996 and 2003 because its capacity was exceeded, after which the current limit of 600 gallons of wastewater per day was implemented. This is the mound's maximum daily capacity, which is why the preferred alternative would further limit wastewater generation to no more than 500 gallons daily.

Concern ID: 303 The NPS should note that removing showers at Glen Aulin High Sierra Camp might have encouraged visitors to bathe in the river.

The action to remove showers at Glen Aulin does not address the possibility that people may then use the river for bathing, an activity that is not allowed in the area of Hetch Hetchy Reservoir and the reason for that prohibition should be stated in the TRP.
[Individual, #406]

Response: The NPS does not regulate swimming in the Tuolumne River. However, the NPS and concessioner do provide information to wilderness permit holders and camp guests that describe Leave No Trace practices, which prohibit the use of soap or shampoo when swimming or bathing in rivers and streams.

Concern ID: 304 The NPS should replace flush toilets with composting toilets at Glen Aulin High Sierra Camp, for both employees and guests.

The SFPUC considers the Glen Aulin sewer system and leach mound to be a potential water contamination source in the Hetch Hetchy watershed. The potential exists for the sewer system to overflow or malfunction. The SFPUC supports compost toilets located upslope for all users and grey water use only for the septic tank and leach mound. The SFPUC provided funding to replace Glen Aulin's flush toilets and sewer system with composting toilets in 2004. NPS has been waiting for the TRP to be finalized before constructing the composting toilets. 1. The SFPUC supports the installation of compost toilets, located upslope, for all users. If the septic tank and leach mound are not removed, then the SFPUC supports using the septic system for gray water only (e.g., shower and dish water). 2. The SFPUC recommends the NPS evaluate the potential risk of the existing wastewater system entering the river from either leaching or flooding.

[Public Utility, #446]

There have long been concerns [that] the septic system at Glen Aulin High Sierra Camp operates at or near capacity. BCU and DNC both recognize the issue is the amount of water and sewage overwhelming a delicate septic system. Rather than reduce the number of guests and associated guest services, eliminate the flush toilet system and replace it with a composting system as employed at Sunrise and Vogelsang.

[Individual, #279]

Glen Aulin: Some of the Glen Aulin passages are unclear. For example, why aren't employee toilets also composting, rather than flush?

[Individual, #309]

Response: The preferred alternative has been revised to replace flush toilets with composting toilets for both guests and employees at Glen Aulin High Sierra Camp.

Concern ID: 305 The NPS should consider that composting toilets require more maintenance than flush toilets.

Compared to flush toilets, composting toilets would require more maintenance.

[Individual, #23]

Response: To minimize wastewater loads on the existing leach mound, all flush toilets would be eliminated at Glen Aulin High Sierra Camp, and both guests and employees would use composting toilets.The NPS acknowledges that employees at Glen Aulin would need to maintain the composting toilets; however both flush toilets and composting toilets require regular maintenance. In addition, both the leach mound system and the composting toilets would require waste removal - the current wastewater leach mound system requires helicopter trips to remove sludge, whereas composting toilets would require waste removal by packstock at the end of the season. Under the preferred alternative, since the leach mound would only receive gray water and not human waste, the helicopter use would no longer be needed.

Concern ID: 306 The NPS should clarify whether the existing composting toilet at the backpackers' campground would be replaced or eliminated and provide separate composting facilities for the High Sierra Camp.

It is not clear that the existing composting toilet located in the backpackers' campground would be replaced with a modern model or eliminated….

Replacing flushing toilets in the HSC is a great idea, it should have been done eons ago. Flushing toilets make no sense in PAW, such as Glen Aulin HSC. However, each location should have its own composting toilet to prevent overuse and malfunction, such as the ones seen in Vogelsang after the closure of the campground toilet - when the HSC restrooms became the only ones available at that location.

[Individual, #269]

Response: An action common to alternatives 1-4 is to replace the aging composting toilet at the backpackers' campground to adequately handle waste loads and reduce the risk to water quality. Additionally, the preferred

alternative calls for a composting toilet to be constructed at the High Sierra Camp; the preferred alternative has also been revised to indicate that employees of the camp will also use the composting toilet.

Concern ID: 307 The NPS should restrict shower and laundry facilities at the Glen Aulin High Sierra Camp to staff use only.

We support reasonable efforts to minimize the camps' impact on the environment. Composting toilets should replace flush toilets. Shower facilities should be reserved for staff use only. Laundry facilities should also be set aside for staff use, or they could be eliminated entirely, with dirty laundry packed out for washing
[Individual, #306]

Response: The NPS already restricts these services at Glen Aulin High Sierra Camp to employees only.

Concern ID: 308 The NPS should retain meals-only service for backpackers at Glen Aulin High Sierra Camp, or eliminate the service only after evaluating the impact of upgraded wastewater treatment options at Glen Aulin High Sierra Camp.

Discontinuing "'meals-only' service for people who are not lodge guests to reduce demands for water use and waste disposal." Water use? The river that fills Hetch Hetchy can't spare the amount of water required for this practice? Wrong. Waste disposal? Here again, if the new waste system proves incapable of handling whatever additional increment of waste is created by this practice, discontinue it then, NOT now. If non-guests are willing to pay for overpriced meals that bring a substantial profit for the concessioner, at least some of which will be reinvested in services the concessioner provides, why on earth discontinue this practice without better reasons than these unfounded, unproven ones?
[Individual, #253]

Eliminating the "meals-only" service will not result in greater water use reduction. It does not take that much more water to cook a meal for 30 people instead of 20. Eliminating that service takes away a big part of the backcountry experience in Yosemite, specially for those visitors that chose the backpackers camp for its proximity with the HSC for meals and other services.
[Individual, #269]

A few more quick comments on Glen Aulin: I'd like the "meals-only" option to remain so that backpackers could still get meals at the HSC. It's a nice treat to have real cooked food in the backcountry!
[Individual, #7]

Response: The NPS evaluated the option of retaining meals-only services for backpackers during the planning process, but determined that this non-essential service must be removed, in addition to removing flush toilets, in order to meet the requirements (under the revised preferred alternative) that the camp produce no more than 500 gallons of wastewater per day and use no more than two packstrings for resupply weekly.

Concern ID: 309 The NPS should discontinue meals-only service at the Glen Aulin High Sierra Camp.

Walk in diners should be eliminated. This would help minimize stock impacts along the trails leading in as well as accommodate the smaller capacity of combining horse facilities.
[Individual, #356]

Response: Alternatives 2, 3, and 4 (the preferred alternative) discontinue meals-only service at Glen Aulin High Sierra Camp in order to reduce water use at the camp.

Concern ID: 310 The NPS should consider reducing food service at Glen Aulin High Sierra Camp to keep it affordable.

You could cut back on the food at the camps and make it simpler and also keep the cost down for us that aren't wealthy. The cost of the high sierra camps has gone up dramatically the last decade.
[Individual, #183]

Response: Meals-only service would be eliminated under the preferred alternative, but prepared meals would still be available to camp guests. The price of meals provided to guests by the camp's operator is not within the scope of the TRP.

Concern ID: 311 The NPS should retain the current level of service at Glen Aulin High Sierra Camp.

I see that one of the proposed plans would eliminate the tent cabins at Tuolumne and Glen Aulin. I certainly understand the need to reduce stress on those areas, but please do not deny people the full-service experience of those camps. Their beauty is unsurpassed and "breakfast and dinner in the big tent" are wonderful. I still remember a fabulous bowl of slow-cooked oatmeal I had at Glen Aulin when I was a kid.

[Individual, #211]

Your alternative plan #4 for the Tuolumne River sounds good to us, but we have not seen the other plans. Our personal feelings are to protect this sanctuary for future generations; and at the same time provide the best experience for visitors of all age groups. We would not like to see any reduction to the High Sierra's permanent Camp sites with provided meals and lodging. At our age, we would not be able to enjoy this High Sierra Loop experience without these conveniences.

[Individual, #261]

Response: Some of the services currently available at Glen Aulin would remain, such as prepared meals for guests. However, flush toilets and wood for heating the tent cabins would be removed. Please refer to the responses to concerns #273 and #274.

Concern ID: 312 The NPS should clarify proposed heating options and water availability for guests at Glen Aulin High Sierra Camp.

If the flush toilets for visitors at Glen Aulin are replaced by composing toilets, would there still be running water available for washing up? (I know there aren't showers, but just for a washcloth and tooth-brushing.)…

If wood is discontinued in the visitor tent cabins, would some other heating alternative be offered?

[Individual, #7]

Response: While flush toilets would be eliminated for guests and employees at Glen Aulin (showers have already been eliminated for guests), running water for brushing teeth, hand-washing, and filling water bottles would continue to be available in limited quantities. No form of heat would be provided in the tents, but warm, lightweight sleeping bags are widely available.

Concern ID: 313 The NPS should continue to provide wood for heating at Glen Aulin High Sierra Camp.

Additionally, to eliminate wood for the stoves will make the remaining 20 guests miserable at night - this will essentially be making the camp so inhospitable you might as well close it (which is such a shame).

…

For these reasons, I prefer Alternative 3, but would like to continue the use of wood for the stoves.

[Individual, #160]

I oppose Alternative 4 and strongly recommend Alternative 3 with one change - please continue the use of wood for stoves in the camp.

[Individual, #163]

Discontinuing "wood for heat stoves in visitor tent cabins to reduce the need for stock use to supply wood to the camp." The HSC camps provide a modest level of comfort for those who prefer it to backpacking. … HSC guests are out of their cars and experiencing the park away from pavement, and isn't that the important thing? So why do anything to lessen their comfort and possibly discourage their patronage? As to the reason for this proposed change, I will address that in my comments about pack stock.

[Individual, #253]

Response: Although the continued provision of wood for heat stoves at Glen Aulin High Sierra Camp was considered in the no-action alternative, this level of service was eliminated from the preferred alternative as part of the measures taken to reduce the need for pack stock trips to supply the camp. The preferred alternative would greatly reduce packstock use on the Glen Aulin trail (by about 43%) which would greatly reduce impacts on other trail users and the potential for impacts on water quality.

Concern ID: 314 The NPS should not relocate the water supply intake at the Glen Aulin High Sierra Camp because it would not be cost effective.

Finally, removing and reinstalling the auxiliary water intake line is purely an aesthetic improvement which will provide very little improvement in water quality.

At a time when our nation is essentially broke, to spend $1M on these changes is nothing but poor stewardship of limited resources.

[Individual, #160]

Response: The NPS disagrees. The water supply intake needs to be removed from designated wilderness in order to comply with the Wilderness Act. The $1.1 million cost of improvements at Glen Aulin includes all the camp improvements (such as the new composting toilets, and moving facilities away from the river and creek), not just the water line move.

Concern ID: 315 The NPS should remove any structures, including the water supply intake, in designated wilderness near Glen Aulin High Sierra Camp.

If GAHSC [Glen Aulin High Sierra Camp] is retained, all structures and objects within designated wilderness must be removed, in compliance with the law. If the water line within the potential wilderness addition is sometimes inadequate, GAHSC should cease operation until adequate water is available from within the potential wilderness addition.

[Individual, #338]

1) NEED TO COMPLY WITH FEDERAL LAW

First and foremost, it is legally necessary for Yosemite Park to rectify the Wilderness Act violations created by the presence of facilities associated with Glen Aulin. Removal of the water intake and the waterlines must be done promptly and without delay in order to meet the legal requirements of the Wilderness Act. Coming into compliance with the Wilderness Act thus requires the Park planning staff to abandon plans to extend the Glen Aulin High Sierra Camp water line into Wilderness in dry years as proposed under the Preferred Alternative. We recommend the Park implement water conservation measures instead, which may include temporary closure of the camp during times where there is not enough water to support normal camp operations.

THE PARK MUST ACKNOWLEDGE IN ITS FINAL EIS THAT THE TRESPASS OF THE WATER INTAKE LINE AND ASSOCIATED WATERLINES INTO DESIGNATED WILDERNESS IS ILLEGAL AND A VIOLATION OF THE WILDERNESS ACT. THE EIS SHOULD IDENTIFY THE ACTION TO BE TAKEN TO CORRECT THE VIOLATION AND THE PLANNED TIMING OF SUCH ACTION.

NO MATTER WHICH ALTERNATIVE (OR COMBINATION OF ALTERNATIVES) AND WHICH PLAN OF OPERATIONS AT GLEN AULIN MAY BE SELECTED, THE SELECTED ALTERNATIVE MUST BE MODIFIED TO INCLUDE WATER CONSERVATION MEASURES INSTEAD OF EXTENDING THE WATER LINE INTO DESIGNATED WILDERNESS TO ACCESS WATER SUPPLY AVAILABILITY FOR THE CAMP DURING LOW WATER YEARS.

[Conservation/Preservation, #239]

Response: The preferred alternative has been revised to pull the water intake line back to its former location, entirely within the boundaries of the Glen Aulin potential wilderness addition. To provide for sufficient water pressure for the camp (when river flows drop below that necessary for such), the alternative provides for temporary use of a micro-hydro unit at a suitable location within the potential wilderness addition. The preferred alternative would also remove the water lines and water tank serving the two corrals adjacent to the camp and the NPS Back Country Utilities camp.

Concern ID: 316 The NPS should use the High Sierra Camps to teach people how to visit the wilderness with minimal support.

It seems there is a great, but mostly missed, opportunity in the High Sierra Camp experience, for it to be used as an optimal teaching tool for first time or infrequent wilderness visitors. If the ease and accessibility of typical urban/suburban comforts and luxuries are simply imported into a wilderness area, it becomes too easy to dismiss the inherent uniqueness, remoteness and fragility of our Wilderness areas. Why is the goal to recreate an overly common experience (showers, clean linens, luxury foods, etc.) when the rest of our lives and experiences are just that? I believe that being 'closer to' and working within the natural framework of the Wilderness and its ecology will garner a far greater understanding and respect, by all visitors.
[Individual, #321]

Response: The TRP addresses only the parts of the High Sierra Camp loop system that are included in the river corridor. Many visitors enjoy traveling from camp to camp, and it would be disruptive to that experience if one camp offered only minimal support compared to the others. The entire system will be addressed by the upcoming Wilderness Stewardship Plan, at which time actions such as those suggested here can more appropriately be considered and analyzed. Additionally, the NPS will continue to sponsor guided trips from camp to camp; these trips emphasize Leave No Trace ethics, which are also required of all Wilderness users.

Concern ID: 317 The NPS should minimize pack stock supply trains by reducing or eliminating visitor services to the High Sierra Camps

you can select food that weighs less and requires fewer animals to carry and fewer trips. You could probably cut out showers altogether. The times I stayed at the high camps, they served large bone in, skin on chicken breasts making a lot of garbage to pack out. I think boneless skinless chicken and dried beans, dried falafel patties and other foods that generate less waste would make a huge difference
[Individual, #331]

pack animal numbers and frequency must be reduced significantly! Simplifying and lightening food and resources available at High Camps would be a start. Cut out luxury food items, linens, optional comforts, etc. that necessarily add to pack animal bulk and resource usage
[Individual, #321]

NPS should also require that the number of pack animals supplying the High Sierra Camps be reduced by prohibiting HSCs from providing unnecessary luxuries and comforts such as eliminating linens and heavy foods & beverage items.
[Individual, #316]

Response: Please refer to the response to concern #222 for a discussion of how packstock trips to supply the Glen Aulin High Sierra Camp would be reduced under the preferred alternative. With the proposed reductions in this commercial stock use, the total stock use on the Glen Aulin trail (including commercial, administrative, and private) would be reduced by about 43%. Packstock trips to supply the High Sierra Camps outside the Tuolumne River corridor (Vogelsang and Sunrise) cannot be reduced by the TRP, as the continuing operation of these camps is beyond the scope of this plan; this use currently amount to about 8% of all stock use in the corridor.

High Sierra Camps and the DEIS Impacts Analysis

Concern ID: 318 The NPS should clarify the location of facilities, wetlands, and floodplains on Glen Aulin High Sierra Camp maps and evaluate impacts on wetlands.

We are also concerned with the inconsistencies between the map for Glen Aulin presented on page 7-89 and the floodplain map of Glen Aulin presented on page 8-30. The location of the trail to Cold Canyon is inconsistent between the two maps, which is concerning considering the trails proximity to the camp and to Conness Creek, as well as the fact that there is no direct discussion about potential impacts on any wetlands that may be in the area. There is no floodplain or high water mark shown for Conness Creek, which is problematic given the extremely close proximity (less than 100 feet) of the proposed new septic tank and leach mound to Conness Creek and especially concerning given the either shallow, mineral non-hydric soils or hydric wetland soils that are present there (8-10).

THE PARK NEEDS TO INCLUDE IN ITS FINAL EIS REVISED MAPS THAT ACCURATELY REFLECT THE LOCATIONS OF TRAILS, FACILITIES, FLOOD PLAINS AND THE WETLANDS ASSOCIATED WITH CONNESS CREEK AND THE GLEN AULIN HIGH SIERRA CAMP. THE PARK MUST ALSO ACKNOWLEDGE THE IMPACTS AND ASSOCIATED RISKS OF TRAILS AND FACILITIES ON THESE WETLANDS.

[Conservation/Preservation, #239]

Response: The NPS acknowledges that the maps in figures 9-2 and 9-4 versus figure 8-10 in the FEIS display slightly different locations of the trail in relation to Conness Creek. Locations of wetlands and the floodplain are, however, accurate and based on the best available GIS data, hydrologic models and ground verification by park scientists. While detailed floodplain maps have been created for the Tuolumne River at Glen Aulin at the confluence of Conness Creek, this analysis did not include the entire extent of Conness Creek adjacent to the camp. However, all action alternatives include actions to reduce known impacts on wetlands (and please also note that the septic tank and leach mound are existing facilities, not proposed.

While the existing leachmound (which will remain in its current location) has been determined to be outside of wetland areas as shown in figure 9-4, it is likely within the 100-year floodplain of Conness Creek. The "Hydrology, Water Quality, and Floodplains" section of chapter 9 does acknowledge the risk of flooding of the leach mound and the NPS shares the commenter's concern regarding the potential for contamination. This risk is being mitigated, but not fully eliminated, by replacing flush toilets with composters and reducing the amount of resulting gray water inflow into the leach mound to 500 gallons per day. Furthermore, the NPS has determined that the risk to water quality from flooding is minimal, due to the timing of such floods normally occurring in winter when the camp is not in use.

Concern ID: 319 The TRP EIS should evaluate the impacts of all High Sierra Camps that are resupplied at Tuolumne Meadows, particularly the impact of packstock.

I would like to offer the following comments on the Tuolumne River Plan and Environmental Impact Statement.

I believe the Tuolumne River Plan and EIS are deficient in addressing the full impacts of the High Sierra Camps and their infrastructure. Though the Plan looks at some aspects of one of these facilities at Glen Aulin, Tuolumne Meadows is in fact the hub for supporting and supplying 3 and possibly 4 of the 5 High Sierra Camps.

These commercial hostelry facilities located in the Yosemite wilderness require an industrial scale operation to operate. The base for these operations is the concessioner stable at Tuolumne Meadows within the Scenic River area.

Although the Sunrise, Vogelsang, and May Lake camps are themselves outside the Wild and Scenic River zone, the trucking in of supplies, parking for staff and customers and pack stock delivery of supplies and removal of waste from the camps all occur within or partially within the Wild and Scenic River zone and must be addressed.

[Individual, #360]

The Vogelsang HSC (capacity 42) is supplied from Tuolumne Meadows. The camp itself does not lie within the Tuolumne River watershed, but its very existence (i.e., continual packtrains that supply the camp) has a substantial adverse impact on both the river and its corridor. The trail from Tuolumne Meadows to Vogelsang HSC, like all trails traversed by the HSC supply trains, is battered and polluted, featuring flies and stench and dust. One is not out of sight of manure for the entire seven miles. By late summer, one can hardly walk ten feet without having to step around (or in) manure left behind by the 'incessant commercial packtrains. And scientists from the University of 'California (U.C. Davis Medical School) have documented that the Tuolumne River being polluted in this area, and concluded that: "pack animals are most likely the source of coliform [bacterial] pollution" (Derlet and Carlson 2006).

The same is true of the trail to Glen Aulin, a camp that can support a maximum of 32 people. For the sake of those 32, dozens of people every day-and during the course of an entire season, thousands-are inconvenienced and offended by the disgusting condition of the trail and the pollution of surrounding park lands. . ..

[Recreational Groups, #379]

Response: The TRP FEIS was revised to more specifically note that the observed impacts of stock use along trails could be, in part, due to pack stock use in support of the three High Sierra Camps supplied out of Tuolumne Meadows: Sunrise, Vogelsang and Glen Aulin High Sierra Camps. All three camps would continue to be supplied from Tuolumne Meadows under the preferred alternative. The greatest impact of packstock use specific to the High Sierra Camps was identified on the Glen Aulin trail. As a result, the preferred alternative would substantially reduce the amount of packstock use on the Glen Aulin trail, largely by limiting the number of packstrings allowed to resupply the camp to two per week. The Wilderness Stewardship Plan will consider all High Sierra Camps comprehensively. Regarding the water quality studies by Derlet and Carlson, please see the response to concern #234.

Concern ID: 320 The NPS should clarify if High Sierra Camp use denies other visitors access to the backcountry.

The simple truth is that the HSCs are a destructive commercial venture initiated by the early concessionaires Desmond and Curry. The Park Service climbed onto this money-making (for the Currys) venture in the 1920s, encouraging the building of additional camps in order to get more people into the backcountry. But the problem is now reversed: so many people want to visit Yosemite's backcountry that access is rationed. If environmental impacts in the backcountry are to be kept at or below any certain level, then for every person who goes to a High Sierra Camp you will have to refuse access to ten or more people who travel on foot not need to be supplied by packtrains. The DEIS fails to honestly acknowledge, evaluate, or disclose these fundamental facts.

[Recreational Groups, #379]

Response: Visitors to the High Sierra Camps are not included in the wilderness trailhead quota system; rather, they are limited by the capacity of the camps. Backpackers and other users of the Yosemite Wilderness are limited to the provisions of the wilderness trailhead quota system in place since the 1970s.

Concern ID: 321 The EIS should clearly evaluate environmental impacts of the High Sierra Camps, including natural resource impacts and aesthetic impacts, and their impacts on river values.

The DEIS downplays and does not honestly disclose the harmful impacts of the H.S.C's. The negative impacts of the High Sierra Camps are substantial, and include not only the direct impacts of human occupancy (i.e., sewage, grey water, garbage, noise, significant degradation of scenery due to the ugly facilities, soil compaction, etc.), but also the indirect impacts (i.e., high levels of noise & intrusion on the camps, river corridor, and surrounding wilderness by helicopters and other construction & maintenance activities; degradation of trails, water pollution, and introduction of invasive weeds resulting from packtrains that supply the camps; and even extensive helicopter SAR operations when H.S.C. clients become lost, etc. These all are real, not imaginary, impacts, and none are honestly disclosed in the DEIS).

[Individual, #349]

In sum, the DEIS fails to honestly analyze and clearly disclose the many environmental impacts to the Tuolumne River corridor caused by the HSCs at Glen Aulin, Vogelsang, and Tuolumne Meadows. Significant impacts include, but are not limited to: (1) impaired scenery; (2) degraded trails; (3) pollution of surface and ground waters by sewage and wastewater produced at the HSCs; (4) pollution of surface waters by manure (bacteria, etc.) produced by pack animals that service the camps; (5) harm to wildlife that come in contact with sewage, kitchen/bath wastes, and human food sources; and (6) harm to native songbirds due to proliferation of brown-headed cowbirds.

[Recreational Groups, #379]

Response: The TRP DEIS (chapter 8) and FEIS (chapter 9) fully disclose the impacts of the Glen Aulin High Sierra Camp and the Tuolumne Meadows Lodge (the only High Sierra Camps within the Tuolumne River corridor) on all river values and resources in the river corridor. These include impacts on water quality, vegetation, wildlife, floodplains, wetlands, scenery, wilderness experience, visitor experience, park operations, and energy consumption.

Concern ID: 322 Removing historic tent cabins at Glen Aulin High Sierra Camp would result in an adverse effect on the Glen Aulin High Sierra Camp Historic District.

In particular, we are concerned with the proposal to remove 3 of the 18 contributing historic cabins in High Sierra Camp to "reduce water use." As acknowledged in the Draft EIS, this would cause an adverse effect on the historic district.

[Conservation/Preservation, #385]

Response: The preferred alternative has been revised to retain all of the historic tent cabins at Glen Aulin High Sierra Camp, thereby resulting in no adverse effect on the historic district.

Concern ID: 323 The NPS should discuss measures taken to meet reporting requirements of the 1984 California Wilderness Act.

The House Committee Report prepared for the 1984 California Wilderness Act also stated:

".?Because of the importance of continuing monitoring and assessment of this situation, immediately upon enactment of this bill into law, the Secretary of the Interior should document current baseline operational and environmental impact conditions of ,all of these facilities [HSC campsl, and he should also, within one year of the date of enactment, report in the relevant committee of the House and Senate, his findings and recommendations as to this matter. Annual assessments of this situation should thereafter be made by the Secretary to assure continued monitoring of conditions." (House Committee Report No. 98-40)

High Sierra is concerned that the Park Service ignored and continues to scoff at Congress' direction to prepare baseline reports and to conduct annual monitoring of serious impacts at the HSCs.

[Recreational Groups, #379]

Response: In a report issued by the House of Representatives just prior to the passage of the 1984 California Wilderness Act (House Report 98-40, March 18, 1983), Congress indicated that the NPS should, within one year, submit a report to Congress documenting the baseline operational and environmental conditions of the High Sierra Camps. The NPS has been unable to locate a copy of any such report that may have been submitted to Congress. As part of the TRP planning process, the NPS searched park records in an effort to understand the then existing baseline conditions associated with Glen Aulin High Sierra Camp. Information on past conditions relevant to wild and scenic river management planning at Glen Aulin High Sierra Camp was limited to the type of facilities available at the camp and water quality near the camp. Chapter 5 of the TRP, under Water Quality, provides information regarding the types of facilities at Glen Aulin in the mid-1980s as well as the condition of affected resources at that time. Chapter 9 of the TRP FEIS, in the Hydrology section, lists a number of actions taken since the time of designation to address water quality issues at the camp.

Concern ID: 324 The TRP DEIS should evaluate the impacts of non-native cowbirds in high-use stock areas on native songbird populations.

2) COWBIRD EFFECTS TIED TO STOCK USE ARE NOT ANALYZED OR DESCRIBED
The great diversity of songbirds in the overall Tuolumne River corridor contributes greatly to both of the habitat complexes listed as Biological Outstanding River Values. However, the threat posed by non-native cowbirds (associated with stock use) to these native songbird populations is not formally addressed in the plan. The threat posed by cowbirds is important and meaningful due to the sightings of cowbirds "in the stock use areas of upper Lyell Canyon" (8-86). The loss of biodiversity via the loss of native songbird populations within these habitat complexes would be an unacceptable degradation of an Outstanding River Value that must be protected against via management actions set forth in the Plan. Reduction of stock use in the canyon is not sufficient to protect against this threat.
THE THREAT TO NATIVE SONGBIRD POPULATIONS POSED BY THE INCREASED RISK OF NON-NATIVE COWBIRDS ATTRACTED BY STOCK USERS MUST BE MANAGED BEYOND THE REDUCTION IN STOCK USERS TO PROTECT AND ENHANCE BOTH HABITAT COMPLEXES DESIGNATED AS BIOLOGICAL ORVS. PREFERABLY, THIS MANAGEMENT WOULD BE THE ELIMINATION OF OVERNIGHT STOCK USE IN LYELL CANYON.
[Conservation/Preservation, #240]

Native songbirds are affected by the presence of Cowbirds. Cowbirds associated with stock use and if that is reduced the songbirds population may improve.
[Individual, #422]

Response: Nonnative cowbirds can be found in Yosemite from El Portal to above Tuolumne Meadows, with their presence facilitated by humans and livestock. The magnitude of their impact on native species at higher elevations is unclear. Some research indicates such effects decrease with elevation, due to the differences in reproductive timing between cowbirds and native species. Nonetheless, adaptation of the cowbirds to parasitism of high-elevation bird species is always possible, and the park will continue to investigate the effects of cowbirds throughout the park. Additionally, the elimination of concessioner day rides, reduction in stock use for support of Glen Aulin High Sierra Camp, and consolidation of the two stables into one site will reduce the prevalence of pack stock in the Tuolumne River corridor, thereby further reducing the incidence of cowbirds.

Concern ID: 325 The TRP DEIS impacts assessment should include the impact of stock use on invasive plant management.

Our scoping comments of September 2006 discussed at length the issue of invasive weeds. Please refer to those comments for a detailed discussion of this issue. An additional study documents weed invasions in Yosemite (Exotic Species Threat Assessment and Management Prioritization for Sequoia-Kings Canyon and Yosemite National Parks, by J. Gerlach and others, April 2001), and provides clear evidence that domestic stock animals (i.e., horses and mules) are responsible for introducing and spreading weeds in Yosemite. The DEIS fails to honestly evaluate and fully disclose these impacts, and the Plan fails to incorporate mandatory measures that would effectively prevent the introduction and spread of Weeds.
[Recreational Groups, #379]

Response: Chapter 9 in the TRP FEIS has been revised to include a discussion of stock use and invasive plant dispersal in the 'Vegetation' subsection.

Concern ID: 326 The TRP EIS should discuss the use of helicopters in support of Glen Aulin High Sierra Camp in the context of the Wilderness Act.

CSERC also asks the Park to limit the use of helicopters to emergency situations and to cease the use of helicopters for administrative use and transport of materials into Glen Aulin.

FLYING LOW THROUGH THE WILDERNESS INTO THE TINY BUBBLE OF GLEN AULIN APPEARS TO BE A VIOLATION OF THE WILDERNESS ACT AND SHOULD NOT BE ALLOWED IN ANY OF THE ALTERNATIVES SELECTED.

[Conservation/Preservation, #239]

The HSCs at Glen Aulin and Vogelsang are classified as "potential wilderness additions," which, by law, must be treated and managed essentially the same as wilderness. (See the California Wilderness Act of 1984, Section 9.) However, despite the ongoing and increased impacts of the HSCs, and the clear direction from Congress, the NPS ongoing efforts to hide the impacts of these facilities from Congress and the public, and has illegally continued to use nonconforming methods (i.e., helicopters) to maintain the HSCs and to construct new developments (i.e., sewage mounds, toilets, etc.) at the HSCS. Congress specifically directed that:

"Helicopter use for routine nonemergeney purposes associated with visitor use is a questionable activity in national park system wilderness areas and should be eliminated within designated national park system wilderness." (House Committee Report No. 98-40, atp. 51)

[Recreational Groups, #379]

Response: Under all alternatives, helicopter use anywhere in designated Wilderness would be subject to a minimum-requirement analysis pursuant to the Wilderness Act. The preferred alternative has been revised to specify that helicopters may not be considered to supply the Glen Aulin High Sierra Camp, with the exception of flights dead-heading empty to the camp for other authorized purposes. It further clarifies that materials for utility improvement projects may be flown in by helicopter or packed in with stock, depending on the outcome of the minimum-requirement analysis. The preferred alternative has also been revised to eliminate all flush toilets at the camp and replace them with composting toilets. This will eliminate the need to use helicopters at the end of the season to haul the sludge from the wastewater treatment system. The composted waste from the composting toilets can be removed by pack stock at the end of the season.

Concern ID: 327 The TRP EIS should evaluate the impact of the generator at Glen Aulin High Sierra Camp.

6) GENERATOR USE IN THE MIDST OF WILDERNESS AND IN WILD SEGMENT

The use of generators at Glen Aulin has the potential to significantly impact the soundscape of this Wild section of river and the surrounding Wilderness. Up until this time, public information about the use of generators at the Camp was not widely known.

IN THE FINAL EIS, THE PARK MUST ADDRESS THE IMPACTS OF GENERATOR USE AT GLEN AULIN ON THE SOUNDSCAPE OF THE CAMP AS WELL AS THE SURROUNDING WILDERNESS, UNDER THE PREFERRED ALTERNATIVE. IF THE AREA IS ELIGIBLE TO BE DESIGNATED WILDERNESS AND IS MANAGED AS SUCH, AS OUR CENTER RECOMMENDS, THE FINAL EIS MUST SPECIFY THAT GENERATOR USE WILL BE DISCONTINUED TO MEET THE REQUIREMENTS OF THE WILDERNESS ACT.

[Conservation/Preservation, #239]

Response: Chapter 9 of the FEIS has been revised to note this impact in the 'Soundscapes' and 'Wilderness' subsections. Two small generators are used at Glen Aulin High Sierra Camp; one only rarely (at the beginning and end of each season), with the other being used for about a half hour in the morning and evening to move wastewater to the camp's leach mound.

Concern ID: 328 **The NPS should evaluate the adverse impact on visitor experience caused by the proposed change to the High Sierra Camp Loop system at Glen Aulin High Sierra Camp.**

In analyzing consequences of the action to reduce the size of Glen Aulin, the TRP does not adequately consider the major adverse impact to the visitor experience caused by the impact of this reduction on the HSC Loop system. The HSC Loop System is unique on a national scale, with three of the six camps situated next to a WSR (Tuolumne Meadows Lodge, Glen Aulin HSC and Merced Lake HSC). Other parks may have one or two rustic camps to which visitors may hike, but the HSC loop system is one of a kind in the Sierra. While hut-to-hut hiking is common in the Alps and South America, it is a unique experience for Yosemite visitors, conceived by Mary Curry Tressider and endorsed enthusiastically in the past by NPS. These camps were specifically called out as enclaves when 95% of Yosemite was designated as wilderness in 1984.

The system is historic, traditional, and many of the camps are eligible for listing on the National Register. ln fact, the NPS recently considered listing the HSC loop system as a historic district. The HSC loop system is a traditional form of recreation in Yosemite and clearly has value. The camps are more or less equal in capacity, which allows for the best hut-to-hut experience, a major benefit to the arrangement of the HSC loop.

. . .This impact on HSC Loop Trips was not adequately addressed in the TRP environmental consequences (Chapter 8), nor was it outlined in the alternative, We believe the NPS needs to clarify how the HSC loop system will be impacted and reconsider the relative benefits of preserving this traditional and unique visitor experience through alternative approaches at Glen Aulin.

[Business, #383]

Response: Chapter 9 of the FEIS has been revised to note this impact in the 'Visitor Experience' subsection.

Tuolumne Meadows Facilities

Tuolumne Meadows Lodge

Concern ID: 329 **The NPS should retain Tuolumne Meadows Lodge facilities at their current capacity.**

I want the opportunity to be able to stay at Tuolumne Meadows Lodge especially as I begin to think about retirement. I do see the benefit of option 4 but I would not have a problem with reducing the number of tent cabins or camping sites at the Lodge location. Under no circumstances would I want the Lodge to be closed.

[Individual, #54]

I particular, I agree with retaining the existing (69) units at the Tuolumne Meadows Lodge, where my family I have stayed numerous times over the last 20+ years

[Individual, #314]

I reviewed the 4 alternatives listed and I find both #3 and #4 are satisfactory. However I prefer #4 primarily because the facilities at Tuolumne Lodge are preserved. Many of the area's visitors are elderly and need the facilities that Tuolumne Lodge presents.

[Individual, #19]

Response: The preferred alternative retains Tuolumne Meadows Lodge at its current capacity.

Concern ID: 330 **The NPS should relocate or remove Tuolumne Meadows Lodge as it is too close to the river.**

Either the Tuolumne Lodge facility should be removed or it should be moved or reconstructed further back from the river.

[Individual, #56]

The Tuolumne Lodge located right on the river causes too much destruction of that area and should be moved or removed.

[Individual, #66]

Response: The preferred alternative has been revised to relocate all facilities within 100 feet of the river, including the dining hall and kitchen, to a suitable location within the lodge complex and farther than 150 feet away from the river, pending location of a suitable site within the lodge complex and consultation with the California State Historic Preservation Officer.

Concern ID: 331 The NPS should retain Tuolumne Meadows Lodge, but facilities, such as the dining hall and kitchen, should be relocated further from the river.

The Sierra Club supports the retention of the existing campground and Tuolumne Lodge. However, at Tuolumne Lodge, we suggest that the mess hall and kitchen be moved away from the River.

[Individual, #81]

At an earlier stage in this planning process, I believe there was a proposal to pull the dining hall away from the river along with some cabins. But I don't see the dining hall mentioned now. Is this not considered feasible?

[Individual, #181]

I'm disappointed the reception/dining hall/kitchen at the lodge are not considered for relocation, say, 50 feet farther north from the Dana Fork.

[Individual, #304]

Response: Please see the response to concern #330, above.

Concern ID: 332 Tuolumne Meadows Lodge is not necessary and is in conflict with the Wild and Scenic Rivers Act.

1) TUOLUMNE LODGE IS NOT "NECESSARY" IN THE RIVER CORRIDOR

Being able to spend the night in a Wild and Scenic river corridor is a luxury, not an entitlement to visitors who come there. The Park planning staff has claimed that the Tuolumne Lodge is "necessary to provide accommodations for visitors who choose not to camp or who are unable to camp."

Our Center disputes the claim that Tuolumne Meadows is such a remote location that visitors need to be provided lodging. If visitors do not wish to camp, or are unable to camp in the campground, there are affordable lodging accommodations within a reasonable distance from Tuolumne Meadows. Motels in Lee Vining, only 14 miles from Tioga Pass, offer accommodations for a roughly equivalent cost as the Tuolumne Lodge, and those lodging options provide far more benefits for the customer. It is not the legal role of the Park to attempt to accommodate for the desires of every person who visits the Tuolumne River corridor. "Desired" services and "necessary" services are not the same.

The Lodge's 276-person capacity provides accommodations for a small portion (roughly 10%) of the overnight visitors who come to Tuolumne Meadows, yet it negatively affects a large percentage of both day use visitors and overnight visitors and has a dramatic effect on the river corridor. In addition, under the Socio-economic section for Alternative 1, which calls for the removal of the Tuolumne Meadows Lodge and the Glen Aulin High Sierra Camp, the Park states: "It is assumed that the majority of visitors displaced from the scenic segments of the Tuolumne River corridor would be accommodated in other areas in the gateway communities" (8-264). Obviously the Park would not make this assumption if those out-of-Park accommodations in gateway communities were considered to be located at an "unreasonable distance?"

THE PARK MUST ACKNOWLEDGE THAT THE TUOLUMNE MEADOWS LODGE IS NOT A NECESSARY FACILITY IN THE RIVER CORRIDOR. THE PARK SHOULD REVISE ITS STATEMENT THAT THERE ARE NO ACCOMODATIONS WITHIN A "REASONABLE DISTANCE" OF THIS "REMOTE LOCATION" TO REFLECT THE ACCOMODATIONS OFFERED WITHIN A REASONABLE DISTANCE IN LEE VINING, ONLY ROUGHLY 20 MILES AND LESS THAN 30 MINUTES DRIVE FROM TUOLUMNE MEADOWS.

[Conservation/Preservation, #240]

Even if either Alternative 3 or 4 are adopted, consider adding significant protections, Move the Tuolumne Lodge back from the River or eliminate it in order to not violate the Wild and Scenic River Act. The Tuolumne Lodge is not legally "necessary" for recreational use at Tuolumne Meadows.

There are already thousands of overnight visitors each summer at Tuolumne Meadows within the campgrounds. There is no honest "need" to have the Tuolumne Lodge facility. Or if it is too great a loss for the public, move it a distance from the Tuolumne River so as not to provide disturbance and degradation of the resource.

[Individual, #273]

TML is not a necessary facility given that there are several private accommodations nearby. Sixteen hundred customers per week has a high impact on the river. At the very least all structures should be moved at least 150 feet away from the river.
[Individual, #422]

Response: Chapter 7 of the TRP FEIS assesses the facilities necessary to provide for the kind of public use and resource protection envisioned under each alternative. Without considering the desired visitor experience of a given alternative it would not be possible to evaluate the facilities necessary to support that kind of public use. The preferred alternative seeks to support continued traditional uses to the extent possible while being protective of river values. The Tuolumne Meadows Lodge is a necessary facility for continuing traditional use, so long as it does not adversely affect river values. The Tuolumne Final Study (USFS and NPS 1979b), which established the eligibility of the Tuolumne River for inclusion in the national wild and scenic rivers system, noted that "Tuolumne Meadows contains more development (600 campsites, 50 walk-in sites, and 66 tent cabins) and attracts more people (51,206 overnight campers, June to August 1977) than any other area within the study river. ... Strip development along the road is visible from the river, and vehicles using the road system can be seen and heard from points along the river. With the exception of the bridge, the river has not been adversely impacted by development. Water quality and clarity are exceptional, and present National Park Service plans are to improve and protect the outstanding visual quality of this section of the river and its meadow setting. This segment meets criteria for 'scenic' river classification."

Concern ID: 333 The NPS should reduce the capacity of Tuolumne Meadows Lodge.

I would go one step further with Alternative 4, and reduce the number of tent cabins at Tuolumne Meadows Lodge. During our last visit in July 2012, the camp seemed the worse for the wear. Remove tents 4-12: they are in an awful location, right near the restrooms and main pathways. Removing those tents would remove 36 beds.
[Individual, #117]

2) THERE IS NO JUSTIFICATION FOR KEEPING ALL 276 BEDS
Even if the Park somehow determines that the Tuolumne Lodge must be retained, there is no "need" to maintain all 276 beds when the facility is located so close to the River and is located in the midst of the river corridor. The blockage of movement along the corridor is undesirable for both people and wildlife. Reducing the number of tent cabins and significantly downscaling the Lodge facilities would produce recreational as well as ecological benefits.
THE FEIS SHOULD ACKNOWLEDGE THAT THERE IS NO LOGICAL JUSTIFICATION FOR RETAINING THE CURRENT LEVEL OF BEDS AT THE TUOLUMNE LODGE AND THAT REDUCING THE NUMBER OF TENT CABINS AND SCALING DOWN THE FACILITY WOULD REDUCE IMPACTS IN THE RIVER CORRIDOR.
[Conservation/Preservation, #240]

Tuolumne Meadows Lodge capacity could likely be reduced some small amount
[Individual, #270]

Response: The NPS considered reducing the capacity of Tuolumne Meadows Lodge in alternative 3; however, the NPS believes that retaining affordable, rustic accommodation at the lodge is necessary and appropriate for providing visitor access to Tuolumne Meadows.

Concern ID: 334 The NPS should clarify the new location of relocated tent cabins at Tuolumne Meadows Lodge.

The Tuolumne Meadows Lodge capacity is to remain the same; however, three tent cabins closest to the river are designated for removal throughout the plan. Since the occupancy of the camp remains the same, it appears the plan intends for the tents to be relocated, but does not give a location. We believe the final plan should clarify where these three tent cabins will be located within the existing camp boundaries.
[Business, #383]

Response: In the TRP FEIS preferred alternative, the Tuolumne Meadows Lodge dining hall/kitchen and three nonhistoric guest tent cabins would be moved in consultation with the California State Historic Preservation Officer if suitable sites can be found within the lodge complex that are more than 150 feet from the river. Relocated employee cabins would be situated north of the existing lodge parking area.

Tuolumne Meadows Campground

Concern ID: 335 The NPS should implement the campground design options presented in the DEIS Appendix K.

I am commenting on the campground design. The document is in appendix K and titled Tuolumne Meadows Design Guidelines.

The document states "Provide an Appropriate Range of Rustic Campground Experiences" and discusses three different kinds of campsites:

** RV only,*

** tents only with car parking at the site,*

** walk-in tent camping with parking close by.*

Diagrams 1 to 3 show a proposed layout for each kind of site.

I really like this idea and believe its implementation would provide a nicer campground experience for everybody.

** RV sites would have better access, larger parking spots and there would be the possibility to add more services to these designated RV sites in the future*

** traditional car campers would have a dedicated parking at their camp site but would not be bothered by the hum of generators*

** walk-in tent campers could park their car nearby, yet would have the opportunity for a more rustic nature experience.*

An improvement for everyone all the way around!

[Individual, #330]

Response: No response required.

Concern ID: 336 The NPS should provide more detail regarding proposed campground design changes in alternative 4.

We request the FEIS include a detailed map of the final redesign of the campground that includes clear and accurate representation of wetlands, riparian zones, and specific locations of individual campsites and facilities.

[Conservation/Preservation, #241]

I also like that there isn't a decrease in the campground use; however, I would have liked to have a more clear picture of where the A loop road would be moved to, where the entrance road would be moved to, and how many Loop A sites would be relocated?

[Individual, #299]

How is Loop A expected to be realigned and how many sites are expected to be moved from Loop A?

[Individual, #14]

Response: The TRP FEIS Chapter8: Alternatives, Actions Common to Alternatives 1-4 section, including the preferred alternative, has been expanded to clarify that as part of campground rehabilitation, all sites would be better delineated; roads in the campground would be resurfaced and improved; restrooms would be rehabilitated, with several new restrooms added to meet demand; and picnic tables and fire pits would be replaced as needed. The preferred alternative has been revised to further clarify that under that alternative the campground A-loop road would be realigned and 21 campsites that are currently within 100 feet of the Lyell Fork would be moved to a new location just west of the existing A loop, where they would be more than 150 feet from the river. The campsites that would be relocated are numbers 1-6, 48-55, 63, 66, 67, 71, 72, 88, and 89. In addition, under the preferred alternative, the existing entrance road would be relocated out of the floodplain and the shower house at the Tuolumne Meadows Lodge would be upgraded and made available to campers. All

these actions are now part of the TRP FEIS. Further environmental compliance and design will be needed for the campground overhaul, which will include an opportunity for public input.

Concern ID: 337 The NPS should provide two lanes at the Tuolumne Meadows Campground entrance and reopen the western exit of the campground.

Provide Two Lanes at the Campground Entrance
Included in the direction for the redesigned campground entrance should be two entering lanes of traffic; one for those who have been assigned their sites and can drive directly in, and one for those who need to talk with kiosk staff. We also support the proposal in Alternatives 1 and 2 to reopen the western exit to the campground, which would reduce the number of vehicles having to traverse the entire campground to exit.
[Recreational Groups, #312]

Response: Before the campground is rehabilitated (an action common to all alternatives), the NPS will provide site-specific details for the planned actions. At that time, actions such as those suggested here will be considered and analyzed.

Concern ID: 338 The NPS should reduce the length of campsite parking spaces, reduce the number of RV sites, and use the resulting space for additional tent sites, day use parking, or restored to natural conditions.

The length of current parking spaces at the campgrounds is reportedly 35 feet to accommodate large RVs. For the majority of sites in the campground, 35-foot long parking spaces are not needed. CSERC strongly advocates for redesigning the campground, reducing the length of the majority of parking spaces and either allowing more campsites within the campground area, or using the additional freed-up space to create additional day use parking or to provide for more buffering between existing campsites.
[Conservation/Preservation, #241]

On page 5-67 of the TRP it is disclosed that "...the number of campsites in the Tuolumne Meadows campground has been reduced from about 600...to 304 regular sites plus 7 group campsites, as part of [a] redesign to accommodate larger modern recreational vehicles, provide better site separation, and better protect natural resources." When did this redesign take place? What percentage of the change was to accommodate larger modern RVs? It is my understanding that the campsites are designed to accommodate two passenger vehicles or RVs up to 35 feet in length. Consideration should be given to redesigning the campground for only a limited number of sites for large motorhomes or trailers. The TRP consistently reports that the sewer treatment plant receives 32 RV dumps per day. Using that as a guideline it would seem that more than 80% of the Tuolumne Meadows campground could be redesigned for a smaller vehicle footprint. This could either increase "separation," or the additional land area could be used to increase the number of campsites without increasing the overall footprint of the campground, or land could be converted back to natural conditions, or the additional land could be used to accommodate more day use parking. Whatever the goal, the fact remains that the TRP should address whether or not all 304 campsites are designed to handle up to 35 foot long RVs.
[Individual, #406]

The Campground Redesign Should Increase Tent Sites and Reduce RV Sites
RV traffic and camping is loud (generators) and reduces the feeling that one is camping within a national park. RV camping should be restricted to specific areas and the overall amount reduced. You can fit multiple tents and families into a space for just two RVs
[Individual, #282]

Response: Before the campground is rehabilitated (an action common to alternatives 1-4), the NPS will provide site-specific details for the planned actions. At that time, actions such as those suggested here will be considered and analyzed.

Concern ID: 339 The NPS should reduce the capacity of campsites from six people per site to four people per site.

Regarding the campground, accommodating 6 per site at Tuolumne Meadows seems to be unnecessary. So I again request a complete reassessment of the current configuration of the campground be undertaken with the idea of reducing the occupancy capacity per campsite to a more realistic four per site.
[Individual, #406]

Response: Reducing the capacity of individual campsites in the Tuolumne Meadows campground from six to four persons would deprive many families and small groups of friends from camping together. As stated in the plan, an overnight campground capacity based on six persons per site is the maximum capacity, and actual use would likely be lower, because not all sites would be used to that capacity. Two of the main goals of campground rehabilitation would be to better delineate all sites and improve the natural setting of the campground, in order to improve the camping experience for all visitors.

Concern ID: 340 The NPS should increase the number of campsites at Tuolumne Meadows.

As frequent camping visitors to Tuolumne Meadows area, we are finding it increasingly difficult to obtain campsites. We are disappointed that the Park Service is not doing more to add camping facilities on the east side of Yosemite.
[Individual, #361]

The Preferred Alternative Should Include More Campsites
It is increasingly hard to reserve a campground in the summer months in the meadows and alternatives are both expensive and far away (requiring increased gas usage and driving)
[Individual, #282]

When reviewing Alternative 3, I find that there are some things that I like and some I dislike. ... As for the campground, I like that the current configuration of the campground would be maintained, although I would like to see the capacity be increased slightly as is suggested in Alternative 2.
[Individual, #299]

Response: The option of increasing the number of campsites at Tuolumne Meadows was analyzed as part of alternative 2. The user capacity under that alternative was considered to be the maximum possible while limiting water consumption to remain within the standard of consuming no more than 10% of low flow. At 1.0 cubic foot per second (a critically low flow that is occasionally seen on the Dana Fork), water withdrawals of 10% or less comprise about 65,000 gallons per day. That amount limits campground expansion to about that proposed in alternative 2 (to leave an adequate cushion for high-demand days). Based on concerns about future climate conditions and associated reductions in low flows, the preferred alternative proposes to retain overnight and day use at close to existing levels, while continuing to pursue additional water conservation measures aimed at making these levels sustainable over the long term.

Concern ID: 341 The NPS should remove some campsites from the Tuolumne Meadows campground.

Certain camping sites can be removed from the campground, thus reducing visitation.
There are places where campers are basically one atop the other, especially in the B and C loops. It's unlikely anyone would actually miss these sites.
[Individual, #270]

Response: The option of decreasing the size of the Tuolumne Meadows campground was analyzed as part of alternative 1. Because camping is such a popular traditional use at Tuolumne Meadows, and because the campground capacity has already been reduced considerably from the historically high levels (at the time when the Tuolumne River was proposed for wild and scenic designation), the preferred alternative would retain the campground at its current capacity, with the provision that if the standard for protecting water flow during

low-flow periods could not be met, a range of management actions would be considered to reduce water consumption, including closing portions of the campground. All sites would be better delineated and the natural setting of the campground would be enhanced as part of the campground rehabilitation.

Concern ID: 342 The NPS should increase the number of campsites in the Tuolumne Meadows Campground to be consistent with the 1980 Yosemite National Park General Management Plan and NPS Management Policies 2006.

Increasing the number of campsites is consistent with the 1980 Yosemite Park General Management Plan ("the GMP"). The GMP proposed to maintain 400 sites in the Tuolumne Meadows Campground and add 50 new walk-in sites there, for a total of 450 sites.[5] By contrast there are only 311 sites in the campground now, and the Draft TRP's proposed Alternative 4 would not add any. Given that there is a shortfall from GMP numbers of about 1000 campsites in the park overall including nearly 340 fewer campsites in the Highway 120 corridor above Crane Flat,[6] adding 41 walk-ins at the Tuolumne Meadows Campground is an appropriate and long overdue development.

[5] See 1980 Yosemite Park General Management Plan at 62-63.

[6] GMP at 1. The GMP calls for retaining 50 campsites at Tenaya Lake, expanding the Tamarack Flat and Porcupine Flat campgrounds from 50 to 75 sites each, the Yosemite Creek campground from 30 to 75 sites, and the White Wolf campground from 86 to 150 sites, for a total of 900 campsites along Highway 120 above Crane Flat. See GMP at 62-63. Today, the Tenaya Lake campground is gone, and instead of 900 campsites along the road, there are only 564, a shortfall of 336 sites. Yosemite National Park, Parkwide Campground Planning Study, A Study of the Potential for Expanded Opportunities for Camping in Yosemite National Park ("the Campground Study") A-24 (2002).

[Recreational Groups, #312]

Response: The Tuolumne Meadows Campground currently has 304 drive-in sites, 21 backpacker sites, 4 stock campsites, and 7 group campsites, producing a total of 329 private and 7 group campsites (this number is corrected from the DEIS). The TRP will amend the Yosemite National Park General Management Plan to include actions for the protection and enhancement of river values. Because the Tuolumne River had not been designated wild and scenic at the time the current general management plan was approved, that plan does not yet adequately consider the protection of the free-flowing condition of the Tuolumne River in compliance with the Wild and Scenic Rivers Act. Please refer to the response to concern #340, which provides additional information about the decision to not expand the campground, which was made as part of the preferred alternative to keep water consumption consistent with protection of the free flow of the river. NPS *Management Policies 2006* state that "the protection of each park's resources and values will be the primary consideration in facility development decisions," and they provide no specific guidance about increasing campground or any other facility capacities.

Concern ID: 343 The NPS should maintain the existing capacity at Tuolumne Meadows campground.

Climbers also cherish access to the quiet, low-key campsites at the Tuolumne Meadows campground, far away from the noise and congestion of those in Yosemite Valley. Retaining the capacity of this campground will be greatly appreciated.

[Individual, #390]

Response: Alternatives 3 and 4 would retain the campground at its existing capacity, with alternative 4 moving the 21 campsites closest to the Lyell Fork away from the river (but still within the existing campground).

Concern ID: 344 The NPS should increase tent camping sites and reduce the number of RV sites or reduce the size of RVs at Tuolumne Meadows campground.

Recognizing that tent camping brings visitors into closer contact with park resources than RV use, park planners should increase the number of tent sites at the Tuolumne Meadows Campground and reduce RV sites while also concentrating them as much as possible. This reconfiguration would reduce impacts on tent campers from RV generators and electric lights. Increasing this ratio towards more tent sites would also recognize that there are 255 campsites immediately east of the park in the Inyo National Forest, which are managed under a multiple use policy more suited to use by RVs.

[Recreational Groups, #312]

Reduce the size of the rvs that are accommodated in the CG. Why do people need such large RV's? In fact one summer I was riding my bike along the Tioga Road and I got pulled over by a ranger because I was in the way of the big RVs driving along the road

[Individual, #251]

Response: Before the campground is rehabilitated (an action common to alternatives 1-4), the NPS will provide site-specific details for the planned actions. At that time, actions such as those suggested here will be considered and analyzed.

Concern ID: 345 The NPS should clarify if alternative 2 would decrease the number of campsites while increasing capacity at the Tuolumne Meadows campground.

6) Alternative number 2 seems to reduce the number of Tuolumne meadows campground campsites while increasing capacity; I'd prefer to keep the higher number of (smaller) campsites

[Individual, #154]

Response: Alternative 2 would add 41 additional walk-in sites to the Tuolumne Meadows campground, bringing the total number of sites to 370 (compared to 329 sites in the current campground). In all alternatives, the individual campsites (as opposed to group campsites) would consistently accommodate up to six persons per site. Further expansion of the campground under this alternative would not be possible given the constraints upon the Tuolumne Meadows water supply, as discussed in chapters 5 and 8.

Concern ID: 346 The NPS should provide more detail on nature of use at Tuolumne Meadows campground, including average numbers of vehicles and types of vehicles.

It is also my understanding that Tuolumne Meadows campsites are designed to accommodate two passenger vehicles or RVs up to 35 feet in length. Why are two cars allowed per site? What percentage of the Tuolumne Meadows campground is generally occupied by two cars? What percentage is occupied by only one car. What is the average number of oversized vehicles that use the campground during the week, and on weekends. What is the occupancy rate of RVs versus "tent" campers. To understand the significance of the proposed changes under the different alternatives there needed to be much more information presented about the nature and type of visitors camping at Tuolumne Meadows.

[Individual, #406]

Response: Before the campground is rehabilitated (an action common to all alternatives), the NPS will provide site-specific details for the planned actions. At that time, details such as those suggested here will be provided if the relevant information is available.

Concern ID: 347 **The NPS should not provide showers at the Tuolumne Meadows campground and the FEIS should more clearly address how water use, such as showers, would be regulated.**

In general...no matter which alternative... I think that the Tuolumne Meadows campground does not need showers installed in the bathrooms. I think that people should still be able to pay for showers at the T.M. Lodge (provided you pick the alternative which keeps the Lodge). This would continue to control the use of water but still offer the alternative of a shower for those who really want one. This is a "rustic" area and I think that people in general accept this rustic atmosphere and also I think that most visitors don't stay long enough in the meadows area to warrant the additional use of water that would happen if the showers were so easily accessible

[Individual, #299]

The EIS does not provide the detail that is needed for evaluation of the upgrades proposed to be made to the Tuolumne Lodge shower house. The estimate of 10 gallons per shower and 35 showers a day seems extremely low and needs more detail in the plan to ensure its accuracy (7-99). Will the number of showers be regulated? Will the amount of water used per shower be regulated, and if so, how? With water consumption levels being so close to the maximum allowed under dry year conditions, and with the closure of the shower facilities being one of the conservation measures instituted once that threshold is reached, it is not logical to upgrade the shower houses to provide more showers and higher levels of water consumption. In addition, increasing withdrawals from the Dana Fork, which is already at capacity, to provide for the luxury of showers, with likely underestimated use and water consumption levels, is irresponsible and illogical. In light of climate change, the frequency of closing the existing shower houses will in all likelihood increase, making the impacts and costs of providing the luxury of shower facilities completely unjustifiable.

UPGRADING THE SHOWER FACILITIES AT THE TUOLUMNE LODGE TO PROVIDE FOR CAMPER SHOWERS IS AN UNNECESSARY SERVICE THAT IS INAPPROPRIATE FOR THIS SCENIC RIVER SEGMENT AND SHOULD NOT BE INCLUDED AS A PART OF THE FINAL PLAN. IF THE PARK STILL CHOOSES TO INCLUDE THE SHOWER UPGRADES, AS THE PREFERRED ALTERNATIVE PROPOSES, THE PARK SHOULD, IN ITS FINAL EIS, INCLUDE SPECIFIC DETAILS ABOUT HOW ASSOCIATED WATER USE WILL BE REGULATED.

[Conservation/Preservation, #240]

Response: Under the TRP FEIS preferred alternative, no showers would be provided at the campground, though the showers at the lodge would be rehabilitated and made available to campers when water supply was adequate. Low-flow showerheads would be utilized as part of the proposed water conservation measures.

Regarding water use estimates and regulating water use, the revised FEIS incorporates daily water usage data at Tuolumne Meadows, based on water withdrawals from a water storage tank that supplies all treated water for visitor and administrative use. These data indicate that water use is well within the proposed management standard the vast majority of the time, even during periods of low river flow.While it is not possible to determine how much water individual facilities use under current conditions (because there are no water meters currently installed at individual facilities), it is the overall water withdrawals from the Dana Fork that are of concern. The proposed monitoring program for water withdrawals on the Dana Fork is found in chapter 5, under the "Free Flowing Condition" discussion. As part of this program, all the action alternatives would install water meters at facilities and implement additional water conservation measures, such as low-flow fixtures and visitor education. Water supply lines would be repaired or replaced to eliminate leakage. Additional mandatory water conservation measures would be triggered when water withdrawals exceed 10% of flow whenever flow drops below 3 cubic feet per second, similar to those implemented at Wawona, where critically low flows also occur in drought years. Please see chapter 5 for more detailed information.

Concern ID: 348 **The NPS should upgrade plumbing facilities at the Tuolumne Meadows campground, or provide composting toilets, and provide what is necessary for a rustic camping experience and protection of the river.**

What does campground overhaul mean? The campground is just that- a place to camp on the ground. Don't go changing that with 6 million parking places, showers, pavement everywhere, lights, etc please. The A loop is practically in the river so eliminate it, I agree. The toilets and sinks are a joke. The amount of water wasted is ridiculous and should be an embarrassment to the NPS. Why are there even water-based toilets at all when technology has given us preferred alternatives years ago? Composting toilets that don't drain any water from the river or require sewage treatment? Septic? Ultra low flow? Solar lighting too? Why is this not in place already? (And don't give me the money excuse.) Moving the entrance away from the river and the floodplain is great. But please do not go crazy and make a million dollar sign and entrance kiosk and unnecessary garbage like that.
[Individual, #392]

This isn't a private movie star campground in Aspen CO please. It's a campground, I repeat. The bathrooms and shuttle bus stops in the Valley are a perfect example of what we don't need in Tuolumne- movie star development. Who approved all that money spent on bathrooms?!
[Individual, #392]

Response: Campground design guidelines have been developed to guide the campground improvements needed to enhance the recreational camping experience under all of the action alternatives. These guidelines, included in appendix M of the TRP FEIS, address campground circulation, campsite delineation, and restoration of a more natural setting within the campground. The first two desired conditions established by the guidelines are that (1) the campground's original rustic setting is restored and maintained and (2) the campground is predominated by natural sounds and scenery. The guidelines further specify that when replacing or adding comfort stations, the architectural scale, style, construction techniques, and building materials will be consistent with those used in the original CCC-era Tuolumne Meadows campground comfort stations. As part of the campground rehabilitation under any of the action alternatives, the adequacy of the campground wastewater collection system would be assessed and upgraded if necessary; leaking water and wastewater lines would be repaired or replaced; and low-flow fixtures would be installed.

Concern ID: 349 **The NPS should reconsider how campsite capacities are assigned and enforced.**

Tuolumne campground (CG) capacity is set at 304 sites with six people each; however, Yosemite campsites are often used by extended families with many more than six members. Enforcing site limits is extremely difficult, so actual use exceeds predicted capacity at busy times. How can these numbers be aligned? One possibility: the number of CG sites could be decreased slightly, and some sites could be given a higher visitor limit (e.g. 10, rather than six).
[Individual, #309]

I would also recommend that the rangers enforce rules on campsite occupancy. During the busy season I've seen 10-12 people on a site.
[Individual, #251]

In addition, rules should be strictly enforced in terms of number of vehicles and persons per site. There are currently many infractions resulting in overuse.
[Individual, #270]

Response: All individual campsites (excluding the group campsites) will continue to have a capacity of 6 persons per site, consistent with the overnight capacity established by the *Tuolumne River Plan*. The enforcement of campsite capacities is an operational decision that may be adjusted as needed by the park staff and is outside the scope of this long-term comprehensive plan.

Concern ID: 350 The NPS should retain a portion of the campground reservations as first-come, first-served.

With respect to the Campground, we support leaving a portion available as first-come-first-served rather than by reservation.

[Conservation/Preservation, #315]

Response: The operation of the campground reservation system, and the proportion of campsites made available on a first-come, first-served basis (currently half the sites) is an operational decision that may be adjusted as needed by the park staff and is outside the scope of this long-term comprehensive plan.

Concern ID: 351 The NPS should remove all A-Loop campsites, per direction in the 1980 General Management Plan.

In the 1980 General Management Plan that is still the overall programmatic policy document for Yosemite Park, the Plan specifically calls for the removal of the campsites and the road closest to the Lyell Fork of the Tuolumne River. Given clear GMP direction to remove that A-Loop string of 67 campsites, it is incumbent upon the Park Service to comply with the GMP and to remove those sites that are in close proximity to the river.

IN THE FINAL EIS, THE PARK SHOULD EITHER ADOPT AN ALTERNATIVE THAT REMOVES A-LOOP OR MODIFY THE PREFERRED ALTERNATIVE SO THAT A-LOOP AND THE ROAD THAT LIES CLOSE TO THE RIVER (AND SERVES A-LOOP) ARE ALL REMOVED, RESTORED, AND THE SITES NATURALIZED. THIS IS NECESSARY FOR COMPLIANCE WITH THE WSRA AND WITH THE GENERAL MANAGEMENT PLAN DIRECTION THAT HAS BEEN SPELLED OUT FOR MORE THAN 30 YEARS

[Conservation/Preservation, #240]

Response: The TRP will revise the park's General Management Plan for the portion of the park included in the Tuolumne River corridor. The park's 1980 General Management Plan calls for removal of the A-loop campsites; however the General Management Plan also calls for 450 campsites at the Tuolumne Meadows campground. Currently, there are only 329 campsites at the campground, plus 7 group sitesTo protect riparian vegetation along the Lyell Fork while providing the same number of campsites as today, the preferred alternative in the TRP FEIS would selectively relocate the A-loop road and the 21 A-loop campsites that are within 100 feet of the river, rather than eliminating the entire A loop. If this action is selected in the decision document for the *Tuolumne River Plan*, this would be the specific action in the amendment to the General Management Plan. Please refer also to the response to concern #12.

Concern ID: 352 The NPS should remove portions of the campground A-loop road and campsites because of its proximity to the river and/or resource impacts.

The Park should remove Loop A campsites and the road segment that squeezes into the river corridor and restricts wildlife movement

[Individual, #56]

Campsites too near the river detract from a natural river experience. Too many campers close to the river create user trails that degrade the riparian area. Finally there are enough campsites and these are not needed.

[Individual, #422]

The A-Loop portion of the Tuolumne Meadows Campground lies in close proximity to the River. Early in the Tuolumne Wild and Scenic River Management Plan process, Park planners brought up the issue of having campgrounds close to the River due to a variety of negative effects caused by such proximity. First, the campers understandably move to and from the River and create trampling, social trails, disturbance of wildlife, and various other environmental effects from being so closely located with their camps.

Second, the proximity of 67 campsites so close to the River detracts significantly from the natural river experience for the many day users, backpackers, or others who are hiking along the river corridor heading south from the main road. To have a natural river experience, it is not desirable to be close to campfires, people talking loudly, vehicles parking or leaving, or the visible presence of literally hundreds of people along a short stretch of river.

[Conservation/Preservation, #240]

Response: The preferred alternative has been revised to relocate the campground A-loop road and 21 campsites near the river. Please see the response to concern #336 for the additional details about these actions provided in the TRP FEIS.

Concern ID: 353 The NPS should remove all A-loop campsites because they conflict with the "necessary and feasible" direction of the Wild and Scenic Rivers Act.

3) A-Loop is unnecessary and is inconsistent with WSRA

A-Loop is located too close to the river and flies in the face of compliance with the WSRA. The Park could only retain A-Loop if it could be shown to be "necessary" for recreational use, yet that is not the case. There are currently 304 campsites (considered to hold up to 6 campers each) at the Tuolumne Meadows campground plus 7 group sites (capable of holding 30 campers each) plus 26 backpacker sites (K-11) (that for whatever reason are not counted in the tables or in the total count given for campers at the campgrounds). In total the current campsites and backpacker sites could result in a maximum amount of 2060 total campers.

If the 67 campsites in Loop A are removed, at 6 campers each that would diminish camping capacity down to 1,658 total campers. That is still a huge amount of camping that the Park Service would be making available for recreational use at Tuolumne Meadows. Reducing the number of campers in the campground would also help to lower overall water demand, as well as reduce the strained capacity of the minimal bathroom facilities as discussed in Appendix K of the DEIS (K-13). Keeping A-Loop is not necessary for providing a high level of recreation use for camping. Accordingly, any court reviewing the adequacy of the final decision for the Tuolumne Wild and Scenic River Management Plan would certainly not buy the argument that the Park must leave campsites crowding into the river corridor in order to provide campsites - since 1,658 campers can still have that opportunity at Tuolumne Meadows.

Thus the Park must comply with the WSRA that requires removal of facilities that are not truly necessary within the River corridor. The A-Loop campsites and road are clearly not necessary, both because so much camping is already provided and because camping so close to the River is neither necessary nor consistent with environmental practices. Similar to the point raised in these comments previously, if the Park does not provide a camping opportunity INSIDE the Park, then a private or national forest campground will have a greater amount of use OUTSIDE the Park.

The bottom line is that the Park has a clear and legal responsibility to remove such unnecessary facilities, including A-Loop.

[Conservation/Preservation, #240]

Response: The facility analysis conducted for the TRP (chapter 7 in the TRP FEIS) concludes that the campground is a necessary facility because camping is a traditional use at Tuolumne Meadows that allows visitors to enjoy the out-of-doors and to experience the park at night. Much of the campground is outside the river corridor. Under alternative 1, the A-loop, which is inside the corridor, would be removed, resulting in a lower capacity at the campground. To protect riparian vegetation while addressing the demand for campsites, the preferred alternative would selectively relocate the A-loop road and the 21 A-loop campsites that are within 100 feet of the river, rather than eliminating the entire A loop. With these changes, the A loop would still remain inside the river corridor. However, this action is consistent with the finding that the full 329-site campground (plus 7 group sites) is a necessary facility under the provisions of alternative 4 and that it would not be feasible to relocate it entirely outside the river corridor. See also the response to concern #332, which includes a quote from the 1979 eligibility study for the Tuolumne Wild and Scenic River specifically noting the presence of the campground but absence of adverse impacts from it.

Tuolumne Meadows Store and Grill

Concern ID: 354 The NPS should consider if closing the Tuolumne Meadows Store would result in more driving trips.

Over the years, I have seen all too many visitors arrive missing some essential items which, until now, they have been able to obtain in the store. Will removal of the store result in increased driving - east or west - to another store?

[Individual, #346]

Response: The store would be closed only in alternative 1, where it would be part of the management strategy of encouraging visitors to be self-reliant. The impacts of that alternative acknowledge that the elimination of all commercial services would make the Tuolumne Meadows area less attractive for those visitor seeking amenities and force the small number of visitors who would need to buy or replace groceries to travel 20 miles to the east to Lee Vining. Ice and firewood would be available through vending machines at the campground. The store would be retained under alternatives 2, 3, and 4 (the preferred alternative).

Concern ID: 355 The NPS should retain the Tuolumne Meadows Store and Grill, as proposed.

I am for keeping the small store & grill as in the preferred Alternative 4.
[Individual, #427]

Response: No response required.

Concern ID: 356 The TRP DEIS should provide better facilities for socializing and eating at the Tuolumne Meadows store and grill.

The Commercial Core at Tuolumne Meadows Should Have Better Facilities for Socializing and Eating
Missing from the proposal for the commercial core in the Proposed Alternative is any mention of the important social functions this area serves. The store parking lot and adjacent tables and benches are favorite places for climbers, hikers and others to relax and socialize, exchange information, and check the bulletin board for information. The seating areas are crowded and heavily impacted, however, and confined by the bathroom building, causing some people to sit and eat in their cars and others to sit on the boulders across the road. The toilets occupy an area needed for seating. Reconfiguring the area around the store and grill to make it more inviting and more suited to the informal socializing that occurs there while reducing impacts on soils and plants should be a stated goal of the TRP, along with the actions that are proposed, including relocating the employee housing, expanding day parking, and upgrading the restroom. Please note we are not talking about building a new picnic area here, as proposed in Alternative 2, which presumably would be intended to attract visitors driving along the road and looking for a place to picnic and would require additional parking specific to picnicking. We realize there will be a subsequent project plan to address the physical changes here, but the TRP could include explicit guidance regarding improvement of the visitor experience for socializing in this area.
[Recreational Groups, #312]

Response: The TRP FEIS has been revised to provide a larger picnic area near the store and grill.

Tuolumne Meadows Post Office

Concern ID: 357 The NPS should retain the Tuolumne Meadows post office.

My only request, though, is please retain the high camp post office. My friends work there and I love to send postcards to my family when I visit my old pals
[Individual, #161]

Response: The post office is retained under the TRP FEIS, subject to USPS levels of service that are outside of NPS control.

Tuolumne Meadows Public Fuel Station

Concern ID: 358 The NPS should clarify if the public fuel station/mountaineering shop building area would be retained for parking or restored in Alternative 4.

Page 7-95 claims that the site of the fuel station and mountaineering school will be restored to natural conditions, whereas most other places in the document state that parking will be added at that location. We request the Park make consistently clear whether there will be parking or restoration at the site of the fuel station and mountaineering school.
[Conservation/Preservation, #241]

You can make more parking for the store without removing the gas station....
[Individual, #267]

Response: In the TRP FEIS preferred alternative (see Chapter 8: Alternatives for River Management, Alternative 4, Scenic Segments) the site of the existing public fuel station/mountaineering shop would be used for parking, to replace the parking removed from more resource-sensitive locations (e.g., along Tioga Road). In addition, this location would also provide a picnic area in the commercial services core.

Concern ID: 359 The NPS should relocate the Tuolumne Meadows public fuel station and mountaineering shop to the Tuolumne Meadows store, grill, and post office area.

The removal of the fueling facility as well as the mountaineering shop do not meet with the usage that the area experiences. An alignment of these two units with the store, grille and post office with shared parking would make for better use by all visitors and employees.
[Individual, #452]

I am against removing the gas station. If it is too near the river, move it rather than remove it.
[Individual, #427]

Response: The public fuel station and mountaineering shop would be retained in their current location in alternative 2. Relocating the facilities a short distance would cause additional adverse environmental impacts (the site has a wetland on two sides) without any notable benefit to water quality or the visitor experience. Additionally, doing so would create more congestion at an already congested area. The facilities would be removed under the preferred alternative to reduce risks to water quality and to create space for additional day parking and picnicking facilities.

Concern ID: 360 The NPS should clarify why the Tuolumne Meadows public fuel station would be removed in the preferred alternative.

The preferred plan eliminates the gas station (Why? It has such a small footprint and isn't anywhere near the river)
[Individual, #1]

Why removal of the gas station/mountaineering shop? not profitable for the owners or another reason?
[Individual, #124]

I agree with the elimination of commercial use in the case of the High Sierra Camps, but I see little reason to close the store, gas station and mountaineering shop
[Individual, #344]

Response: The analysis of the necessity of the public fuel station, included in chapter 7 of the TRP FEIS, has been revised to clarify that because vehicles carry 300-700 miles' worth of gasoline, they can reasonably be expected to reach Lee Vining (20 miles east) or Crane Flat (40 miles west) instead of requiring gasoline at Tuolumne Meadows. The facility is simply not necessary for visitors wishing to get out of their cars and spend some time in the river corridor with fewer commercial services and enhanced opportunities for outdoor recreation. In addition, the underground tanks at the public fuel station pose a risk to water quality.

The mountaineering school function would be relocated to Tuolumne Meadows Lodge in the preferred alternative, and the mountaineering shop would be closed, as such goods are commonly available outside the park.

Concern ID: 361 The NPS should retain the public fuel station in Tuolumne Meadows to avoid the impact of additional driving trips to Lee Vining and/or Crane Flat, to encourage hybrid vehicle use, and to minimize additional environmental compliance and costs.

11 - Existing commercial service core. I'm ambivalent about the removal of the mountaineering shop/school and public fuel station to add parking space. Perhaps the products sold at the mountaineering shop could be sold at the main store, eliminating the need for a separate store. The mountaineering school could operate from Yosemite Valley, but eliminate the public gas station seems short sighted. Retaining an above ground diesel tank for official use is necessary, but not adding a tank for gasoline seems an oversight to the fact that most official vehicles (NPS and Concessionaire) are gasoline powered. It could be argued that Crane Flat or Lee Vining Service stations are alternatives, but this argument does not take into account the amount of miles travelled to fuel vehicles to these locations - it seems a waste of time and fuel, not to mention the emissions. I believe the public gas station in Tuolumne is a necessary evil, not only for official use, but primarily for public use for the same reasons stated above. I understand the reasoning behind the elimination of underground tanks that could leak fuel overtime, but California has very strict rules regarding UGT management to prevent such occurrences. It seems to me that eliminating that service is more an invitation to problems than a solution to a parking issue. If cars are to come to the park, then the minimal infrastructure to accommodate them should be made available to visitors. Unfortunately that means gas stations.

[Individual, #269]

The existing station at Tuolumne was recently upgraded to meet all state and federal codes. We believe that it may be most practical and a cost savings measure to retain the existing station, rather than to demobilize two fueling stations and rebuild one. These actions will likely require additional environmental review and mitigation and could become very expensive. Retention of the station should be reconsidered or the impacts of removal should be adequately analyzed in the TRP.

[Business, #383]

Since climate change is raised throughout the TRP I would think it obvious that retaining the fuel station would encourage owners of hybrid vehicles to consider taking them to Tuolumne Meadows because a fuel station would be there (hybrid vehicles have shorter driving ranges and need a supportive fuel station network).

[Individual, #406]

Response: The analysis of the necessity of the public fuel station, included in chapter 7 of the TRP FEIS, has been revised to clarify that because vehicles—including hybrid vehicles—carry 300-700 miles' worth of gasoline, they can reasonably be expected to reach Lee Vining (20 miles east) or Crane Flat (40 miles west) instead of requiring gasoline at Tuolumne Meadows. The TRP FEIS has been revised to include one above-ground diesel tank and one above-ground gasoline tank for administrative use at Tuolumne Meadows, to avoid increasing administrative traffic to Crane Flat for employees who are stationed at Tuolumne Meadows for several weeks to months at a time. The employee tanks would also be available to visitors in the event of an emergency. In addition, the preferred alternative increases the frequency of the in-park Tuolumne Meadows shuttle in order to accommodate visitors who might otherwise drive to park destinations.

The provision of administrative fuel tanks (both gasoline and diesel) near the existing wastewater treatment plant would avoid adverse impacts on park operations and provide emergency fuel for visitors who run out of gas, while greatly reducing the risk to water quality. The administrative fuel tanks would be above ground and would be much smaller than the underground fuel tanks currently at the public fuel station. The cost of removing the public fuel station and providing smaller administrative fuel tanks is considered a reasonable cost for enhancing the protection of river values.

Concern ID: 362 The NPS should remove the Tuolumne Meadows public fuel station and mountaineering shop.

Removing the unneeded fueling station and mountaineer store is desirable and protects the meadow and the river.

[Individual, #231]

I agree that we don't need the mountaineering school or fuel station.
[Individual, #251]

I support removal of the gas station and mountaineering store. This will be an economic boon to the communties outside the Park, particularly Lee Vining. We go to the park to see nature, not to buy stuff.
[Individual, #189]

Response: The public fuel station and mountaineering shop are removed under the TRP FEIS preferred alternative. Neither facility was determined to be necessary to support the visitor experience envisioned under alternatives 1, 3, or 4 (the preferred alternative). This analysis is presented in chapter 7 of the TRP FEIS.

Concern ID: 363 The NPS should consider combining the public and administrative fuel station at the existing public facility, or open the administrative fueling station to the public.

Page 7-47. You propose to remove the public fuel station but retain the National Park Service administrative fuel station. Why cannot the two needs be combined into one facility at the existing historic gas station and a separate pump island be installed for administrative use only?
[Individual, #406]

If there is going to be a fueling station in Tuolumne Meadows to support government and concession vehicles, I'd like to see that remain open to the public. I don't understand how refueling or having a somewhat larger tank substantially impacts the river.
[Individual, #409]

The Commission supports certain elements of the preferred Alternative 4 for the Tuolumne River Plan, particularly the improvements to the campground and the changes to the current roadside parking situation adjacent to the Tuolumne Meadows. However, the removal of the gas station is a concern given the significant distance between this essential service at Crane Flat and Lee Vining. The Commission understands the fueling stations will still be available for park staff vehicles. To have the existing tanks operational, but not available for guests, appears to negate any environmental concerns as well as to deprive our visitors of a basic need while driving.
[County Government, #328]

Response: Administrative vehicles seldom leave the Tuolumne Meadows area, requiring administrative fuel tanks to keep them operational. Allowing employees who are assigned to Tuolumne Meadows to use these facilities will minimize trips to Crane Flat and Lee Vining. The public would be allowed access to fuel under emergency situations; however, it is not necessary to provide a public fuel station to visitors, as fuel is available within a reasonable driving distance (20 miles east in Lee Vining or 40 miles west at Crane Flat). Closing the public fuel station will greatly reduce the amount of fuel storage in the river corridor, reduce the number of trucks needed to resupply fuel, and eliminate the underground fuel storage tanks adjacent to the meadows.

Tuolumne Meadows Mountaineering School

Concern ID: 364 The NPS should retain the Tuolumne Meadows mountaineering school.

Why remove rather than relocate the mountaineering school? If you want to do away with the gas station, that could be understandable. But the rock climbing classes teach a unique way to enjoy the Sierra. This is more modern activity, but still important to Yosemite's history. Plus climbing on granite doesn't have an ecological downside compared to backpacking and camping.
[Individual, #298]

2. Please reconsider the elimination of the Yosemite Mountaineering School in the Tuolumne area. This school connects visitors to Tuolumne in a positive, educational and safe way. It is true that recreational activities such as climbing and mountaineering will still be available to visitors without the school; however, it will eliminate the group of visitors from that activity that are novice and require a lesson, or extra help, or those with disabilities. Even if the number of people in this group is insignificant in the overall total visitation to Tuolumne, it seems socially unjust to remove their ability to experience Tuolumne in the way they feel most comfortable. Also, the YMS is a long-standing service in Yosemite and its removal does not seem to enhance the traditional visitor experience.

[Individual, #416]

The AMGA believes that the climbing school should be retained. The Preferred Alternative calls for removal of the mountaineering shop, climbing school, and the gas station. It discusses the availability of fuel and shopping in Lee Vining, but does not specify any viable options for moving the climbing school. Given the historic nature of the Yosemite Mountaineering School, and the valuable services it provides to the visitors in Tuolumne, we would like to see the school remain in the Meadows. It would be appropriate to move the facility to place it in a more centralized location, such as the Tuolumne Lodge, in order to centralize operations and mitigate impacts.

Guided climbing and instruction should continue in Tuolumne Meadows, and we support measures that will enable that. The moderate summer temperatures and greater availability of rock sites suitable for teaching make it a key venue to this important visitor opportunity.

[Recreational Groups, #244]

Response: The preferred alternative in the TRP FEIS has been revised to keep the mountaineering school function and relocate it to the Tuolumne Meadows Lodge, while removing the existing mountaineering shop and the structure where the mountaineering school/shop are currently housed.

Tuolumne Meadows Mountaineering Shop

Concern ID: 365 The NPS should retain the Tuolumne Meadows mountaineering shop.

Removing the mountaineering school/shop also forces those who need that one piece of equipment they forgot (or broke) to travel out of their way to replace it, instead of having climbing and backpacking gear available in the area they are using.

[Individual, #263]

Why remove the mountaineering shop? It poses no risk to water quality like the fuel station. How essential is a post office in the middle of Tuolumne Meadows? Not at all. Stamps could be sold at the store, and mailing a letter is something that can be done almost anywhere, it doesn't have to be mailed HERE - your Tuolumne Meadows experience is not diminished one iota if you can't mail a letter until you get to Lee Vining. However, products sold at the mountaineering shop are things someone might actually need for the activities they are planning to do HERE, so why eliminate the convenience of providing the opportunity to buy them HERE? Unless enough space to sell the products sold by the mountaineering shop can be obtained by expanding the store and/or converting the post office, KEEP it.

[Individual, #253]

Everyone who knows anything knows that during the summer months Tuolumne is a cooler and more comfortable option for backpacking, hiking and climbing than Yosemite Valley. Because of that I would like to see the services provided by the Mountaineering School and Shop remain in Tuolumne. Climbers looking for last minute gear aren't required to make the long drive into Yosemite Valley, reducing congestion in the Valley, and those unprepared for the cool morning and evening temperatures or afternoon thundershowers in Tuolumne have a resource for warmer clothing and gear.

[Individual, #409]

Response: The mountaineering shop was determined to be an unnecessary facility that could be removed to enhance opportunities for outdoor recreation in a setting that had fewer commercial services (see chapter 7 in the TRP FEIS). The site currently occupied by the shop will be used as part of the redevelopment of the visitor services core to provide additional day parking (to replace the parking removed from roadsides in the meadows) and opportunities for picnicking. The opportunity to purchase mountaineering equipment can be relocated outside the river corridor and still be reasonably available to visitors wishing to replace or upgrade

equipment as part of a day trip. Lee Vining, which is about a half-hour drive from Tuolumne Meadows, already contains at least one such store.

Concern ID: 366 The NPS should remove the Tuolumne Meadows mountaineering shop.

I support the removal of the mountaineering shop
[Individual, #287]

Also, I suspect there will be objections to eliminating the gas station and mountaineering shop. Both of these actions are also long overdue. The backpacking items sold at the mountaineering shop can be sold at the store.
[Individual, #175]

Response: The preferred alternative would remove the mountaineering shop from Tuolumne Meadows. The Tuolumne Meadows store would remain, however, and the mountaineering school function would be relocated to the Tuolumne Meadows Lodge.

Concern ID: 367 The NPS should clarify if the proposal to remove the mountaineering shop is an action in response to Merced River Plan litigation.

As to removing the mountaineering shop, we question if this action is a reaction to the language in footnote 5 of the Merced River court ruling, which the NPS has judged to place a standard for allowing commercial services which we believe is beyond the requirements of the WSRA. This shop, which mainly sells outdoor, hiking and inclement weather gear, camp supplies and climbing gear, is adjacent to the largest campground in Yosemite and a great resource for visitors, particularly during periods of changing weather.
[Business, #383]

Response: The NPS is required by the Secretaries' Guidelines for River Areas to determine which existing facilities are necessary inside the river corridor for any wild and scenic river, including both the Merced and the Tuolumne Wild and Scenic Rivers. As part of this analysis for the Tuolumne River, the mountaineering shop was determined to not be necessary (see chapter 7 of the TRP FEIS). The mountaineering school will be housed at the Tuolumne Meadows Lodge under the revised preferred alternative.

Concern ID: 368 The NPS should clarify if the TRP would remove the Tuolumne Meadows mountaineering shop/school function or would only remove the building where they are housed.

The removal of the mountaineering school needs further explanation and justification. Chapter 7 - Alternatives, calls for the "mountaineering shop/school" to be eliminated (pg 7-91). Chapter 8 only analyzes the mountaineering store removal (where visitors can buy outdoor supplies and is the primary resource for outdoor, hiking and inclement weather gear and camping supplies). The store is also the home for the very active Yosemite Mountaineering School (YMS) in Tuolumne Meadows. This operation is based out of Tuolumne in the summer so visitors Camping and staying or visiting in the High Sierra may participate in an outdoor experience provided since the 1970s Climbing equipment rentals support the operation, which provides climbing lessons and guided excursions in the Tuolumne area, both in and out of the WSR corridor. Is the plan calling for only the physical removal of the building or is the YMS also to be removed from the Tuolumne area?
[Business, #383]

Response: The preferred alternative has been revised to keep the mountaineering school function and relocate it to the Tuolumne Meadows Lodge, while removing the existing mountaineering shop and the structure in which it and the gas station are housed. Please see the response to concern #365, which describes the rationale for finding the mountaineering shop an unnecessary facility within the river corridor.

Concern ID: 369 The NPS should clarify where visitors would obtain supplies if the mountaineering shop is removed from Tuolumne Meadows.

I do have a concern about removal of the mountaineering store. Over the years, I have seen all too many visitors arrive missing some essential items which, until now, they have been able to obtain in the store. Will removal of the store result in increased driving - east or west - to another store? And will removal of the fueling station result in increased driving (to refuel) for people who spend two to three weeks in the High Sierra?
[Individual, #346]

The mountaineering store sells things that the Lodge store does not - things for climbing and camping. what is to become of this store??
[Individual, #267]

Response: The opportunity to purchase mountaineering equipment can be relocated outside the river corridor and still be reasonably available to visitors wishing to acquire, replace, or upgrade equipment during their visit. Lee Vining, which is about a half-hour drive from Tuolumne Meadows, already contains at least one such store.

Tuolumne Meadows Picnic Areas, Trails, and Trailheads

Concern ID: 370 The NPS should implement proposed trails and picnic areas in the alternative 4 Tuolumne Meadows Site Plan.

In general, I support Alternative 4. In particular, I like: Formalizing a trail connection between the campground and the John Muir Trail and Providing more picnic areas.
[Individual, #7]

The expansion of the parking area and retaining the picnic area at Lembert Dome are very appreciated. This is the perfect place for climbers and other visitors to rendezvous and have a coffee or a meal with friends in the morning and evening, before and after the day's activities. It's also allows visitors the opportunity to walk along the flanks of Lembert Dome and see some excellent examples of glacial polish on the granite slopes.
[Individual, #390]

The direct connection of the visitors center and the Parson's lodge trail is most desirable.
[Individual, #452]

Response: No response required.

Concern ID: 371 The NPS should provide accessible picnic areas near the meadows.

I am older and feel that it is difficult to walk from many lots to access areas, i would like to see picnic areas near the meadows not for parking but for 2 hr. limits so families could stop and eat but not impact meadows so much.
[Individual, #36]

Response: Accessible picnic areas near the meadows would be available under all the action alternatives. The preferred alternative would provide new picnic areas with views of the meadows in association with the new visitor contact station and in the visitor services core.

Concern ID: 372 The NPS should provide more detail on the proposed resource protection fencing.

I support the removal of roadside parking with a few concerns. I have a big problem with the "Trails and Trailheads" section. "Install protective fencing" is a phrase used more than once, and while I think delineating a trail is very good and helpful, I think fencing is entirely different. Installing "protective fencing" on either side of the trail out to Parsons Memorial Lodge from Tioga Road and on either side of the trail/access road from the Lembert Dome Parking Lot worries me. My experience as a hiker/walker would be strongly impacted in a negative way by having to look over fences. I am a responsible person who will stay on a trail when it is delineated'there is no need for fencing. I would think the park is catering to visitors who stay in their vehicles if they remove roadside parking (ah, unobstructed views from the road!) but then put up fencing for those who choose to get out of the car and enjoy

Tuolumne on foot. Please consider removing the word "fencing" and defining "delineate"'there are ways to delineate trails without obstructing views.
[Individual, #359]

What type of fencing and what height is expected to be used along the trail between Lembert Dome and the Lodge and the along the trail to Parson's Lodge?
[Individual, #14]

Fencing is discussed for Alternative 4 on p 8-77, as necessary to stop social trails or to keep deer from eating young willow. I would prefer cedar rail fencing such as that used along paved trails in YV rather than hog-wire on steel posts that would be an ugly way of steering folks away from social trail areas. For me, cedar fence would be more acceptable along designated paths rather than boardwalks in dry areas. The need for planting willow and fencing them to reduce deer damage is well explained in Appendix H, p H-10, figure 1.1 showing bank erosion that I have seen myself on a walking tour years ago to problem areas . . ..
[Individual, #304]

Response: The TRP FEIS has been revised to clarify that under all the action alternatives fencing would sometimes be necessary to protect resources, either temporarily (for example, during restoration work) or permanently (for example, to direct visitor use in heavily used areas). It might also be necessary for facility security (for example, to keep people away from wastewater containment ponds). Such fencing would be consistent with the Yosemite design guidelines, which provide specific guidance for minimizing impacts on resources and the visitor experience.

Concern ID: 373 The NPS should consider options other than fencing along trails, such as raised walkways (i.e., boardwalks) as it would change the character of the meadow.

Putting fencing along trails (e.g. from Tioga Road to Parsons Lodge) would aid meadow recovery; it would also change the character of the meadow. Are there other effective options?
[Individual, #309]

Raised walkways not favored across meadows, p 5-30, because they may be more a visual blight than limited damage from social trails are. Stoneman Meadow in Y Valley at 4000-foot elevation is given as a positive example in Figure 5-10 and text, p 5-34. More text and references are needed before I can accept this restoration method at this 8,600-foot elevation. But, I see the wisdom of a boardwalk going out into the meadow across from the Store because of heavy traffic that cross the road to walk in the meadow. I too walked that path in the 1980's after buying ice cream at the end of a weeklong backpack trip. But, I hope that fencing, p 8-77, will not have to be used to protect meadows from heavily used social trails.

There is not enough specificity in the statement "boardwalk or other surface types", p 5-30. Other types should be explained as to what material and location. Asphalt is appropriate only for a trail beside the highway from the river to the store and possibly on to the new contact station, including a wooden bridge over Unicorn Creek.
[Individual, #304]

Response: The alternatives consider a wide variety of approaches for managing foot traffic. For example, alternative 1 would significantly reduce visitor use levels and allow visitors to travel off trail, while alternative 2 would provide for increased visitation but direct visitors to stay on trails. The preferred alternative calls for delineation or rustic protective fencing along major trails across meadows to ensure that visitors stay on the trail and do not adversely affect meadow recovery. The revised Ecological Restoration Planning for the Tuolumne Wild and Scenic River Comprehensive Management Plan (appendix H) addresses additional options for encouraging visitors to remain on trails, including placement of logs and other obstacles in areas targeted for restoration. The plan (appendix H) has been revised to more clearly specify which surface types will be used on the trail to Parsons Memorial Lodge. A combination of boardwalks, stone creek crossings, and existing surfaces will be used on that trail. On all other trails in the corridor, native materials (dirt and stone) will be used.

Concern ID: 374 The NPS should clarify whether alternative 3 would allow unfettered access to the Tuolumne River.

When reviewing Alternative 3, I find that there are some things that I like and some I dislike. ...
This alternative mentions that people would not be discouraged from dispersing into the meadow or along the riverbank. I am conflicted by this. I wasn't sure if this meant that it would be completely "free reign" for the public, or if there would still be some fencing or boardwalks and some limited access to directly enjoy the river. Because of this lack of a clear view, I have a hard time knowing if I would approve of this aspect of Alternative 3 or not. I do think it is important for people to access some parts of the river directly. There is a lot to be said for being able to sit by the river or wade in the river. I know it is an important part of my visitor experience!
[Individual, #299]

Response: The description of alternative 3 in chapter 8 of the TRP FEIS has been revised to clarify how access would be managed as follows: The day use capacity would be somewhat reduced to allow for a mix of traditional park programs and relatively unstructured exploration at a level that would be protective of river values. As with alternatives 2 and 4, visitors would be directed from trailheads at designated parking lots to trails and encouraged to minimize their impacts on sensitive meadow and riparian resources; however, fencing would probably not be necessary to discourage visitors from dispersing into the meadow or along the riverbank as they have done traditionally.

Concern ID: 375 The NPS should clarify if education and enforcement would help reduce informal trails at Tuolumne Meadows.

Page 7-35. The reduction in informal trails is considered a key indicator for protecting the meadows and the river. To what extent is law enforcement and public education a "key" step in arresting this problem?
[Individual, #406]

Response: Education and enforcement will remain standard approaches the NPS uses to reduce informal trailing in Tuolumne Meadows. The final TRP FEIS has been revised to clarify that the NPS would continue to educate visitors about the importance of avoiding inadvertent impacts caused by foot traffic through sensitive meadow and riparian habitats and enforce compliance with posted trail regulations.

Concern ID: 376 The NPS should retain some of the existing trail network in the meadows or allow visitors the freedom to walk through the meadows to the river.

One of my favorite activities in Tuolumne Meadows is to go for a walk in the meadows in the evening. While I fully appreciate that the landscape has been degraded, I think it is important to maintain, in appropriate places, areas were people are free to wander off trail through the grasses. The NPS need not encourage this behavior, only not prohibit it in all meadow locations
[Individual, #79]

I support reducing but not completely eliminating the extensive user trail network in the Meadows themselves. People need to be able to walk to the river to dangle their feet in the river or have a picnic in order to experience the magic of this wild river and of Tuolumne Meadows.
[Individual, #257]

Response: The informal trails through Tuolumne Meadows are not protective of meadow and riparian habitat and need to either be restored to natural conditions or, in some cases, replaced with designated trails and boardwalks designed to provide access to the meadow and river without adversely affecting sensitive resources, as proposed in alternatives 2, 3, and 4.

Concern ID: 377 The NPS should remove informal trails at Tuolumne Meadows, as proposed in alternative 4.

Here are some of the key parts of Alternative 4 that I support:
...
2. Eliminating and restoring social trails throughout the T.M. area.
[Individual, #181]

Response: No response required.

Concern ID: 378 The NPS should consider using informal trails to help design routes for formal trails.

-I would like to see the use trail made from the campground's D loop that crosses the road at the culvert over Unicorn Creek and then follows one of the small side streams to finally meet up with the trail between Tioga Road and Parsons Lodge made into a designated trail (see attached map'I've marked the trail). I don't want it to be bigger, and it doesn't even have to be marked, but I noticed at the end of the season it was "closed for restoration." Trails like these, in my opinion, keep people from trampling the rest of the meadow in a fragile area, and provide access for those wishing to walk from the campground to Parsons Lodge. These are sometimes described as "Fisherman's Trails"'I would like to see them kept intact because I believe people will want these shortcuts to exist, and will create them no matter what.
[Individual, #359]

3- I'd encourage a lot of careful thought be applied to where the new trails are established. I heard that Frank Lloyd Wright wouldn't put any sidewalks in until a building had been up for a year, in order to see where people actually walked and to put the sidewalks there. This story might not be true, but all too often I've seen 90 degree angles when clearly people would prefer to cut the corner. In working with natural (human) tendencies we'll (for it's my park as well...) have the most success in limiting impact to the Meadows
[Individual, #79]

Response: The preferred alternative would formalize the informal trail along the south side of Tioga Road between Lembert Dome and the new visitor contact station, connecting the primary visitor service areas in Tuolumne Meadows. Alternative 2 considers formalizing the trail to link the store with Parsons Memorial Lodge. In most cases, however, informal trails are not optimally sited to avoid impacts on sensitive biological and archeological resources, and they cause an unnecessary and unacceptable amount of meadow fragmentation, as discussed in chapter 5 under the biological ORV, subalpine meadow conditions assessment.

Concern ID: 379 The NPS should formalize the social trail from the Tuolumne Meadows store/grill area to Parsons Memorial Lodge, as proposed in alternative 2.

I would love to see the addition of a second formal trail through the meadows between area #11 on the map and the footbridge by Parson's Lodge (like was proposed in Alternative #2). I think this would help reduce congestion on the only available trail through the main meadows that the alternative is already incorporating
[Individual, #299]

Also, I think that no matter which alternative you pick, you should include the additional trail from the area #11 referenced on the alternative maps (store/grill/visitor center or picnic area depending on the alternative plan) to the Parson's Lodge bridge area. This is suggested in Alternative #2 and I like it! I think that having only one formal trail through the main meadows (from area #7/#9 on the alternative maps to the Parson's Lodge bridge area) will become overly crowded on a busy summer day. Adding this additional formal trail, would alleviate congestion and allow visitors to feel a little more of the peace and solitude that they should feel when they get there! This second formal trail will hopefully give people some more time to view and appreciate the meadows and river that is so important.
[Individual, #299]

Another example is the trail between the store and Parson's Lodge. I strongly believe these use trails should be kept intact for those who want to experience Tuolumne by foot. It would impact my experience as a walker to have to go to one of the major parking lots at the visitor center or Lembert Dome just to catch a trail out towards Parson's Lodge. In addition, these trails have defined my Tuolumne experience, which I feel would be lost without them in favor of catering to one-time visitors in cars.

[Individual, #359]

Response: The alternative was considered as part of alternative 2; however, this option would result in new construction across sensitive meadow and archeological resources. Removing the informal trail in this area would enhance meadow connectivity and enhance the condition of this river value.

Concern ID: 380 The NPS should not formalize the informal trail from the Tuolumne Meadows store/grill area to Parsons Memorial Lodge, as proposed in alternative 2.

Trails in Tuolumne Meadows proper:
I feel improving the trail from hwy 120 by the RV dumping station out to Soda Springs is a great idea - perhaps a boardwalk makes sense there.
However I am concerned with the path from the store to soda springs/parsons lodge. It seems like the part of the meadow across from the TM store gets excessive use. It is highly impacted by people trampling the plants. I think it is important to restore the meadow there and to direct people to the proper trails. This trail (store to Parsons) should be removed or minimized in usage. It should NOT become an official trail. In a plan that talks about hydrology and scenic beauty, I am surprised that there would be any options that created more official paths across the meadow.

[Individual, #258]

I mostly support the changes in management's chosen Alternative.
However, I would like it publicly noted that I call for...
The removal of the social trail from the store across the meadow to Soda Springs.

[Individual, #431]

Free flowing "hydrology of the meadow" for years there has been the question of how much of an effect do roads and paths have on the hydrology of the meadow.
I feel that there should not be a path from Tuolumne store to Parsons, and definitely not a more developed one. We should limit the access in order to protect the meadows (this is true of all of the "social trails" that cross the meadow.) The current established routes are along the old road - it should be kept to that

[Individual, #247]

Response: Alternative 4, the preferred alternative, proposes this option.

Concern ID: 381 The NPS should eliminate the informal trail near Pothole Dome and discuss how this closure would be enforced at the proposed Pothole Dome parking/viewing area.

3. Eliminate the social trail from near Pothole Dome down to the river. This is not so much a change as a request for extra care. I was surprised and disappointed after hiking for a couple of hours from T.M. toward Glen Aulin a few years ago to scramble up a nearby dome and find myself looking down on scores of people at a "beach" on the river complete with coolers, chairs and umbrellas. I assume that the informal parking at Pothole Dome is the point of origin for people walking down to this point, which seems to be inside the Wilderness boundary and the Wild segment 5 of the river. I am concerned that a formal parking area at the dome, along with building a trail to the top of the falls, will perpetuate this "traditional" activity. Please consider how you will prevent this if a parking area is built.

[Individual, #181]

Site east of Pothole Dome: Because people are naturally drawn onto the open meadow, placing a picnic area along the meadow east of Pothole Dome (or anywhere on the meadow's edge) would encourage people to walk, take their dogs, or bike on the meadow. This undermines the goal of protecting the river and its environment, and of long-term visitor enjoyment.

[Individual, #309]

Response: The description of actions common to alternatives 1-4 (TRP FEIS chapter 8) has been revised to clarify that the informal trails near Pothole Dome will be eliminated and that natural barricades and signs will be used as necessary to direct visitors to the designated trail until the new use patterns are established.

Concern ID: 382 The NPS should formalize the informal trail near Pothole Dome to provide the opportunity to see stairstep river morphology features.

Also, I am wondering if you could address and consider making a formal trail from the Pothole Dome parking lot area, along the side of Pothole Dome to the cascades on the river. There is currently a very pronounced social trail there and I think that it would be nice to have it be a formal trail. It could give the public the opportunity to see one of the stair step river morphology features that this incredible river has! Encourage people to experience, fairly easily, one of the ORVs that make this area so unique! As far as I can think, it is one of the only spots to witness this ORV without a lengthy hike on the Glen Aulin trail or along the much more remote areas of the Merced River that also shares this stair step morphology.
[Individual, #299]

1) Consideration should be given to making the unofficial route from the Pothole Dome trailhead to the Twin Bridges above Glen Aulin a maintained trail. Currently this route does appear to receive occasional, informal maintenance, such as cutting branches and logs. This route provides a superior river experience compared to the north-side trail, including better visibility to cascades, meadows, and Little Devils Postpile. It is also a popular, well-known use route that will only get more use as knowledge about it becomes more common. Formalizing this trail would greatly reduce the proliferation of multiple social trails created to avoid downed trees and other obstacles.
[Individual, #400]

Response: Informal trails such as this one cause an unacceptable amount of meadow fragmentation, as discussed in chapter 5 under the "Management to Protect and Enhance the Subalpine Meadow and Riparian Complex" section. Consequently, this trail will be restored to natural conditions.

Concern ID: 383 The NPS should clarify the location of the proposed new picnic area at Pothole Dome.

For the most part, I'm in favor of adding well designed picnic areas to reduce the many impacts that informal picnicking often has. However, there's not enough information in the TRP to evaluate the impacts of the Pothole Dome picnic area. For instance, it's not clear where exactly this would be, other than somewhere east of Pothole Dome. Would its parking lot be a draw for Cathedral Lakes hikers looking to shorten their hike?
[Individual, #338]

Response: The preferred alternative has been revised to remove the picnicking area east of Pothole Dome to discourage recreating on the meadow. Instead, picnic tables will be added at the existing visitor services core and at the new visitor contact station.

Concern ID: 384 The NPS should explain why flush toilets are not included at the Lembert Dome parking/picnic area, as had been discussed during previous public involvement meetings.

I'm disappointed that flush toilets are not included at Lembert Dome parking/picnic and about to become a shuttle bus stop as was discussed at length in earlier interactions of this plan.
[Individual, #304]

Response: Under the revised preferred alternative, the ventilation systems in the existing Lembert Dome vault toilets would be improved, and the vault toilets could be converted to flush toilets, subject to water availability. The NPS would address the possibility of flush toilets at Lembert Dome after the proposed campground rehabilitation and implementation of water conservation measures at the campground (which is the largest consumer of water in Tuolumne Meadows). Flush toilets would be installed if water monitoring data indicate that sufficient water is available while staying within the standard for water withdrawals during low flow

periods, and if impacts on cultural resources could be avoided or minimized. This action would require additional site-specific compliance, including an archeological survey and consultation with associated American Indian tribes and groups.

Concern ID: 385 The NPS should improve the spacing between proposed facilities at Lembert Dome (e.g., toilets, parking, and picnicking), taking into consideration the location of existing forest cover.

Lembert Dome offers expansive views of Tuolumne Meadows and is a popular destination for climbers. The picnic area there is often used in the evening by climbers who enjoy cooking at the tables and watching the setting sun. The Access Fund supports the Proposed Alternative's proposals for expanding the picnic area,. . .as well as adding 21 parking spaces,. . . but we are concerned that the present facilities are too crowded together and the visitor experience here is not equal to the high quality surroundings. TRP planners should consider improving the location and spacing of facilities, particularly the additional parking spaces. The TRP should also provide explicit direction to subsequent site-specific plans to move the picnic facilities some distance away from the parking lot, toilets and trash bins.
[Recreational Groups, #312]

I am concerned about how/where the Lembert Dome Picnic area would be expanded? It is my hope that none of the very old lodgepoles close to the parking lot will be removed.
[Individual, #359]

Response: The preferred alternative for Lembert Dome has been revised in the TRP FEIS to retain existing parking at this location (no expansion of parking), which would allow more space for expanding the picnic area with adequate separation among facilities. The ventilation systems in the existing vault toilets would be improved, and the vault toilets would be converted to flush toilets if the water-conservation improvements during campground rehabilitation made it possible to make this conversion while staying within the standard for water withdrawals during low flow period, and if impacts on cultural resources could be avoided or minimized. These actions would require additional site-specific compliance, including an archeological survey and consultation with the associated American Indian tribes. All new design, including design of the picnic area at Lembert Dome, would follow the design guidelines for Yosemite National Park (NPS 2005a), which recognize the importance of retaining natural vegetation and incorporating it into facilities such as picnic areas.

Concern ID: 386 The NPS should consider formalizing the trail between Lembert Dome and the Visitor Center.

This hiking trail is needed, and it should be located between Lembert Dome and the Visitor Center on the meadow side very close to the parking barriers. There is a use trail there now, and visitors will build another, if one is not provided.
[Individual, #270]

Response: The preferred alternative would formalize a trail along the south side of Tioga Road between Lembert Dome and the new visitor contact station, connecting the primary visitor service areas in Tuolumne Meadows.

Concern ID: 387 The NPS should not construct the proposed hiking trail south of Tioga Road because it would create additional impacts and hazards with pedestrians crossing the road to the meadows.

2) The creation of a new trail to the South of the Tioga Road is unlikely to discourage or prevent visitors from simply crossing the road and going out into the meadow or walking along the North edge of the road where their view of the meadow is unobstructed by traffic. More aggressive management practices would be necessary to keep visitors from further trampling the meadow along the road's edge and to eliminate the safety hazards posed by pedestrian traffic along the highway.

THE PARK SHOULD MODIFY ITS SELECTED ALTERNATIVE TO INCLUDE MORE AGGRESSIVE MEASURES TO KEEP PEDESTRIAN TRAFFIC FROM BECOMING A HAZARD AND FURTHER IMPACTING THE MEADOW BETWEEN FACILITIES ALONG THE SOUTH SIDE OF TIOGA ROAD.

[Conservation/Preservation, #240]

Hiking trail along the road: A trail along the road would likely have similar effects on meadow health as the picnic area mentioned above. In addition, it would create a safety hazard as people crossed the road at random points. Such a trail would likely not be heavily used (because many visitors would rather use their hiking time in Wilderness). Omitting it would be more in line with Alternative 4's stated goals.

[Individual, #309]

Response: The proposed trail would connect the visitor contact station, campground, and visitor services core, encouraging visitors to walk between these sites rather than moving their cars and contributing to vehicle traffic on Tioga Road and competition for parking spaces. Because visitors would be directed to stay on trails rather than walking across sensitive meadow areas, the only road crossing would occur at the Parsons Memorial Lodge trailhead, which would be well marked and controlled.

Concern ID: 388 The NPS should construct the proposed new trail south of Tioga Road to connect visitor services and allow bicycles on the trail.

Table 7-16, location 2, alternative 4. Adding a trail to parallel the road is a good idea. Suggest it accommodate pedestrian as well as bike traffic. It should also be constructed with a water permeable surface.

[Individual, #245]

I would like to see a bike path along the road from the lodge to the store so that employees and other guests have a safe place to ride bikes as a commuting option

[Individual, #263]

Along with better and mandatory buses I think there should be a trail/bike path through at least the downtown Tuolumne area. Lots of folks ride bikes which are non-polluting, healthy, historic, appropriate and noiseless. Why can't we accommodate them? That would eliminate lots of cars and free up seats on the buses and not cause zillions of other problems. And racks to lock them up would keep people off the meadows, trees and the like. Bikes are the almost perfect urban solution to overcrowding. Why not the NPs'? And no ,I don't think we need to provide rentals. Lots of folks will know and/or learn to bring their own.

[Individual, #392]

Response: The idea of improving facilities to accommodate bicycling as an alternative mode of circulation at Tuolumne Meadows was considered but dismissed to avoid new ground disturbance required for trail construction/improvements, to avoid exacerbating visitors' perceptions of crowding and conflicts on trails, and to minimize commercial services (bicycle rental) in the river corridor. However, the preferred alternative continues to call for the trail (as an unpaved footpath) to be constructed, linking visitor services and allowing visitors to walk between these facilities.

Concern ID: 389 The NPS should allow visitors to have dogs on certain trails in Tuolumne Meadows.

The Plan Should Allow for the use of certain trails by dogs and their owners.
The limitations on dogs in Tuolumne meadows is so restrictive that owners can barely let the dogs out of the car on a leash. Allowing dogs on certain trails would give the opportunity for park users to experience nature and exercise themselves and their pets at the same time.
[Individual, #282]

Response: This action would require a change to the Code of Federal Regulations (CFR), which does not permit dogs on trails in national parks and is beyond the scope of this project.

Concern ID: 390 The trail between the new visitor contact station and the new Cathedral Lakes trailhead should be a more direct route and/or leverage existing trails as much as possible and/or be more direct, as proposed in alternative 3.

I prefer the location of the new Cathedral Lakes trail connection in Alternative 3 because it is further from the road, for a more natural experience and is less likely to result in social trails and shortcuts.
[Individual, #456]

If the visitor center/contact station is located as proposed in alternative 4, a more direct trail to the Cathedral Lakes trailhead should be constructed. This would reduce the potential for the creation of an informal trail, walking along the road, and unnecessary driving or shuttle bus usage.
[Individual, #338]

1) The map for the preferred alternative suggests that a new trail (labeled with a "5" on figure 7-11) would be constructed from the relocated Cathedral Lakes parking area to the currently existing trailhead. The alignment of this trail should leverage the existing JMT to the fullest extent possible.
[Individual, #400]

Response: The TRP FEIS has been revised to include a new direct trail connection from the proposed visitor contact station south to the John Muir Trail, then following that trail west to the Cathedral Lakes trail. Compared to the connector in alternative 3, this alignment would be more direct (it is actually a little shorter), flatter and easier (with fewer ups and downs over hills), and more familiar (since it follows the current route visitors know). Also, it would avoid new trail construction through a currently undeveloped natural area.

Concern ID: 391 The NPS should clarify if the Cathedral Lakes trailhead parking area was restored to natural conditions after the 1997 flood.

Page 8-152. The TRP states that the Cathedral Lakes parking area was destroyed in the 1997 flood. Has this area been restored to pre-flood conditions with the Congressional flood recovery funds that Yosemite National Park received? If not, why was it not restored? The term "frontcountry" is used for Tuolumne Meadows and, as mentioned earlier in my letter, this term can be confusing.
[Individual, #406]

Response: The Cathedral Lakes trailhead parking area was not restored to natural conditions after the 1997 floodand it is no longer in use. Under all the action alternatives for the TRP, this area would be restored to natural conditions, and trailhead parking would be relocated to a site near the existing visitor center. These actions are summarized in table 8-21 in the TRP FEIS.

Concern ID: 392 The NPS should consider building an interpretive loop hike to reduce encounter rates.

Increased day use that is being experienced in the subject area was discussed in the document. I would recommend building (where possible) additional trails that provide and invite loop hiking, particularly for the proposed interpretive and educational programs. If numbered stations are indicated to hikers, and they generally proceed along the loop hike in the same direction, encounters with other parties is substantially reduced for a given level of parties on the trails.

[Individual, #307]

Response: Fragmentation caused by trails is a major cause of adverse impacts on meadows. Because the number of formal and informal trails in the Tuolumne Meadows area currently poses a risk to meadow health, the TRP proposes to eliminate informal trails and to confine any new formal trails to the minimum necessary to connect visitor facilities and to place those trails in resilient areas. An interpretive loop trail would not be consistent with this need to restrict new trail development.

Tuolumne Meadows Visitor Center/Visitor Contact Station

Concern ID: 393 The NPS should construct a new visitor contact station in Alternative 4, as proposed.

The idea of replacing the current visitor center is the right choice. The present building is difficult to access for people with disabilities and it is quite small. Replacing it with a larger, better-designed facility makes a great deal of sense.

[Individual, #313]

Here are some of the key parts of Alternative 4 that I support:
... Building a new visitor contact station closer to other facilities to encourage less driving.

[Individual, #181]

VISITOR CENTER: Important to have one easily seen and accessed, therefore right along the Tioga road. Therefore Alt #1's design not a good one. Many visitors are first time/one time. They need and want assistance planning their day. This is also the best time to educate them in how to protect and respect the resources. Current one at location 6 is reasonable size and of historical design. Relocation to better access Parsons Lodge trail makes sense. Designated trail options do need to be near parking areas if visitors are expected to stay on them. My first thoughts were to have the wilderness center in the same area- one stop shopping and all- but I do see advantages to having it at a distance to disperse parking. In fact, probably want backpacker parking in a location where it will be dedicated to wilderness permitting and trail heads so that day use will not fill it.

[Individual, #356]

Response: No response required.

Concern ID: 394 The NPS should clarify the difference between a visitor center and a visitor contact station.

I am not sure of the difference between a visitor center and a contact station. Will the new one be large enough to accommodate the levels of use experienced at the current one (which gets very crowded) as well as a bookstore?

[Individual, #181]

Relocation of the visitor center. Main reason appears to improve visitor access to the trail across the Meadows. The term visitor contact station and visitor center are confusing . A visitor contact station would appear to be a "smaller" less complete facility than a visitor center. Given that the current visitor center is very small it couldn't get much smaller or more limited. If the vision is for a smaller visitor center, then I recommend that you rethink. Sierra Meadows, and Tuolumne Meadows in particular, play a critical role in watershed management. This is a wonderful opportunity to educate the public. Meadows play a key role in meadow in the hydrology of the entire watershed. You should centera facility that will act as a attractive and enticing greeting and educational facility for the visitor.

[Individual, #245]

Response: The current visitor center functions more like a "visitor contact station" in the current use of these terms by NPS policy makers. The plan has been revised to clarify that the proposed visitor contact station will provide a similar level of service, including visitor information and orientation, modest interpretive services, modest exhibits, and modest sales space, as the current facility. However, to avoid the impression that the proposed facility would be on the same scale as that in Yosemite Valley, the term visitor contact station has been used to describe the new facility.

Concern ID: 395 The NPS should consider developing a visitor center at the site of the existing gas station/mountaineering shop.

Another possibility to consider: create a visitor center at the site of the gas station. Parking could be positioned behind the center (and out of the wetlands). Interpretive exhibits near the use trail, and at the proposed contact station site, could focus on meadow restoration in support of river protection goals.

[Individual, #309]

Response: Relocating the visitor contact station to the visitor services core (in the vicinity of the existing public fuel station) was considered under alternative 2, although the fuel station was also retained under that alternative. Park planners determined that a site across Tioga Road from the Parsons Memorial Lodge trailhead would provide a better experience for visitors because of the viewing opportunities and access to the existing trail across the meadow to the river and Parsons Memorial Lodge. Additionally, constructing a visitor contact station near the existing gas station would add congestion to an already congested area.

Concern ID: 396 The NPS should continue to use the existing Tuolumne Meadows Visitor Center and any new visitor center should be similar in size and scale.

We believe that the existing visitor center building should be retained as a visitor center, with continued public access, instead of being repurposed for administrative use. Despite its size, it would provide a better visitor experience than a "visitor contact station". The building is a good example of the NPS rustic style and is an integral part of the Tuolumne area's early park history.

[Individual, #400]

I also wholeheartedly disagree with a new visitors center. The old one is just fine. It's cute, small, historic, appropriate and the right scale. Again, I envision one like the Valley that looks like a movie star Aspen CO mansion with a million car parking lot in front and I want to die. It will look like the Getty instead of a NP visitors center. And what a colossal waste of tax money. "Improvements" are not always. The old one is often empty and those who do visit it love it. They say how cute it is. It's just right, don't change a thing. Except the disgustingly dirty, water-wasting bathrooms please.

[Individual, #392]

For multiple reasons I am against building a new Visitor Contact Station and feel that the current Visitor Center should be retained for that use. If additional facilities for NPS operations are needed, they could be constructed at the ranger camp or in another already developed area. Not using the existing Visitor Center would decrease the ability for people to experience this historic district and be exposed to examples of Park Rustic Style architecture. For myself, being a fan of the Park Rustic Style of architecture, going to that Visitor Center is part of the Tuolumne Meadows experience. I would also have liked more information of the appearance and function of the new Visitor Contact Station.
[Individual, #80]

Response: Retaining the visitor center in its current location was considered under alternative 3. That location would have two notable disadvantages compared to the site proposed under the preferred alternative. First, it does not have a direct visual or trail connection with the river and the meadows, and visitors who stop there must get back into their cars to access trails and other visitor services at Tuolumne Meadows. Second, it is close to the maintenance yard and employee housing area, making it impossible to keep these administrative functions from intruding somewhat into the visitor experience.

Additional planning and compliance would be conducted prior to building a new visitor contact station. This would allow the public an opportunity for input on the design and scale of the building.

Concern ID: 397 The NPS should remove the visitor center function from Tuolumne Meadows and redirect visitors to Lee Vining or NPS interpretive staff.

Remove the Visitor Center and direct visitor information to the inter-agency facility at Lee Vining or on foot interpretive staff.
[Individual, #401]

Response: A visitor contact station at Tuolumne Meadows has been determined to be necessary to help visitors, especially visitors with only a short time to spend in the area, to plan their visit and gain an appreciation of the Tuolumne River. An on-site visitor contact station is also the primary place/means for the NPS to educate visitors about resource protection.

Concern ID: 398 The NPS should retain a visitor center at Tuolumne Meadows, rather than convert to a visitor contact station.

Alternative 4's proposal for a "small contact station" is inappropriate and contradictory to the statement that a full range of interpretive/orientation services will be available. A regular visitor center (vs. a contact station) is an integral (and perhaps most important) part of a full range of interpretive/orientation services. It's also impossible to have "increased emphasis...[on] protect[ing] river values" while reducing the size and interpretive content of the visitor center.

The TRP repeatedly calls out the importance of interpretation in protecting river values and states that visitor centers "are the primary place/means for NPS to educate visitors on resource protection." While additional formal interpretive programming is an essential and valuable way to achieve this, a visitor center (including exhibits, something a "small contact station" lacks) will be far more effective, and this is made plainly obvious by the fact that the most common activity in Tuolumne Meadows (beyond simply driving through) is stopping at the visitor center (58% of visitors) while only 9% of visitors attend an interpretive program. If anything, the Tuolumne Meadows Visitor Center should be expanded. Why wouldn't the most popular activity and best way of educating visitors about how to protect river values be made smaller?
[Individual, #338]

Alternative 2 maintains a visitor center presence which is replaced in Alternative 4 with a visitor contact center. The visitor center serves as a gathering place for instruction and interaction.
[County Government, #378]

Response: Please see the response to concern #399, below.

Concern ID: 399 **The NPS should consider that replacing the visitor center with a visitor contact station could result in reduced funding for restoration projects and fewer volunteers at Tuolumne Meadows.**

Additionally, if the visitor center is replaced with a small contact station, with a smaller and more crowded Yosemite Conservancy bookstore, YC's revenue would be significantly reduced. Reduced YC revenue means less staffing (to provide resource protection messages) and less funding available for resource protection projects funded by Yosemite Conservancy. The TRP fails to analyze these resource protection and economic impacts.
[Individual, #338]

Response: The TRP FEIS has been revised to clarify that the proposed visitor contact station would have a similar level of service (visitor information and orientation, modest interpretive services, modest exhibits, and modest sales space) as the current visitor center and accommodate the same level of use. 'Contact station' is the current standard NPS term for such a facility, rather than 'visitor center,' which usually denotes a larger facility with additional media and functions. Because the current visitor facility has traditionally been referred to as the visitor center, that term was not changed in the TRP.

Funding for restoration projects would be considered separately from funding for the facilities and interpretive services a visitor contact station would provide.

Concern ID: 400 **The NPS should increase the size of the proposed visitor contact station, or consider combining the visitor contact station with the wilderness center for greater efficiency.**

The visitor center/contact station can be larger with a very slight reduction in parking spaces and/or reduction in size or elimination of the proposed picnic area at the visitor center. Surely, the positive impacts of a true visitor center far outweigh the loss of a few parking spaces or less space for picnicking.
. . .Combining the wilderness center with the visitor center would be more convenient for visitors, be more efficient to operate, and would reduce energy and water use.
[Individual, #338]

Response: The visitor contact station and the wilderness center provide different kinds of services that are generally used by different types of visitors. People using the visitor contact station tend to be first-time visitors seeking general information, orientation, and interpretive services; while people come to the wilderness center for overnight backpacking permits. Both facilities need parking, and if they were combined, they would require a larger parking lot and building footprint than would be consistent with the smaller, more dispersed kind of development that is traditional in the Tuolumne Meadows area. Combining the two facilities was considered in alternative 1, an action made possible by that alternative's substantially lowered use levels.

Concern ID: 401 **The NPS should consider relocating Cathedral Lakes trailhead parking to the parking area near the existing visitor center (as proposed in alternative 4) and retaining the visitor center at its current location (as proposed in alternative 3).**

We support using the vicinity of the present visitor center, or expansion of the present parking lot, for Cathedral Lakes trailhead parking. If the area can also continue to be used for the visitor center function (as in Alternative 3), that would seem to be preferred, as it would avoid the necessity of new development in the natural area east of the present visitor center, which is proposed in Alternative 4. Keeping the visitor contact function where it presently is would also mean that the public would continue to have access for appreciation of the historic structure, rather than it being converted to offices. It would also save money, which is presumably a consideration.
[Conservation/Preservation, #348]

Response: The amount of parking needed for the Cathedral Lakes trailhead, when added to the existing parking at (and for) the visitor center, would constitute the largest parking lot in the Tuolumne Meadows area--twice the size of the existing lot at the Tuolumne Meadows Lodge. Such a large parking lot would present a

visual intrusion upon the rustic Tuolumne Meadows landscape, and would present a level of development concentration more dense than most Tuolumne developments. Finally, adding to the visitor functions that are already in close proximity to the wastewater plant would only serve to exacerbate a less-than-ideal situation.

Interpretation and Wayfinding

Concern ID: 402 The NPS should implement proposed improvements to orientation and interpretation at Tuolumne Meadows.

Here are some of the key parts of Alternative 4 that I support. . ...Providing a full range of orientation and interpretation services in the Meadows both to help people enjoy the area and to educate visitors to minimize their impacts.

[Individual, #181]

Response: No response required.

Concern ID: 403 The NPS should improve interpretive signage for visitors to better understand the surrounding ecosystem.

I want to end my comments with a general comment about signage in Tuolumne Meadows. I believe that the public needs to be more informed about how to "be" in Tuolumne, as we interpretive rangers like to say. People do read signs and will, generally, follow directions when provided with guidance. Too many times last summer I encountered visitors who didn't know not to take there dogs on trails or to be careful about where they were walking in Tuolumne. As a ranger it was supremely frustrating to me to see very few signs educating people about why they can't bring their dog with them, or why walking on the meadow can be harmful to vegetation. So many signs that do exist just tell visitors what they can't do, but not why! There aren't enough interpretive rangers out there to educate everyone, which is why I think a network of clear, concise, and interesting interpretive signs are essential to implementing the Tuolumne River Plan. I am also a trained science illustrator, so I see the potential in imagery to convey complex ideas and peak the interest of the public. I feel very strongly that Tuolumne needs better educational signage at vital intersections, such as the start of the trail from Tioga Road to Parsons Lodge, at the Lembert Dome Parking Lot (why feeding wildlife is bad for them!), at the Pothole Dome Parking lot (what feet do to meadow vegetation).

[Individual, #359]

I do have a minor suggestion and that is that a trail guide with signs be made for the new trail from the new Contact Station to Parsons Lodge. I suggest this to help first time visitors to the meadow appreciate the meadow more. Getting to know how the meadow was formed by the glaciers, the history, John Muir activities, and sheep grazing, are some things that will help them understand what an amazing place it is. I would also suggest signs pointing out the names of the surrounding peaks and domes.

[Individual, #201]

Better signage/educational information - for people to understand the proper way to interact with the meadows. Many visitors dont know the difference between a sub-alpine meadow and a sporting field. Signage (directing people where to go, and informing them to be careful of the fragile ecosystem, and general ecological information is important.) People come to see the meadow, but generally are not sure why it is important other than to get an open view or a bit of sun

[Individual, #258]

Response: The new visitor contact station included in the preferred alternative would include new exhibits interpreting the human and natural history of the Tuolumne Meadows area. Other displays are already in place throughout the meadows area, and the NPS could install new displays as needed without being specified in this plan.

Employee Housing

Concern ID: 404 The NPS should clarify the proposal to convert employee housing to hard-sided structures and the impacts of the proposed conversion.

The TRP calls either for any new housing to be hard-sided or actually proposes replacing NPS tent cabins with hard-sided structures (depending on where you look--it's not consistent). Yet, there is already a project scheduled to replace NPS tent cabins with hard-sided cabins. This seems to be predecisional. This project is also not listed as a current or reasonably forseeable project. (Interestingly, even where the TRP calls for replacement of NPS tent cabins with hard-sided cabins, concession tent cabins are excluded. Last I checked, OSHA regulations apply to both.) There is almost no analysis of the impacts of replacing tent cabins with hard-sided cabins, including the four contributing tent cabins in NPS housing.

[Individual, #338]

Response: The preferred alternative has been revised to clarify the upgrading of NPS employee housing as follows: "The existing housing currently accommodates 104 employees. That housing would be renovated or replaced to comply with all OSHA codes, NPS standards, and the Tuolumne River Corridor Design Guidelines specific to employee housing (appendix M). All new housing would continue to be very modest in scale. The nonhistoric housing would receive the highest priority for renovation or replacement: The NPS would replace the 27 nonhistoric NPS employee tent cabins with new hard-sided and hard-roofed structures that comply with all OSHA and NPS housing codes. Subsequent to this action, the NPS would alter, renovate, or replace the 11 contributing tent cabins in consultation with the California state historic preservation officer; this action would require additional environmental compliance. In the case of both the nonhistoric and the historic cabins, the NPS would attempt to follow the general layout of the existing cabins, and reuse the existing materials and/or foundations to the extent possible."

As noted in the DEIS chapter 7 (FEIS chapter 8), concessioner housing would be provided north of Tuolumne Meadows Lodge, and all new concessioner housing would be compliant with current NPS standards and OSHA codes. A hard-sided cabin would be provided for two stables employees near the combined concessioner/NPS stable. The effect of converting historic tent cabins to hard-sided cabins on historic districts is found in the Historic Properties section of chapter 9. No action regarding replacement of the employee cabins will be undertaken until the record of decision for the TRP is signed.

Concern ID: 405 The NPS should retain tent cabins for employee housing at Tuolumne Meadows.

A temporary tent cabin type of dwelling should remain an option for Employee housing in Tuolumne. Tent cabin are less formal, thus harkens to the rustic nature of the parks and the park staff. The permanent cabins in Tuolumne seem to be plagued with rodent issues. The tent cabins are dismantled, and thus do not provide winter habitat for rodents (and all the health risks accompanied by them - hanta for example)

Also the tent cabins (in Tuolumne and the high camps) are an important link to our rustic roots. These dwellings allow their inhabitants to live civilly while being more in contact with their environment.

The people who live in them have professed to feel more part of the environment because the materials that constitute the "tent cabin" allow them to experience the light changing as well as the ambient noise of the natural environment around them with a comfortable yet rustic experience.

[Individual, #247]

I love seeing the tent cabins in Tuolumne. It reminds me that this part of the park is only accessible to us for part of the year. Nature rules there - we just get to come in a perch for a bit. Meaning - solid structures look like us imposing on the environment, whereas these simple dwellings exemplify how we can be in a place in more of a temporal way. Comfortable and yet simple and temporary.

[Individual, #258]

Additionally, the tent cabins are a historic part of Ranger Naturalist culture in the Tuolumne area. Stories of Carl Sharsmith, Bob Fry and other inspirational role models for our profession pervade the canvas roofs and wooden walls. Tuolumne has a strong reputation for high quality interpretation in the spirit of amazing naturalists who helped to build the profession of Environmental Interpretation in the Park Service throughout the country. While so far as I can tell in my very quick read of the draft the Preferred Alternative does not address removing these structures, I would like to emphasize how strongly I (and other naturalists) feel about keeping this part of our culture as a living part of the experience of working out of Tuolumne.
[Individual, #336]

Response: Although the NPS housing standards do not specifically prohibit tent cabins, the requirements for safe, sanitary, and sustainable housing preclude the further use of tent cabins to house park employees. Recent outbreaks of hantavirus at Yosemite National Park have reinforced the decision to convert tent cabins to hard-sided and hard-roofed structures.

Concern ID: 406 The NPS should clarify staff needed and employee housing in alternative 1.

ALTERNATIVE 1:
Would park service interpretive staff be eliminated, or would all move the location #6?
[Individual, #270]

Response: In chapter 7 of the TRP DEIS (chapter 8 of the FEIS) the staffing requirements for alternative 1 are described under the "Alternative 1, Administrative Use"subsection as follows: “The number of NPS employees in the Tuolumne Meadows area would be reduced to a maximum of 100 people at one time, and the number of concessioner employees would be reduced to 2 people at one time.” Housing is described under the "Alternative 1, Tuolumne Meadows Site Plan" subsection as follows: “Reduce NPS employee housing to accommodate 100 employees (30 employees at Road Camp and 70 employees at Ranger Camp); provide a hard-sided cabin for two concessioner stable employees at the stable.” These staffing and housing actions did not change in the TRP FEIS.

Concern ID: 407 The NPS should clarify why additional NPS housing is needed at Tuolumne Meadows in Alternative 4.

Clarify why there will be additional NPS housing (how many units will be built and where exactly in the park).
[Individual, #113]

4) not sure why there is a need for more employee housing if user capacity is about the same - unless there is currently lots of employee commuting.
[Individual, #154]

The NPS is calling for an additional 59 housing or campground units in Tuolumne for administrative use; however, park operations staff will only slightly increase by 13 (150 to 163). (Refer to Table 7-11 and pg. 7-92). The reason for this apparent inconsistency is not clear. At the same time, concessioner housing capacity is the same and yet concessioner-offered activities are being reduced. This logic requires clarification. New and additional NPS housing is called to be placed where the NPS stables operation currently exists, which is within the scenic segment boundary of the Tuolumne. While we agree with this action, we question why new and additional housing is permitted in a scenic corridor segment of the Tuolumne while long existing infrastructure must be relocated out of recreational segments of the Merced; this does not appear to be a consistent application of values.
[Business, #383]

Response: The NPS conducted an extensive staffing and required housing analysis involving all park divisions to compute the housing needs under each alternative. The plan has been revised to clarify that while only 13 additional employees would be required in the Tuolumne Meadows area under the preferred alternative, compared to the no-action alternative, housing would be increased by 59 units to accommodate the additional employees plus existing employees who currently have no assigned housing, many of whom currently camp. Also, as explained in chapter 7 of the FEIS, NPS staff are needed to protect resources, provide for public safety,

and to manage andmonitor visitor use of the corridor, and little housing is available in Lee Vining (the closest gateway community to Tuolumne Meadows). Consequently, it is necessary to locate the housing in the river corridor.

Concern ID: 408 The NPS should retain employee housing at Ranger Camp, not combining it into one location but rather leaving it dispersed.

Employee housing at ranger camp is historic use and should be maintained not demolished.
[Individual, #254]

Combining employee housing would create a problem for employee relations. Having housing spread out a little over a few spots helps keep Pack behavior and the feeling of congested housing in a Wilderness setting limited.
[Individual, #248]

I am also against making all the Tuolumne concessionaire employees live in the same spot since work hours vary so greatly among the employees. Stables employees who have to get up at 5 am are going to be unhappy with lodge employees who get off work at 10:30 pm or so and want to have a little fun before bed and decide to stay up until 3 am
[Individual, #263]

Response: Under the preferred alternative, NPS housing would remain dispersed among Road Camp, Ranger Camp, and Bug Camp. Concessioner housing, much of which is currently located in or adjacent to sensitive meadow and riparian habitat, would be consolidated north of Tuolumne Meadows Lodge in order to reduce the footprint of new development and provide housing that is safe, sanitary, and sustainable that is also compliant with NPS standards and OSHA codes.

Concern ID: 409 The NPS should allow concessioner employees with RVs or trailers to dry camp at their work location.

I think employees with RVs or trailers should be able to dry camp at the work units as they do at the park service housing areas. I know that if it was an option I would use the RV we own in the stables parking area instead suffering at night in a tent in a noisy housing area. This is allowed (or a blind eye turned) at the lodge, the store, and at ranger camp, and should be an option for all Tuolumne concessionaire employees
[Individual, #263]

Response: The NPS will not allow any employees to camp in RVs at their work locations because of parking restrictions and because RVs would be unsightly intrusions into the visitor experience. The preferred alternative would provide for some dry-camping at Gaylor Pit for NPS employees temporarily duty-stationed in Tuolumne Meadows (for several days or weeks); however, concessioner employees are hired for the entire visitor season and would be provided with regular seasonal housing.

Concern ID: 410 The NPS should relocate employee housing at Tuolumne Meadows Lodge away from the river, as proposed.

I do feel the concessions housing at the Lodge should be moved farther away from the river and kept at a fair distance from guest accommodations.
[Individual, #248]

Tuolumne Lodge: relocation of the employee living facilities is a most welcome change. Though having resided in employee tent #1, I can testify that the proximity to the river is delightful, yet this same proximity is of concern for the potential for contamination of various types to the river. Relocation of this housing to the north side of the parking seems prudent.
[Individual, #452]

Response: No response required.

Concern ID: 411 The NPS should provide employee housing near the concessioner stable.

Housing Tuolumne stable staff on site makes perfect sense. With 65 and more head of stock working out of this facility, unplanned or unforseen livestock emergencies can and do happen. Having the staff on site vitually guarantees that enough will be there to deal with whatever may happen. Unlike most of the DNC concession staff at Tuolumne, most of the stable staff begin work between 5: 30 and 6: 00 a.m. Being on-site and having the facility to prepare food make this logistically do-able. Moving the staff to the Lodge area is neither efficient nor practicle.

[Individual, #279]

12 - Existing Concessionaire stable. I agree that consolidating NPS and concession's stable operations is a good idea from the point of view of the impact such operations have in the environment. I'm just concerned about the number of employee housing provided at that location. Stock needs supervision and two employees seems too small of a staff to oversee a stable.

[Individual, #269]

Working with stock especially it is very desirable to know that someone is waiting for you to get home and who is able to assist with any disasters that happen. Every animal added to a string doubles the potential for disaster. Packers live on the edge every day and taking away their safety net should not be an option. When my mule got loose last summer it took everyone working together to catch her, and she was famous all summer for her escapades in the campground and the meadow. I would not have been able to catch her alone, and moving the stables employees away from the stables would have made it much more difficult to get the help I needed that day. We work as a team because we live as a team.

[Individual, #263]

Response: Because of the proximity of the designated Wilderness boundary, adequate space does not exist at the concessioner stable site to place housing for stable employees here and still be consistent with the OSHA code, which prohibits housing within 500 feet of stock holding areas. Furthermore, with the exception of two employees needed to provide stable security at night, there is no need to house employees at the stable site, as adequate space exists near Tuolumne Meadows Lodge. Also, moving this concessioner housing to the same place proposed for the remaining concessioner housing (just north of the lodge in the TRP FEIS preferred alternative) would allow for the consolidation of such housing in one area. Finally, space freed by relocating housing from the concessioner stable area will be used to co-locate the concessioner and NPS stables and to provide parking for stock trailers.

Concern ID: 412 The NPS should clarify the location and number of proposed new employee campsites, and associated employee campsite occupancy, and parking.

Page 7-55 and following. Please clarify how many of the added campsites are for public use and how many may need to be utilized by employees.

…Page 7-64. Clarify if additional campsites for employees are at Gaylor Pit and Road Camp or will there be need for campsites at the public campground? How will OSHA issues be mitigated? Has the cost and complexity of complying with the Americans with Disabilities Act (ADA) been addressed?

…Page 7-14. Clarify the practice of employees occupying campsites. Clarify where they park their cars. What percentage of the employees have family members staying with them?

[Individual, #406]

Response: Although some employees who have no other housing options currently camp in the Tuolumne Meadows campground, that practice will cease under the TRP. Under the preferred alternative, campsites for employees temporarily duty-stationed in Tuolumne Meadows will be provided at Gaylor Pit.

Concern ID: 413 The NPS should clarify the proposed location of concessioner housing.

Where will concessioner employees be housed?

[Individual, #270]

Response: Under the preferred alternative, concessioner employee housing for 88 employees would be located north of the existing Tuolumne Meadows Lodge parking area, as detailed in chapter 8,"Alternative 4, Scenic Segments, Tuolumne Meadows Site Plan, Employee Housing" and the Tuolumne Meadows Site Plan map for alternative 4, figure 8-11. Details as to the exact siting and design of the new housing area will be determined when project level environmental compliance is completed.

Concern ID: 414 The NPS should clarify the number of existing NPS employee beds at Bug Camp.

Page 8-217. Table 8-15 lists 33 employees at Bug Camp but on page 8-214 the information states that "23 beds are available for NPS staff." Please explain the discrepancy.
[Individual, #406]

Response: As listed in table 8-15 in the TRP DEIS, 33 employees are currently housed at Bug Camp. The number of beds provided on page 8-214 of the DEIS was a typographical error that is corrected in the TRP FEIS (chapter 9).

Park Operations

General

Concern ID: 415 The NPS should clarify why some Alternative 4 actions focus on park operations rather than visitor access and visitor experience. For instance, the existing historic visitor center would be used for office space, and the visitor center function would shift to a smaller facility.

Some of Alternative 4's actions seem strongly supportive of park operations, with less clear focus on visitor connection and other goals. For example, visitor contact is central to Alternative 4's goals. But VC functions will be shifted to a small contact station, while the large, historic visitor center will be used for office space, though the need for that space is not explicitly linked to plan goals. In addition, 59 new employee beds are called for, while the number of overnight visitor slots remains the same. The reasons for these kinds of choices are not clearly explained.
[Individual, #309]

Response: The alternatives chapter of the TRP FEIS (chapter 8) has been revised to clarify that the new visitor contact station proposed under alternative 4 would provide the same level of service for as many visitors as the existing visitor center, as well as being better located to provide visitors with an introduction to river values and walking access to the river, the meadows, and Parsons Memorial Lodge. The alternative 4 description in chapter 8 has also been revised to clarify why additional housing and office space is required. Additional staffing and office space would be needed to implement the user capacity program and increased ecosystem management. While only 13 additional employees would be required in the Tuolumne Meadows area under alternative 4, compared to the no-action alternative, housing would be increased by 59 units to accommodate the additional employees plus existing employees who currently have no assigned housing, many of whom currently camp.

Facilities Maintenance

Concern ID: 416 The NPS should include a detailed discussion of the solid waste stream generated at Tuolumne Meadows.

The subject of garbage disposal is mentioned but nowhere in the TRP is there an in-depth discussion about the solid waste stream being generated at Tuolumne Meadows. Recycling programs should be noted. Volume and type of waste and where and how it is disposed should be addressed.
[Individual, #406]

Response: The handling of solid waste is an operational issue that is outside of the scope of this comprehensive management plan. Solid waste in Tuolumne Meadows and Yosemite will continue to be handled by an outside contractor and hauled to Mariposa. The amount of solid waste that would be generated under the preferred alternative would be similar to existing levels. The park will continue to implement sustainability initiatives outlined in its 2020 Strategic Plan, including an initiative to divert 65% of its waste material.

Resource Protection/Law Enforcement

Concern ID: 417 The NPS should enforce resource protection with strict penalties to protect wild areas.

As human encroachment continues to increase into our wild areas, the pressure exerted on these environments causes them to degrade much quicker than they can recover.

Those that abuse our national parks and resources need to be held accountable.

Providing excellent oversight and enforcement with stiffer penalties should help to ensure our wild areas will still be around for generations to come.

[Individual, #31]

Response: All the TRP alternatives would provide for the protection and enhancement of river values through some combination of site design, visitor use limits, and mechanisms to direct, and if necessary enforce, visitor activity to avoid adverse impacts on sensitive resources. Specific mechanisms for managing visitor use would start with the least intrusive, such as information and signing, with more intrusive mechanisms, such as permits and fines, implemented as necessary at the discretion of the staff responsible for resource and visitor protection.

Concern ID: 418 The NPS should clarify proposed changes to Resource Protection operations at Tuolumne Meadows (specifically ranger station functions/search and rescue operations) in the preferred alternative.

No mention was made of the rescue cache. I assume it will remain in place. Operationally, where will the ambulance and fire truck (assuming there still is one) be physically located? At the new ranger station or in the NPS housing area. Will this equipment be immediately available for after-hours calls, etc. where ranger staff reside or will rangers have to travel down to the new ranger station to access this equipment?

[Individual, #13]

Response: The description of the preferred alternative (alternative 4) in the TRP FEIS chapter 8 has been revised to show that the existing ranger station would be retained and slightly expanded. Visitor protection functions, including search and rescue, would continue to operate out of the ranger station and the nearby search-and-rescue cache.

Concern ID: 419 The NPS should develop an enforcement policy to reduce the impact of motorcycle noise on climber safety.

Access Fund members know from personal experience that motorcycle noise interferes with climbing activity, including safety tasks. Many climbing routes in Tuolumne Meadows are close to the highway, and climbers routinely find it impossible to hear each other's climbing calls above the noise of vehicles, especially motorcycles with altered mufflers. For climbers, being able to hear and immediately respond to their partner's calls is critical to their safety...

. . .To correct this unacceptable situation, the TRP should propose the following management actions in the river corridor from Puppy Dome to the Tioga Pass entrance station. . . .

- Encourage quiet and courteous motorcycle riding through education.

- Discourage use of modified exhausts on motorcycles that increase noise levels.

- Require groups of organized motorcycle riders to acquire a special use permit, and an application system for organized motorcycle riders should go through the appropriate NEPA analysis.

- Enforce 36 CFR 2.12(i) limiting vehicle noise to 60 decibels at 50 feet.

- Enforce 36 CFR 2.12(ii) prohibiting "unreasonable" noise, judged from the totality of circumstances.

- Issue "fix-it" tickets for modified mufflers, requiring documentation that a modified muffler has been replaced with a compliant one, as some CHP officers do.

[Recreational Groups, #312]

Response: Traffic control on Tioga Road is part of basic park operations and is outside the scope of the *Tuolumne River Plan*. Please refer to the response to concern #68, which summarizes the efforts underway to reduce motorcycle noise.

Concern ID: 420 The NPS should eliminate games and dogs from Tuolumne Meadows and wilderness areas.

I mostly support the changes in management's chosen Alternative.
However, I would like it publicly noted that I call for...
Eliminate kites, frisbees, baseball, etc in Tuolumne Meadows. This is also appauling.

[Individual, #431]

I mostly support the changes in management's chosen Alternative.
However, I would like it More strict guidelines around dogs in the wilderness. There are some signs but very little enforcement publicly noted that I call for...

[Individual, #431]

Response: Visitors are already prohibited from bringing dogs onto the meadows or into designated Wilderness. Games are discouraged as well; the NPS uses education and enforcement to prevent activities that would adversely affect sensitive resources, such as meadows.

Stable Operations

Concern ID: 421 The NPS should relocate the concessioner stable south of Tioga Road and restore the area to natural conditions.

This is in response to the Tuolumne River Plan DEIS. I will limit my comments to one recommendation I previously made, the relocation of the stable to an area south of the Tioga Road. This was to correct a management mistake made around 1970that degrades the visual integrity of a wide area in eastern Tuolumne Meadows. When such mistakes are made , it should not be the policy to perpetuate these indefinitely into the future.

The year 1970 was pivotal, and an extremely difficult period in understanding what the role of the National Park should be. The old Curry Company had lost control of the franchise, and an adventuresome new company had taken over. New elements of commercialism were appearing. The giving of the present stables site for concessioner use was but one.

About the nearest the present plan comes to correcting this mistake is Alternative 2, that while relocating the stable to south of the Tioga Road, converts the existing site, associated parking lots, and access road, commonly clogged with cars, to a different use. This entire area should be closed to public use.

[Individual, #24]

Response: This alternative was considered as part of alternative 2. The preferred alternative (alternative 4) would keep the concessioner stable at its current location to avoid the environmental impacts of introducing a major facility into a currently undeveloped natural area.

Concern ID: 422 If the NPS removes Glen Aulin High Sierra Camp in alternative 1, it should also remove the concessioner stable at Tuolumne Meadows.

The TRP states that, even if GAHSC is removed, the DNC stable is still necessary because of the role it plays in supporting other High Sierra Camps. This is irrelevant--the stable is not necessary for protecting river values within the river corridor. So, if GAHSC is completely removed (alternative 1), the stable is no longer necessary and must be removed as well.

[Individual, #338]

Response: In alternative 1 the concessioner stable would still be required to manage the pack strings needed to supply the Vogelsang, Sunrise, and May Lake High Sierra Camps (which are all outside the river corridor and therefore outside of the scope of this plan).

Concern ID: 423 The NPS should combine concessioner and NPS stock operations at the site of the current concessioner stable, as proposed in Alternative 4.

WE SUPPORT: Combining of NPS and concessioner stables at the present concessioner location.
[Conservation/Preservation, #348]

the plan overall seemed reasonable, in particular the combining of the NPS/DNC stables.
[Individual, #158]

I do agree on consolidating the stables into one area.
[Individual, #392]

Response: The stables will be co-located at the site of the concessioner stable as part of the implementation of the final *Tuolumne River Plan*.

Concern ID: 424 The NPS should clarify the size of the herd at the existing concessioner stable and the number of stock that would be housed at the combined concessioner/NPS stable in Alternative 4.

5) The claim that changes made to concessioner stock use will result in a decrease in stable operations, which will ultimately lead to a reduction in "localized risk to water quality at the current location of the concessioner stable" (8-43) does not reflect the changes made by the increase in stock kept there associated with the relocation of NPS stable operations to the concessioner stables. Page 8-224 addresses concerns about the combination of the stable operations, but it does not address whether the combination will increase the risk to water quality from the stables. No numbers are provided to show how many fewer stock (if any) will be kept at the stables for concessioner use due to the changes proposed in the preferred alternative, nor are any numbers provided for the amount of stock the NPS uses and will need to be kept at the combined stable site. The capacity of the concessioner stable (110 head of stock), and the capacity of the NPS stables (up to 60 head of stock) are provided, but no information is given regarding how often, if ever, that capacity is and will be met.
IN ITS FINAL EIS, THE PARK SHOULD PROVIDE PROJECTED NUMBERS FOR THE AMOUNT OF STOCK TO BE KEPT AT THE COMBINED FACILITIES AS PROPOSED UNDER THE PREFERRED ALTERNATIVE SO THAT THE ASSOCIATED IMPACTS CAN BE QUANTIFIED AND MANAGED FOR IF NECESSARY.
[Conservation/Preservation, #241]

10) The EIS fails to justify continued presence of stock, and fails to adequately justify the number of stock in actual use. This notwithstanding, the consolidation of NPS stock at the concession stable would be acceptable to us as an interim measure. Site specific analysis should at least measure some benefit in order to justify the move from the NPS stable.
[Conservation/Preservation, #394]

Response: The alternatives chapter (chapter 8) of the TRP FEIS has been revised to clarify the amount of stock stabled in the Tuolumne Meadows area. Under the no-action alternative the concessioner stable accommodates up to 100 head of stock, including up to 25 animals needed to support the Glen Aulin, Vogelsang, and Sunrise High Sierra Camps. Under the preferred alternative concessioner stock would be reduced from a maximum of 100 head to about 25 head to support the High Sierra Camps; NPS stock would be no more than 25 head to support trail maintenance and ranger patrols. The combined total of 50 head would represent a 50 percent reduction from the current maximum number of stock kept at the concessioner stable.

Concern ID: 425 The NPS should consider the effects of separation of NPS and concessioner herds at the proposed combined stable.

The TRP calls for the NPS stables operation to be relocated to the concessioner stables area, but also notes that separation of stock and operations will be required for the health and safety of the animals and operational efficiency. NPS and concessioner stock currently share the same winter grazing area separated only by a single barbed-wire fence. We recommend that NPS consider contracting with the concessioner to provide administrative/operational stock support rather than constructing separate corals, feeding stations, storage, and corral housing, We believe this solution would be an efficient way to meet operational requirements, reduce the footprint and impact of maintaining segregated stables, eliminate Concern over the health and safety of the animals and reduce the number of stock being corralled in Tuolumne Meadows.

[Business, #383]

You can't mix the stock as they carry disease that might be detrimental to other stock animals.

[Individual, #196]

As for consolidating stables, this seems to be a way to confuse and complicate handling of animals between two separate entities.

[Individual, #248]

Response: Reduction of the concessioner stock herd from about 100 animals to 25 animals will make more than enough space available to accommodate the 25 stock moved from the existing NPS stable without mixing the two herds. NPS stock are needed throughout Yosemite, while concessioner stock are necessary only to supply the High Sierra Camps and for day rides. The need for NPS stock varies widely by project and time of year. Consequently, the NPS finds it most useful to retain management of its own stock.

Concern ID: 426 The NPS should clarify if any jobs would be lost by combining the concessioner and NPS stables.

If the concessioner and NPS stables are combined will there be a loss of jobs? If that would be the case I could not support that effort.

[Individual, #149]

the Tuolumne Meadows base camp is the jumping off point for these multi-day high country excursions. By eliminating mule daytrips, a significant number of employees and stock which already assist in booking trips, maintaining the mules, cycling the mules on and off duty to allow for rest and reserves and restocking the high camps will be eliminated, resulting in further strain on the remaining employees and stock animals. As I understand it, much of the concessioner's resources of are built from third-party purveyors of pack animals; a reduction of these levels by a significant percentage could make small suppliers' positions untenable. What kind of effect that this could have on service of those willing to purchase these services would be unknown to me, but likely quantifiable by you, your group and/or the concessioner.

[Individual, #142]

Response: A total of up to 13 concessioner jobs would be lost because of the elimination of commercial day rides. The alternatives description (chapter 8) and environmental consequences analysis for socioeconomic resources (chapter 9, under the “Socioeonomics” subsection) of the TRP FEIS has been revised to adjust the administrative user capacity and housing proposal and to examine the socioeconomic impacts of the loss of these jobs.

Wastewater Treatment Plant

Concern ID: 427 The NPS should clarify if the Tuolumne Meadows wastewater spray fields are located within designated Wilderness.

Is this sewage disposal field in Yosemite Wilderness or not? The preferred Alternate 4, in Figure 7-11 p 7-97, and all three other alternate figures show the spray field outside of Wilderness. Likewise in Appendix A, p A-6, in the table under Spray field I read "No. No suitable [location for the spray field] occur outside the [wild and scenic] corridor due to wilderness boundaries and other resource constraints?" This hints that the spray field is outside Wilderness On the other hand, Figure 8-1 p 8-29, Figure 8-3 p 8-49, Figure 8-5 p 8-69, and Figure 8-11 p 8-273 all show the spray field inside Wilderness. Likewise Falls Ridge and Vogelsang USGS topo maps show the spray field in Yosemite Wilderness. It seems to me a stretch to use Wilderness designated land, p 8-194, for disposal of partly treated sewage, even for a few days a year. If spraying sewage onto Wilderness land is allowed, explain that anomalous action.

[Individual, #304]

5. 5-27: Figure 5-9 shows TMWWTP pond outside the wilderness boundary and the spray fields inside the wilderness boundary. Is this correct? 6. 7-17: The SFPUC requests clarification on the wilderness boundary in Figure 7-2 being different at the TMWWTP ponds than in Figure 5-9. Spray fields aren't shown in Figure 7-2.

[Public Utility, #446]

Response: The map of the sprayfield in figure 5-10 has been updated to reflect the correct designated Wilderness boundary. The sprayfields are not within designated Wilderness.

Concern ID: 428 The NPS should eliminate the wastewater treatment ponds located north of Tuolumne Meadows, even if this action would require reduced water consumption.

The Sierra Club strongly recommends all available technologies be employed to eliminate the two wastewater ponds (industrial grade lined tanks and spray fields) north of the meadow with a new state of the art wastewater facility at the existing site #7. Replacing long outdated water gulping toilets in use throughout the area, with new ultra low flow toilet technology would significantly reduce wastewater effluent volume and may be an appropriate solution to this difficult problem of excessive waste-water flows.

[Individual, #81]

We strongly support relocation of wastewater treatment ponds (Item 4 on the maps) so as to help return the Meadows to as natural a condition as possible, and to concentrate the area in which development and operations are located.

[Conservation/Preservation, #315]

3) The wastewater treatment ponds on the north side of the Tioga Road and the associated wastewater line that runs below the river and the meadows, both pose a risk to water quality. Road access is required, but could be eliminated with the relocation of the wastewater treatment ponds to a site on the south side of the road, as proposed by Alternative 1. This relocation would, however, rely upon a reduction in water consumption levels. The removal of the risk to water quality is justification enough for the reduction in water consumption levels. It is not justifiable to leave the wastewater treatment ponds in their present location, posing a risk to water quality and ORV's, because of the proposed water needs. Water consumption should be based upon the capacity of a NEW facility placed in a location that is protective of river values.

OUR CENTER ASSERTS THAT THE CURRENT LOCATION OF THE WASTEWATER TREATMENT PONDS IS NOT PROTECTIVE OF RIVER VALUES AND THAT THESE FACILITIES SHOULD BE RELOCATED TO A SITE THAT IS MORE PROTECTIVE OF WATER QUALITY. RELOCATION OF THE PONDS SHOULD NOT BE DEEMED INFEASIBLE IF THEIR RELOCATION RESULTS IN A REDUCTION IN TREATMENT CAPACITY THAT REQUIRES REDUCTION IN WATER CONSUMPTION LEVELS.

[Conservation/Preservation, #241]

Response: The TRP FEIS specifies that under alternatives 2, 3 and 4 (the preferred alternative) the wastewater treatment facilities would remain in their current locations unless a suitable technology was available at the time the facilities were upgraded to co-locate them all on the south side of Tioga Road (an option that the FEIS has

determined to be more protective of river values than keeping them in their current locations). The TRP FEIS has been revised to clarify that under alternatives 2-4, even if technology was not available to consolidate facilities on the south side of Tioga Road, it might be possible to eliminate the wastewater containment ponds because tertiary treatment might produce wastewater of a quality high enough to be distributed directly to the sprayfield if no other factors required temporary containment in the ponds.

Concern ID: 429 The existing wastewater treatment facilities at Tuolumne Meadows are acceptable in their current locations.

WASTEWATER: Existing ponds are not overly offensive to me. Not the ideal aesthetic to be sure but they are away from most visitor use. The pumping facility down near the road is surprisingly inconspicuous- most visitors are unaware of its presence. If they can be replaced by a singular facility in area 7 that is also well hidden, all the better. Obviously, no-flush urinals make great sense both from a water conservation and waste disposal standpoint. [Individual, #356]

Response: Please see the response to concern #428.

Concern ID: 430 The TRP should reconsider dismissing the option of locating a wastewater treatment facility north of Tioga Road and provide adequate latitude for co-location of all wastewater treatment facilities on either side of the Tuolumne River, with the final decision to be determined in a site-specific environmental assessment after the TRP Record of Decision is signed.

1. The SFPUC recommends that the TRP provide adequate latitude for co- location of the TMWWTP, ponds and sprayfield on either side of the Tuolumne River.

…11. 7-115: TRP page 7-115 provides justification for not considering relocation of the TMWWTP to the north side of the river. The following provides SFPUC responses to these items: "Conveying the wastewater to this location would require either continuing to use the existing force main (line) under Tuolumne Meadows, or constructing a new line from the Lembert Dome parking lot west along the gravel road to the ponds..." Constructing the line along the current access road to the ponds involves the same type of risks and opportunities as any of the other construction activities presented in the TRP. Archaeological impacts can be mitigated using various techniques (avoidance, evaluation, etc.). Mitigations can be developed for other resource values such as vegetation and springs. The SFPUC suggests that these issues be evaluated in a TRP alternative or site specific EA rather than being discounted within the TRP. "Construction of a new wastewater plant at the site of the ponds would constitute a new visual intrusion into the area." Views from Lembert and Pothole Domes already include development, such as HWY 120. The construction of the TMWWTP, including tanks and spray fields, on the south side of the river would also involve visual impacts that should be considered in a site specific EA. Figure 8-7 (page 8-156) indicates that most of the area south of HWY 120 is high visibility. Keeping the spray fields and ponds on the north side meets VRM II objectives (page 8-161). Designing a new TMWWTP in the north area may not negatively affect this objective, especially considering the area is not designated as wilderness and the north area is in high- or moderate -visibility zones (page 8-163).

The SFPUC believes the TMWWTP system has surpassed its service life. Failure of this system is a potential threat to water quality in the Hetch Hetchy watershed. The TRP retains the TMWWTP in its current location (page, 7-30) with possible relocation of the ponds and spray field. The SFPUC recommends that the final location of these facilities be determined through a site specific Environmental Assessment (EA) process after TRP approval. The SFPUC's preference is to relocate all facilities on one side of the Tuolumne River, eliminating the need for a force main under the river. The SFPUC looks forward to participating in the EA process for the TMWWTP when it occurs.

[Public Utility, #446]

Response: TheTRP FEIS continues to dismiss the option of relocating the plant to the north side of the river, to the site of the existing ponds and sprayfield, due to concerns about potential impacts to biological, archeological, and scenic values and water quality. Relocating the plant would require development of a currently undeveloped site in an upland area near the current wastewater containment ponds and outside of designated Wilderness. As the commenter notes, it would also require laying a new wastewater line from Lembert Dome along the administrative road that currently serves the ponds and sprayfield, and widening that

road so that it could accommodate two-way administrative traffic. Due to the proximity of the designated Wilderness boundary to the river and existing administrative road in this area, the road would unavoidably cross subalpine meadow habitat (including habitat for species proposed for federal listing as threatened and endangered) and archeological sites; construction could also disturb the rare plant mineral springs habitat at Soda Springs. The new facilities would also likely be visible from Lembert and Pothole Domes.Additional reasons against this proposal have been added to the topic under the "Alternatives Dismissed from Further Consideration;"in chapter 8, the most important of these being that relocation of all facilities to the ponds area would require a reversal of wastewater flow from the visitor center, campground, and store, an action that would quadruple the volume of untreated wastewater crossing the river under the Tioga Road Bridge. This substantial increase in the risk posed to water quality is unacceptable.

The TRP FEIS states that future site-specific planning will be required for the wastewater treatment plant.

Concern ID: 431 The NPS should consider revising the designated Wilderness boundary to facilitate relocation of the wastewater treatment facility.

"The Wilderness boundary was drawn very close to the existing ponds and spray fields, thus leaving little room for new construction of any kind. The space necessary for a full treatment plant means that it could not be sited by the ponds without violating the wilderness boundary." One purpose of the TRP, as identified on page ES-5 is to: "Review, and if necessary revise the boundaries and segment classifications (as wild, scenic, or recreational) of the Tuolumne Wild and Scenic River." While the SFPUC understands that the purpose of the TRP does not necessarily include changes to the defined wilderness boundaries, the identification of specific project needs under the TRP may provide an opportunity to consider revision of the wilderness boundary if the NPS has the authority to recommend such changes. Such changes may allow projects, such as relocating the TMWWTP, to proceed while incurring little impact on wilderness and providing high value to Wild and Scenic corridor management and water quality.
[Public Utility, #446]

Response: Adjustments to congressionally designated Wilderness boundaries of this nature are beyond NPS authority and would require congressional action. Suitable sites for wastewater treatment are available within the Tuolumne River corridor but outside of designated Wilderness.

Concern ID: 432 The NPS should consider installing composting toilets and using graywater to reduce or eliminate the need for wastewater treatment facilities.

On Greywater: Greywater is any water from inside a house that is not toilet water, including sink, shower, clotheswashing, and in some cases kitchen sink water. It is safe to use again on exterior landscaping. I use it on my fruit trees. Topsoil quickly and effectively purifies greywater. Greywater use is a fine opportunity to take advantage of even if you don't have landscaping - just feed it out in the forest on native plants (as they do at Evergreen Lodge). Greywater CANNOT be store without excessive cost. It quickly putrifies and the odor is over-whelming. You must immediately disperse it into the soil. Greywater can work year around in a properly designed system, but for sure, you need it summertime, and that is ideal. Do not forget, you are massively reducing water sent to your sewer treatement when you send only blackwater (toilet water). Most interior water use (about 75%) is greywater, so THINK how much smaller your new sewer treatment plant can be if you employ greywater techniques. This is the biggest deal of all. Greywater is relatively cheap to do, because no storage is done.
[Individual, #391]

Page 8-27. . . .Is grey water and black water separated here or at any of the facilities at Tuolumne Meadows?
[Individual, #406]

Response: The TRP FEIS Chapter 8, "Actions Common to Alternatives 1-4" section has been updated to include the following: Continue to improve water conservation and sustainability practices, including installation of water meters, use of low-flow fixtures (including low-flow toilets and waterless urinals), and visitor and employee education, and identify and implement additional long-term water conservation measures. Long-term measures could include systems to reuse gray water and/or to catch and use rain water

where feasible in new construction and major renovation of existing facilities. Gray water systems might require the replacement of flush toilets with composting toilets.

Concern ID: 433 **Because wastewater treatment load is tied to user capacity at Tuolumne Meadows, the TRP FEIS should include more information regarding the potential relocation of wastewater treatment facilities and/or potential upgrades to existing facilities.**

4) It is unclear if the increase in water demand and subsequent increase in water treatment needs requires an upgrade to the wastewater facilities. Page 8-43 states "The increase in average daily water withdrawals would slightly increase the demand for wastewater treatment at Tuolumne Meadows. An upgrade and redesign of the wastewater treatment plant, treatment ponds, and sprayfields at their current location would accommodate this increase and reduce, but not eliminate, water quality risks at that location." These upgrades will have substantial impacts on the corridor, which may be avoided if the upgrades are instead made unnecessary by reducing water demand.

THE PARK SHOULD MAKE CLEAR IF THE INCREASE IN NEEDS FOR WATER TREATMENT REQUIRES AN UPGRADE TO THE EXISTING FACILITIES.

[Conservation/Preservation, #241]

Response: The TRP alternatives assume that wastewater treatment load is tied to user capacity. As noted in chapter 5, while the NPS operates in compliance with Central Valley Regional Water Quality Control Board permits, any changes to the wastewater treatment facilities at Tuolumne Meadows would require upgrades to meet current standards. Because the user capacity would be greatly reduced under alternative 1, all wastewater treatment facilities could be co-located on the south side of Tioga Road under that alternative. Because the user capacities under alternatives 2, 3, and 4 would be similar to or moderately reduced or increased compared to the current use levels, those alternatives retain the option of co-locating all wastewater treatment facilities on the south side of the Tioga Road if a suitable technology is available to accomplish this objective at the capacities required for each alternative. That decision will be made during site-specific planning and design for the wastewater treatment facilities, which will provide more detail on both the existing wastewater collection system and treatment as well as proposed options for upgrading to contemporary standards.

Concern ID: 434 **The NPS should bring the Tuolumne Meadows water and wastewater treatment facilities into compliance with current standards before taking action to increase or decrease visitor use.**

Page 8-27. The water and wastewater treatment plants should be brought up to current standards before any other action is taken to increase or decrease visitor use. These two facilities are two of the most critical components of the infrastructure at Tuolumne Meadows in determining user capacity. If funding is not available and either system fails, what is the proposed action that the National Park Service would take to address overnight use, and day use?

[Individual, #406]

Response: All alternatives would replace the aging wastewater treatment plant to bring it into compliance with current standards, using the maximum total capacity specified in the selected alternative. The replacement of the plant will be one of the first actions undertaken after completion of the *Tuolumne River Plan*, subject to the additional site-specific environmental compliance necessary.

Concern ID: 435 The NPS should provide more detailed information on existing and proposed level of wastewater treatment, facility size and capacity, equipment, and include more detail regarding disposal at the RV dump station.

In the context of chapter 4, I reiterate my concerns about the need for a complete description of the wastewater treatment plant operation, including how sludge is disposed of, how RV dumps are managed, and the consideration of installing flow meters and monitoring wells. Consumptive use of river water should be understood as to type of use, the location of use, who the consumer is, all of which a network of water meters would identify.

[Individual, #406]

3. 2-7: The SFPUC requests clarification on the proposed renovations to the TMWWTP, including size, placement, treatment level, and effluent standards.

[Public Utility, #446]

In any supplement to this CMP and EIS, could staff please include a brief explanation of the level, equipment and chemicals used in treating sewage at the present waste treatment plant in TM at location 7 on figure 7-97? Also tell the technical details of the expected improvement in the waste treatment processes and equipment to be added.

[Individual, #304]

Response: The TRP FEIS specifies that the wastewater treatment plant will be upgraded, employing tertiary treatment technologies in compliance with current California wastewater treatment codes, that future site-specific planning and environmental compliance will be required, and that the design capacity would vary by alternative, with the capacity under the preferred alternative being aboiut 50,000 gallons per day. More detailed information will be provided as part of the follow-up environmental compliance. The RV dump station and campground would be kept at their current capacity under the preferred alternative.

Gaylor Pit

Concern ID: 436 The TRP DEIS should discuss helipad use patterns, alternative helipad sites, and alternative uses of Gaylor Pit, including camping.

we believe that the TRP presents an opportunity to consider possible use of Gaylor Pit for visitor camping and alternative locations for the helipad.

In Yosemite Valley, the Park Service uses the Ahwahnee Meadows across from Church Bowl as a helipad; similarly, TRP planners should consider the meadow across the road from the Tuolumne Meadows Ranger Station, portions of the meadows alongside Highway 120, or perhaps some portion of the concessionaire stables site as an alternative helipad location in order to free up visitor camping at the Gaylor Pit area. The TRP should provide a meaningful discussion of the helipad use patterns, alternative helipad sites, and alternative uses of Gaylor Pit including camping.

[Recreational Groups, #312]

Response: The helipad at Gaylor Pit is used only for medical emergencies. No other suitable site for the helipad exists in the Tuolumne Meadows area; therefore this use would continue under all the alternatives. The Gaylor Pit site would additionally be used for employee housing under alternative 2. In alternative 4 (the preferred alternative) it would additionally be used for employee camping (for employees on temporary duty in the Tuolumne Meadows area) and designated campsites for use by traditionally associated American Indian tribes and groups. The TRP FEIS chapters 8 and 9 have been updated with more information regarding Gaylor Pit (see the response to concern #437, below).

Concern ID: 437 The NPS should provide geographical context regarding the location of Gaylor Pit.

(Speaking of poorly-described locations, the location of Gaylor Pit isn't described anywhere in the TRP, except in an inset map with no geographical context.)

[Individual, #338]

Response: The no-action alternative has been revised to clarify that during the construction of the new Tioga Road, a borrow pit and quarry for road material was built at Gaylor Pit, about two miles east of the Tuolumne Meadows Lodge along Tioga Road. Beginning in the 1950s the pit and surrounding area were used by the NPS for various administrative uses, including storage, dumping, a temporary native plant nursery, wood yard, staging area, and shooting range. In deference to the nearby Wilderness, the entire Gaylor Pit area was decommissioned in 2003 and the area has been restored to a more natural condition. Currently the non-wilderness area is used for a helipad and a small amount of undesignated day parking.

Concern ID: 438 The NPS should provide overnight parking for employees housed at Gaylor Pit.

Add overnight parking for NPS employees at Gaylor Pit in Alternate 4 on p 7-94 if there is to be housing there.
[Individual, #304]

Response: The preferred alternative description of the Tuolumne Meadows site plan at Gaylor Pit (see chapter 8 of the TRP FEIS) has been revised to include: "Parking for employees camping at Gaylor Pit would be provided at this location."

Tuolumne Meadows Site Plan (Preferred Alternative)

Concern ID: 439 The NPS should clarify plans for new construction in the preferred alternative, including the Cathedral Lakes trailhead, the existing visitor center and the proposed visitor contact station in the preferred alternative.

I feel that the issue with the Cathedral Lakes Trailhead has not been sufficiently addressed and I do not have a clear idea of where it is to be. Where will the trailhead be if the current VC is used or if a new Visitor Contact Station is built? If the current Visitor Center is retained the current parking lot is probably not large enough for both the Visitor Center and if a new trailhead to Cathedral lakes is established in this area. If a new Visitor Contact Station is built, then where would the Cathedral Lakes Trailhead be so that hikers do not have to walk through a developed area to reach the trailhead?
[Individual, #80]

What is the new construction necessary to disturb 27 acres?
[Individual, #124]

Response: The alternative descriptions in the TRP FEIS chapter 8 have been revised to include a "Virtual Tour" clarifying the facilities available under each alternative. Under the preferred alternative the large number of visitors coming to hike the Cathedral Lakes trail would no longer park along the road shoulder, but would instead be directed to a designated trailhead parking lot and picnic area near the existing visitor center. The visitor center function would be relocated to a new visitor contact station, with a similar level of service and capacity as the existing visitor center, located on the south side of Tioga Road, across from the existing Parsons Memorial Lodge trailhead.

Table 8-21 provides a summary of where new construction would occur under each alternative. The currently undeveloped areas where new construction would occur under alternative 4 are: the area west of Unicorn Creek, across the Tioga Road from the trailhead for Parsons Memorial Lodge (location #9 in the table), where a new visitor contact station, day parking, and picnic area would be constructed; an area within the campground that would be used to reconfigure campground facilities (location #10); and proposed new trail corridors south of Tioga Road to connect visitor facilities (locations #2, #5, and #11).

Concern ID: 440 The NPS should implement changes to the Cathedral Lakes trailhead, the existing visitor center and the proposed visitor contact station, as proposed in alternative 4.

Relocating the Cathedral Lakes trailhead to the old Visitor Center and relocating the Visitor Center to the area west of Unicorn Creek is the sort of creative analysis from the previous comments that help make Alternative 4 the best of the suggested alternatives. These changes alone will go a long way to improving the "visitor experience" at Tuolumne Meadows. Please do not allow the expected negative reactions to these changes to alter the final implemented plan.

[Individual, #175]

Remediating the highly-popular Cathedral Lakes trailhead and its perennial parking issues is also a very valuable part of this alternative.

[Individual, #390]

Current use parking near cathedral trailheads is unacceptable...unsightly, unsafe, damage to meadows increases every year.

[Individual, #55]

Response: No response required.

Concern ID: 441 The NPS should consider a village center design in Tuolumne Meadows.

Make a Village Center in Tuolumne Meadows outside of the Flood Plain:

I won't go into much detail here because I haven't studied the topology much. But between the Gas Station and the campgrounds, maybe a bit west of there, or as well using part of the campground, all of the human social activity of the meadow should be congregated. Views to the North can be had from there, so the Lodge should be moved there. The model to go by is a pedestrian friendly European Village (like city center Salzburg, Austria). Cars can only get to the periphery. Now the meadows experience is disjointed with a visitors center here, a store there, a lodge (that even I have never seen) over there. A model book to reference is "A Pattern Language" by the great architect Christopher Alexander, et al. It tells how there is a timeless way of natural order for communities large and small. Right now, the social experience for Tuolumne meadows is poor. The idea that needs to be built on, for a small community, is a town center based on a right-sized town square (easier said than done, especially when necessarily, and rightfully respecting nature).

I appreciate most the back to nature plan, but I also want Tuolumne Meadows to be more than a quick stop or drive-thru to tourists. That's why I think the village center approach will capture them, then they can take a hike. Most important is to get sheet flow of water in the meadow, re-deposit silts and sands, and get the tall grass growing again - and riparian willow trees. It can happen. The very best of luck to you all. Be wise and persevere.

[Individual, #391]

Response: Consolidating development in a village center would not be compatible with the historic dispersed pattern of development in Tuolumne Meadows. Additionally, no suitable site exists for such a village in Tuolumne Meadows that would not involve disturbance to wetlands, meadows, and archeological sites, alterations of the Wilderness boundary (which would require an act of Congress) or require a significant reduction in the campground capacity.

Cost

Concern ID: 442 The NPS should disclose how proposed actions would be funded.

How are any of these alternatives being funded?

[Individual, #14]

I think another thing that the public should know is how any of these alternatives would even be funded. At a time when you are also working on the Merced Wild and Scenic River Management Plan, it is important to know what kind of fiscal impact these would have on the National Park Service, Department of the Interior and Yosemite National Park…especially when the budgets necessary for both plans could be so close in time to each other.
[Individual, #299]

Response: Funding sources have been identified for all actions proposed in the TRP. These consist of the funds collected at the NPS entrance stations, contributions from park partners, NPS base funds, and fees collected by the concessioner. Because this is a 15-20 year plan, some actions will take several years to accrue necessary funding for implementation.

Concern ID: 443 The NPS should include the cost of the no-action alternative and include operations and maintenance costs for all alternatives.

Page 7-42. Estimated capital costs are listed regarding the proposed removal and other facility changes at Glen Aulin. The TRP is a "twenty year" plan so why are operations and maintenance costs (or savings) in relation to the No Action Alternative not listed. For that matter why are operations and maintenance cost estimates not provided for all the alternatives. Given the Federal deficit, and Federal budget imbalance, and the struggling economy, how realistic are many of the proposed actions found in the TRP (both in relation to the reported estimated capital costs and to the non-disclosed labor and maintenance costs)?
[Individual, #406]

Response: The costs of the no-action alternative were not included because they are base operating costs for the park. Only the increase in cost over existing base is included in the cost estimates. All actions called for in the TRP will be funded out of existing revenue sources; no new appropriations from Congress will be necessary.

Phasing

Concern ID: 444 The NPS should clarify which TRP DEIS actions would require additional planning and environmental compliance, and which actions could be implemented after the TRP Record of Decision (ROD) is signed.

While the present managers of Yosemite place much emphasis on protecting the integrity of the Park and the quality of the visitor experience, that was not always the case in the past. Nor will it always be the case in the future. The ability of future managers to subvert the intent of the present planning processes should be minimized by making the present intent very clear. An essential step in that process should be to make the TRP very explicit as to which projects will receive further planning and environmental review, including opportunities for public involvement.

It is necessary to provide clarity so it is known which elements of the TRP would be ready for implementation as soon as an ROD is filed, as opposed to which elements would require further planning and environmental compliance prior to implementation. A list of projects which will undergo further review is needed. Such a list would hopefully prevent projects from being allowed to proceed in the absence of adequate environmental review.
[Conservation/Preservation, #348]

3) The TRP should make explicit which elements it intends as programmatic elements, and which it intends as project level elements. The NPS should clarify which projects would receive further environmental review prior to adoption or enactment, what elements are still being studied, and where there may be revisions to the plan. There is a risk that the NPS will wrongly proceed with any number or projects without further environmental review, compounding environmental and visitor experience problems.
[Conservation/Preservation, #394]

Response: A new table providing this information has been included in volume 3 of the TRP/FEIS as part of the cost appendix (appendix N).

Concern ID: 445 The NPS should outline a timeline for implementation of the preferred alternative.

When are the changes expected to start taking place…summer 2014? How long is it estimated to take to make all changes involved in the various plans? (Curious about road construction delays, campground closures due to upgrades/realigning roads/building/building removal?)
[Individual, #14]

Response: A new table providing this information has been included in the FEIS in "Appendix N: Cost Estimates and Phasing of Major Actions."

Concern ID: 446 The NPS should phase ecological restoration activities so visitors would retain opportunities to experience the river.

I would suggest phasing meadow and trail restoration so that there remain opportunities for visitors to experience "their river" on an intimate basis.
[Individual, #257]

Response: Under all alternatives, visitor access to the river and the river corridor would continue while restoration activities were being implemented, with the exception of some temporary closures while specific stretches of trail were being worked on (such as the trail to Parsons Memorial Lodge). In all cases, however, access via other routes would be maintained.

Concern ID: 447 The NPS should clarify the planning considerations and timeline for wastewater treatment upgrades.

"Need for comprehensive upgrade" of sewer system is discussed on p 8-32. What is the target date for such "upgrade and redesign", p 8-43, that would remove the ponds altogether from the Preferred Alternative? Treatment of waste water in future by tertiary methods was not noted as being considered on p 5-81, but could allow disposal by many means, even by injection into the aquifer, say on the down slope side of the highway shoulder between Pothole Dome and the treatment plant if that aquifer were porous enough and the meadow beyond would not be harmed. Alternately, storage of tertiary treated waste water in large tanks all season at the treatment facility (e.g. 2 tanks 130-foot diameter and 40 feet high) and spraying over portions of porous land in October would not threaten water quality in the river. Neither would pumping this water continuously into aquifers harm water quality and could do away with big tanks.
[Individual, #304]

Response: The specific technology for the wastewater treatment plant would be determined during site-specific planning, as called for in chapter 8 of the TRP FEIS. A phasing plan for implementation has been included in appendix N in the TRP FEIS.

Impact Topics Considered but Dismissed in the DEIS

Concern ID: 448 The NPS should clarify why the impacts on agricultural lands were dismissed from further analysis if the TRP would impact the health of the Tuolumne River watershed.

Page 8-2. The statement that there would be "no…indirect effects on downstream agricultural lands" may be challengeable depending on how you define "effect." If the health of the watershed of the Tuolumne River is compromised by visitor use, the productivity of the watershed can also be affected. Please answer if this was considered before dismissing any further analysis of this issue.
[Individual, #406]

Response: The NPS considered direct and indirect effects as part of the impacts analysis process and concluded that the proposed actions for all alternatives, when compared with the no-action alternative and

when considered at a watershed-level scale, would have a negligible direct and indirect impact on agricultural lands downstream of the park and adjacent USFS lands.

Concern ID: 449 The NPS should clarify why public health and safety was dismissed as a separate impact topic.

Page 8-3. I believe public health and safety should be addressed in the TRP. The policy and procedures for evacuation during fire or flood, the issues of human-water contact and human waste disposal, and the National security guidelines for the Hetch Hetchy reservoir have a direct bearing on visitor movement and volume within the TRP planning area. And, where is there a discussion about the Hantavirus and other vector issues?
[Individual, #406]

Response: The issues described by the commenter are addressed by NPS servicewide and park-specific policies and are out of the scope of the TRP. In regards to public health and safety issues that are addressed by this plan - water quality protection, employee housing, the location of ranger operations, and the risk of geohazards - these are discussed within their relevant impact topies (hydrology, park operations, and geohazards/soils, respectively) rather than split into a separate impact topic.

Concern ID: 450 The NPS should consider that water quality risk could result in environmental justice impacts on economically disadvantaged San Francisco Public Utilities Commission customers.

8-2: Environmental justice: The SFPUC recommends that the NPS consider that any risk to or reduction of the protection of the drinking water supply (filtration avoidance) may present a water quality environmental justice issue for economically disadvantaged SFPUC customers because this could lead to an increase in water treatment costs and rates.
[Public Utility, #446]

Response: As noted in the DEIS and FEIS, the impact topic of environmental justice is intended to identify any direct or disproportional effects on minority or low-income populations. No actions included in the TRP would be expected to increase water treatment costs incurred by the San Francisco Public Utilities Commission, as the TRP action alternatives all reduce risks to water quality.

DEIS Impact Topics

The concerns below were specific to the DEIS impacts analysis and did not directly relate to another topic. Some impacts analysis concerns are already listed above if they were related to visitor use and recreation or facilities. For instance, concerns regarding the impacts of pack stock use on visitor experience, natural resources, and park operations are found in the 'Stock Use' section, above.

Geology, Geohazards and Soils

Concern ID: 451 The NPS should clarify how the absence of fire impacts soil processes.

Also, the long term absence of fire may lead to a buildup of pathogens in the soil, why is this not discussed in the TRP?
[Individual, #406]

Response: The FEIS defers to the 2004 "Final Yosemite Fire Management Plan" for a description of the interaction of fire and the specific soils of the Yosemite region. Appendix H in the TRP/FEIS— Ecological Restoration Planning for the Tuolumne Wild and Scenic River ComprehensiveManagement Plan— considers that "Changes in hydrology from a variety of perturbations including ditching, road and trail building, water diversions, livestock grazing, visitor foot traffic, fire suppression, and imbalances in the mammal herbivore populations, have altered the plant and animal communities that once occupied the meadow (WRD 2010).

These disturbances alter hydrologic conditions including water delivery (primarily through channelization rather than sheet flow), sediment dynamics, lowered groundwater levels, and changes in the amount and timing of ground and surface water availability for plants (Loheide et al. 2007)." The FEIS analyzes effects of fire management in conjunction the Fire Management Plan as a cumulative action in Appendix L. Cumulative actions were assessed (in conjunction with each alternative) in the analysis of cumulative effects under each resource topic in chapter 9.

Concern ID: 452 The NPS should quantify what percentage of Tuolumne Meadows is adversely impacted by an altered hydrologic regime, informal trails, and roadside parking.

Page 8-22. What percentage of the hydrology of the Tuolumne Meadows area has been adversely impacted by incorrect placement and design of culverts? What percentage is affected by informal trails and roadside parking?
[Individual, #406]

Response: Completion of a quantified analysis of the effects of culverts, trails, and parking on the Tuolumne Meadows area is a complex hydrological issue, particularly given that historic uses such as sheep grazing may continue to influence hydrologic regimes. The NPS completed an initial condition assessment of hydrologic conditions in Tuolumne Meadows based on studies and existing site conditions, and research continues. In addition, the NPS monitors a network of monitoring wells in the meadows. As ecological restoration actions take place, the NPS will monitor existing conditions and monitoring well information, and document changes in hydrologic patterns that result from restoration actions. This will contribute to the ongoing analysis of the hydrologic story of Tuolumne Meadows.

Hydrology

Concern ID: 453 The NPS should evaluate the risk of flooding and water quality impacts at the proposed administrative area in alternative 3.

9. 7-108: The SFPUC is concerned about proposed site locations that may have potential for flooding and concomitant water quality impacts, specifically, the TMWWTP offices, corporation yard, and diesel fuel tanks as proposed under Alternative 3.
[Public Utility, #446]

Response: Please see figures 8-3 and 9-1, which illustrate the 100-year floodplain in Tuolumne Meadows. The administrative area proposed in alternative 3 (location #7 on figure 8-9) is outside the 100-year floodplain.

Wetlands

Concern ID: 454 The NPS should submit wetlands delineations referenced in TRP DEIS to the U.S. Army Corps of Engineers.

The Corps of Engineers' jurisdiction within the study area is under the authority of Section 404 of the Clean Water Act for the discharge of dredged or fill material into Waters of the United States. Waters of the United States include, but are not limited to, rivers, perennial or intermittent streams, lakes, ponds, wetlands, vernal pools, marshes, wet meadows, some canals, and seeps. Project features that result in the discharge of dredged or material into waters of the United States will require Department of the Army authorization prior to starting work. To ascertain the extent of waters on the project site, the applicant should prepare a wetland delineation, in accordance with the "Minimum Standards for Acceptance of Preliminary Wetlands Delineations", under "Jurisdiction" on our website at the address below, and submit it to this office for verification. A list of consultants that prepare Wetland delineations and permit application documents is also available on our website at the same location. The Draft EIS shows that a wetland delineation has been prepared for this project, but until it is verified by our office We cannot address its validity. Therefore, we recommend submitting the wetland delineation to our offlce for verification.
[Federal Government, #375]

Response: The NPS has submitted the wetland delineations in the study area to the U.S. Army Corps of Engineers for verification. The NPS will ensure that all necessary permits from the U.S. Army Corps of Engineers area in place prior to implementation.

Concern ID: 455 The U.S. Army Corps of Engineers supports the alternative that restores and protects the most waters of the United States, including wetlands.

The range of alternatives considered for this project Should include alternatives that avoid impacts to wetlands or other waters of the United States. Every effort should be made to avoid project features which require the discharge of dredged or material into waters of the United States. ln the event it can be clearly demonstrated there are no practicable alternatives to filling waters of the United States, mitigation plans should be developed to compensate for the unavoidable losses resulting from project implementation. The Corps of Engineers supports the alternative that restores and protects the most waters of the United States, including wetlands, for this project.

[Federal Government, #375]

Response: While alternative 1 would restore and protect the most waters of the United States, including wetlands, the NPS selected alternative 4 as the preferred alternative. Alternative 4 would have the least impacts to the biological and physical environment, coupled with actions that best protect, preserve and enhance historic, cultural, and natural resources, and best support diversity and variety of individual choice. Alternative 4 would allow for restoration and revegetation of about 21.9 meadow wetland acres. There could be about 5.3 acres of impacted forested wetland associated with the campground redesign. The campground redesign requires additional planning and compliance before implementation, and the NPS will endeavor to avoid and minimize impacts to wetlands in the final design of the campground. Any impacts would be addressed per the stipulations of the Clean Water Act and NPS policy. The NPS would obtain all necessary permits from the U.S. Army Corps of Engineers prior to implementation.

Wildlife

Concern ID: 456 The TRP should evaluate the impact of Tioga Road closures on wildlife.

Page 8-86, We read in the TRP: "With the closure of Tioga Road each year from late fall to late spring other species undoubtedly frequent this area." The visitor activity or lack thereof along the Tioga Road "undoubtedly" has a profound impact on all wildlife and the TRP should have fully addressed this subject.

. . .

Page 8-98. Early season closure of facilities can protect wildlife and so too can appropriate seasonal closure of Tioga Road. Additionally, common wildlife, not just endangered wildlife, need to be monitored and protected at all times. Don't wait until there is a crisis.

[Individual, #406]

Response: The TRP alternatives do not consider any actions that would affect Tioga Road closures. Therefore, they would have no impact on wildlife associated with such closures.

Concern ID: 457 The NPS should clarify why the park's Fire Management Plan would have a short-term cumulative impact on wildlife if the park is conducting roadside prescribed burning under this plan.

Page 8-91. The Fire Management Plan is what is guiding roadside burning in other parts of Yosemite Park. I would not characterize those impacts as "short-term" and request clarification about the information found on page 8-91.

[Individual, #406]

Response: The Fire Management Plan was evaluated as a cumulative action in conjuction with the proposed actions in the TRP. "Short-term" is defined in the TRP DEIS and FEIS wildlife impact analysis methodologies section (chapter 9) as follows: "A short-term impact would have an immediate effect on native habitat, diversity, and native populations, but would not cause long-term declines in populations or diversity. Short-term impacts

are normally associated with transitional types of activities, such as facility construction." The prescribed burning the commenter refers to is not likely along Tioga Road through Tuolumne Meadows. Vegetation thinning could occur under the Fire Management Plan, which would have a short-term impact during the project activities. Neither activity would cause a long-term decline in species populations or diversity. Therefore, the cumulative impact of actions that could occur in the river corridor under the park's Fire Management Plan were considered short-term in nature.

Special Status Species

Concern ID: 458 **The NPS should implement limitations and management of pack stock use in Lyell Canyon to protect special status species and water quality. In the TRP, the NPS should clearly identify actions to avoid, minimize, and mitigate pack stock use and habitat degradation; discuss the feasibility of implementation, and discuss criteria for determining the success of the proposed actions.**

Segment 1, Lyell Fork, Wild Classification Of the two contributing tributaries of the Tuolumne River, the Lyell Fork provides the majority of flow. The Lyell Fork segment of the Tuolumne Wild and Scenic River is approximately 13 miles long and spans from the headwaters of the Lyell Fork to the confluence of the Dana and Lyell Forks. This area consists of alpine botanical species and subalpine riparian and meadow complexes. The Tuolumne River Plan/Draft EIS states that the majority of negative impact to this area may have occurred due to pack stock use and grazing and that measurable impacts on plant communities in subalpine meadows have resulted in denuded meadow areas. Loss of native riparian vegetation has resulted in channel widening, which if allowed to continue, may negatively affect the natural groundwater table essential for native plant assemblages to thrive in meadow complexes. Loss of riparian and meadow vegetation may also lead to habitat loss essential to the survival of the following sensitive species within the Lyell Canyon segment of the Tuolumne Wild and Scenic River corridor: Yosemite toad, Sierra Nevada yellow-legged frog, Mount Lyell salamander, great gray owl, and the Mount Lyell shrew. Other sensitive species present in the segment of the river corridor whose habitats may be indirectly affected through wilderness management decisions include the fisher, Sierra Nevada red fox, and spotted bat. A California wolverine sighting was documented in Upper Lyell Canyon in 1929. The Department recommends that for purposes of protecting geologic and biological values, as well water quality, the NPS implement limitations and management of pack stock usage in Lyell Canyon and the Lyell Canyon segment of the Tuolumne Wild and Scenic River corridor. Under the proposed Ecological Restoration Plan, the Department recommends actions to avoid, minimize, and mitigate pack stock use and habitat degradation in Lyell Canyon be fully identified, discussed for feasibility of implementation, and how the success criteria of the measures would be determined.

[State Government, #486]

Response: The TRP already discusses meadow opening dates, grazing capacities, and campsite restrictions; see chapters 5 and 8. Continued monitoring, as outlined in chapter 5, wouild determine the success of all actions implemented.

Concern ID: 459 **The NPS should continue to protect sensitive biological resources and water quality in the Upper Dana Fork segment by implementing management policy that discourages alternative land uses in this area.**

The newly designated segment of the Upper Dana Fork appears fairly difficult to access and may therefore be visited less frequently than other more easily reached areas of the Tuolumne wild and Scenic River Corridor. Known occurrences of the spotted bat, fisher, and Yosemite toad have been documented in the CNDDB. There are no documented occurrences of the California wolverine in the Upper Dana Fork river segment within National Park boundaries; however, there is a recorded sighting within the Mount Dana quadrangle dated 1988. Given the California wolverine's tendency to travel long distances, and the close proximity of the sighting to the Upper Dana Fork, the Department recommends considering the California wolverine and its habitat requirements when implementing management decisions for the area of Yosemite National Park. The Tahoe draba (Draba asterophora var. asterophora) is a sensitive plant species assigned a Rare Plant Rank of 1B.2 and has been documented as present approximately 0.30 mile from the headwaters of the Upper Dana Fork. The Department recommends continued protection of Upper Dana Fork biological and botanical resources, as well as water quality, by implementing management policy which discourages alternative land uses in this area.

[State Government, #486]

Response: The NPS proposes no major land management changes in this area.

Concern ID: 460 **The NPS should implement limitations on and management of roadside parking in the Lower Dana Fork segment in order to protect sensitive biological resources and water quality.**

Riparian and meadow habitats within the western portion of Dana Meadows have been significantly disturbed by heavy foot traffic caused by park visitors using and creating informal trails. Disturbance is visible as stunted vegetation and barren ground. Loss of Meadow and riparian vegetation may have negative implications for sensitive biological and botanical species that exist within the Lower Dana Fork segment of the river corridor. The following species have been documented to occur in the Lower Dana Fork segment: Yosemite toad, Sierra Nevada yellow-legged frog, fisher, and northern goshawk. The Department recommends that for purposes of protecting geologic and biological values, as well water quality, the NPS implement limitations and management of roadside parking and usage/creation of informal trails by Park visitors along the Lower Dana Fork segment of the Tuolumne Wild and Scenic River corridor.

[State Government, #486]

Response: Parking is already limited on Tioga Road upstream of the meadows by lack of pull-outs. An action common to alternatives 1-4, including the preferred alternative, is to stabilize the unstable road cut (the "little blue slide") east of Tuolumne Meadows on Tioga Road in order to reduce turbidity in the Dana Fork.

Concern ID: 461 **The California Department of Fish and Wildlife acknowledges the goals and objectives of the proposed Ecological Restoration Plan at Tuolumne Meadows and concurs with the means by which the goals would be met.**

Changes to the natural ecological regime in Tuolumne Meadows may have negatively impacted numerous sensitive species and their habitats. Sensitive animal species impacted, or with the potential to be impacted by historical, present and/or future activities within the Tuolumne Meadows segment include the spotted bat, Sierra Nevada yellow-legged frog, Yosemite toad, western white-tailed jackrabbit, Sierra Nevada red fox, American badger, northern goshawk, fisher, and the great grey owl. Sensitive plant species of particular concern include the green slender lupine and Davy's Sedge. The Department acknowledges the goals and objectives of the NPS proposed Ecological Restoration Plan which focuses on restoration of primary biologic and hydrologic processes of subalpine meadows and riparian habitats. The Department also concurs with the means in which these goals and objectives are to be met. Within the Tuolumne Meadows segment of the Tuolumne Wild and Scenic River corridor, the Department recommends elimination of roadside parking and associated informal trails in order to achieve restoration of meadow complexes and riparian habitats as to improve their natural ecological and hydrologic functions; restoration of native riparian vegetation along eroded banks of the river that are not experiencing natural vegetative recruitment; identification of mitigation measures to ameliorate the impacts caused by culverts along Tioga Road; identification of mitigation measures to reduce the impact of the Great Sierra Wagon Road; and the implementation of ongoing research to support and guide restoration efforts and management decisions.

[State Government, #486]

Response: No response necessary.

Concern ID: 462 **The NPS should discuss and implement limitations, management, and mitigation measures for pack stock use in the Tuolumne Meadows segment in order to protect meadow vegetation and water quality.**

The Department recommends that for purposes of protecting meadow vegetation and water quality, the NPS fully discuss and implement limitations, management, and mitigation measures for pack stock use along the Tuolumne Meadows segment of the Tuolumne Wild and Scenic River corridor.

[State Government, #486]

Response: See chapter 8 for a discussion of the preferred alternative's proposals regarding packstock management, including elimination of day rides, limits on stock used to supply Glen Aulin High Sierra Camp, and the consolidation of concessioner and NPS stables at the current concessioner stable location. Packstock management is also discussed in chapter 5.

Concern ID: 463 **The NPS should conduct comprehensive biological and botanical protocol-level surveys for sensitive species during appropriate survey times prior to removal or construction of culverts or other surface water conveyance structures sited near the riverbank or in wet areas.**

Regarding the removal or new construction of culverts and other surface water conveyance structures sited near the riverbank or wet areas, the Department recommends that comprehensive biological and botanical protocol-level surveys be conducted during the appropriate survey times for each sensitive species present within the vicinity of each structural removal or new construction project. It is advisable to utilize comprehensive biological and botanical protocol-level survey data to implement the appropriate avoidance, minimization, and mitigation measures are applied to each impacted species for each removal and new construction project.

[State Government, #486]

Response: The NPS appreciates this concern; such surveys are standard procedure for the NPS and are included in this plan as Appendix O: Mitigation Measures Applicable to All Action Alternatives.

Concern ID: 464 **The NPS should discuss avoidance minimization and mitigation of potential impacts to sensitive species listed as potentially occurring in the Grand Canyon segment.**

Sensitive species documented as present within the Grand Canyon segment of the Tuolumne Wild and Scenic River corridor include the western mastiff bat, pallid bat, Yosemite toad, Sierra Nevada yellow-legged frog, Mount Lyell shrew, great gray owl, and the Pauite cutthroat trout. The green slender lupine, Rare Plant Rank 1B.3, is also and future management of Yosemite National Park include the discussion of appropriate avoidance, minimization, and mitigation of potential impacts to these sensitive species.

[State Government, #486]

Response: Please see the response to concern #465 below. The only actions proposed in the Grand Canyon segment, other than those at Glen Aulin High Sierra Camp, are riverbank restoration as needed. Due to the very limited extent of actions proposed at Glen Aulin, and the beneficial impact of these actions on water quality, no effects on these sensitive species are expected.

Concern ID: 465 **Qualified biologists should conduct surveys at Tuolumne Meadows for Sierra Nevada yellow-legged frog (proposed for federal listing in April 2013), the Sierra Nevada red fox (state-listed rare species), Pacific fisher (candidate for federal listing), and the Yosemite toad (proposed for federal listing in April 2013) prior to approval that would authorize project implementation, and the TRP or other environmental documents prepared for implementation should include enforceable avoidance, minimization, and mitigation measures in the event these species are found. If any federally listed or candidate species are found, the survey results should be forwarded to the U.S. Fish and Wildlife Service.**

Sierra Nevada Yellow-legged Frog: The State candidate for listing (threatened) and United States Fish and Wildlife Service (USFWS) candidate for listing Sierra Nevada yellow-legged frog may be present in future project areas within Tuolumne Meadows. It has been documented as present along the lower Dana and Lyell Forks and their confluence with the Tuolumne River, as well as throughout the Tuolumne Meadows area. The Department recommends that any areas undergoing future ground disturbing projects within potentially suitable aquatic habitat as well as associated riparian and wetland areas be surveyed by a qualified biologist, prior to any approval that would authorize future project implementation. The Department also suggests that the Tuolumne River Plan or environmental documents prepared for any future projects discuss and include enforceable avoidance, minimization, and mitigation measures in the event Sierra Nevada Yellow-legged frogs are found during future pre-project surveys or during future project related activities.

. . .Sierra Nevada Red Fox: The State threatened Sierra Nevada red fox is documented as being present within the Tuolumne Meadows area. The Department recommends that any areas identified for future projects be surveyed by a qualified biologist for the presence of Sierra Nevada red fox and potential den sites (i.e. burrows, rock outcrops, hollow logs and stumps). The Department suggests that any known den sites that cannot be completely avoided be

checked by a qualified biologist for evidence of use by the species prior to implementation of project related activities. The Department recommends that the Tuolumne River Plan or environmental documents prepared for future projects include detailed discussion of avoidance, minimization, and mitigation measures in the event denning Sierra Nevada red fox are detected during actual project related activities.

. . .Rare Species: Future projects may have the potential to impact the fisher and the Yosemite toad, both of which are USFWS candidate species. A search of the CNDDB records indicates that these species are known to occur in the vicinity of Tuolumne Meadows, where future projects are proposed under the various alternatives defined in the Tuolumne River Plan/Draft EIS. Planned future projects may have the potential to negatively impact these species through the loss of den and rest sites, fragmentation of movement corridors and habitat linkages, and the removal of snags and other forest structure. In the case of toads, future projects many have the potential to impact over-wintering burrows, and meadows and streams used for breeding and feeding. The Department recommends that prior to any approval that would authorize future project implementation, focused surveys be conducted by a qualified biologists for the above mentioned sensitive species during the appropriate times of year, and that proper avoidance, minimization, and mitigation measures are incorporated into the Tuolumne River Plan or environmental documents prepared for future projects.

. . .Federal Endangered Species Act (FESA): If biological surveys result in the detection of any federally listed or candidate species, the Department recommends survey results be submitted to the United States Fish and Wildlife Service who has jurisdiction over species listed under FESA.

[State Government, #486]

Response: All projects conducted in Yosemite National Park involve close collaboration with the park's Wildlife Management program to evaluate the presence of special-status and sensitive wildlife species and developing procedures to avoid or limit adverse effects if these species are found to be present. The same would be true for any projects resulting from the implementation of the TRP. All detections of special-status species would be reported to the U.S. Fish and Wildlife Service. Specific surveys would be conducted prior to any projects resulting from the TRP.

Surveys for Sierra Nevada yellow-legged frog (SNYLF) were conducted in 2000, 2001, and 2012 with no detections of SNYLF in Tuolumne Meadows. The most recent documentation of a SNYLF within the Tuolumne Meadows segment was in 1995. There was one additional sighting of a SNYLF outside of the Tuolumne River corridor along Delaney Creek (near Pothole Dome) in 1999. Even though the NPS believes Tuolumne Meadows is not high quality habitat, surveys should be conducted for SNYLF prior to any future projects due to their historical presence.

In 2012, surveys were conducted for Yosemite toads in the greater Tuolumne Meadows area. One meadow adjacent to the Tuolumne Meadows ranger station (Lower Dana Fork section) had Yosemite toad tadpoles. Yosemite toads were not documented in the Tuolumne Meadows section of the river. The last documentation of a Yosemite toad in the Tuolumne Meadows section was a single animal in 2010 and, prior to that, 1995. Due to the presence of Yosemite toads in this area, the NPS concurs with the California Department of Fish and Wildlife (CDFW) recommendation to survey for Yosemite toads prior to any future projects.

Surveys for Pacific fisher were conducted between 2009-2011 to determine their distribution, abundance, and northern range limit. All 22 fisher detections were in the southern portion of the park. The study concluded that fishers do not currently occupy suitable habitat north of the Merced River (Cline 2013). These findings were further supported by 2012 camera surveys in Tuolumne Meadows, in which there were no detections of fisher. Based on these recent findings, the NPS believes that Tuolumne Meadows does not represent suitable habitat for Pacific fisher and surveys for them are not necessary.The camera surveys in 2012 also did not detect Sierra Nevada red fox (SN red fox). However, recent surveys by USFS and CDFW have documented the presence of SN red fox adjacent to the park's northern boundary at Dorothy Lake. This detection was one of many that has resulted in an estimated population size of 20 breeding individuals. Habitat models suggest up to 50% of the population could be undiscovered within the park. Thus, even though there are no documented sightings of SN red fox in Tuolumne Meadows, the NPS concurs with the CDFW recommendation to survey for SN red fox prior to any future projects. These measures are included in Appendix O of the TRP FEIS.

Concern ID: 466 **The NPS should complete a two-year Great Grey Owl protocol survey using methodology provided by Bed and Winter (2000) prior to implementing project-related activities on the western end of Tuolumne Meadows.**

Great Grey Owl: The western portion of the Tuolumne Meadows segment of the Tuolumne Wild and Scenic River is within the range of great grey owl (GGO). The GGO population is at risk of extinction within the State of California due to small population size and isolation of extant populations from one another. Meadow complexes and adjacent timber stands near potential future project sites may be suitable nesting, foraging, and roosting habitat for the great grey owl. The Department recommends that a complete two year GGO protocol survey be completed utilizing methodology described by Beck and Winter (2000) prior to the commencement of any project related activities on the western end of Tuolumne Meadows. Survey results may then be used to determine the proper avoidance, minimization measure necessary to reduce potential project related impacts to the species.
[State Government, #486]

Response: From 2007-2010 and in 2013, park-wide surveys for great gray owls were conducted to determine their abundance, distribution, and habitat suitability. No owls have been found at an elevation equivalent to the west end of Tuolumne Meadows (8,600 ft elevation). The highest elevation that a great gray owl has been detected is at 7,900 ft. Preferred habitat of this species is montane meadows surrounded by red or white fir forests, and ranging in elevation from approximately 4,000 to 8,000 feet in elevation. In 2012, for the first time in the park, a nest was found in a large lodgepole pine snag at 7,018 feet in elevation. Even though Tuolumne Meadows does not comprise high suitability habitat for the great gray owl, the NPS will follow the recommendation of CDFW to conduct standardized great gray owl surveys prior to implementing project-related activities on the western end of Tuolumne Meadows.The NPS will use the survey protocol by Keane et al. (2011) that improves on the Beck and Winter (2000) protocol. NPS will conduct 2 broadcast surveys in one season for which a 77% probability of detection is expected.These measures are included in Appendix O of the TRP FEIS.

Concern ID: 467 **The NPS should conduct pre-project botanical surveys using established protocols to avoid, minimize, and mitigate impacts on the green slender lupine and Davy's sedge.**

Rare Plants: It appears that planned projects conducted in Tuolumne Meadows may have the potential to impact the California Rare Rank 1B.3 green slender lupine and Davy's Sedge. The Department recommends conducting pre-project botanical surveys during the floristic period using established protocols to assist with designing future projects to avoid, minimize, and mitigate impacts to these species.
[State Government, #486]

Response: The two special status species that have been documented in Tuolumne Meadows that inhabit dry sites in partial shade are slender lupine (*Lupinus gracilentus*) and Davy's sedge (*Carex davyi*). Both of these species have been the subject of targeted surveys: of the entire Tuolumne River corridor in 2007 (Acree et al., 2007) and in a site-specific survey of Tuolumne Meadows Campground in 2010 (Colwell et al., YOSE special status plant database). However, site-specific surveys of locations slated for development or modification would be conducted as site plans are developed, as recommended by the commenter, and as is standard procedure in Yosemite: pre-project botanical surveys during the floristic period using established protocols to avoid, minimize, and mitigate impacts on these species.

Davy's sedge, (*Carex davyi*) was collected in 1944 by John Thomas Howell at two Yosemite locations: at Mono Pass and in Tuolumne Meadows, in the vicinity of Dog Creek. This species has not been relocated at either site since, despite repeated searching of these sites and the general area by park staff and sedge taxonomists. This plant is very similar to several other sedge species and would be overlooked by a surveyor without special training, so it is considered present and a Yosemite special status species.

Slender lupine (*Lupinus gracilentus*) is found in the Tuolumne Meadows region in abundance in vernally moist slopes and drainages with sparse cover of *Pinus contorta*. It is found along the south margin of Tuolumne Meadows Campground and the Tuolumne Meadows Visitor Center complex and should be expected at other similar sites. Although populations of many tens of thousands of individuals are present in the area, it is a central Sierra Nevada endemic and so remains a Yosemite special status species. Pre-project botanical surveys will be conducted as described in appendix O of the FEIS.

Concern ID: 468 The NPS should consult with the Regional Water Quality Control Board regarding the acquisition of a National Pollutant Discharge Elimination System permit to protect stream and riparian habitat.

Stream and Riparian Habitat: Streams and associated riparian habitat are of extreme importance to a wide variety of plant and wildlife species. Potential future project related impacts to rivers, creeks, and drainages, associated riparian vegetation, and the wildlife that depend on them include: increased sediment input from treatments, road/parking area construction, road runoff, and impairment of wildlife movement along stream corridors. The Regional Water Quality Control Board (Board) has jurisdiction over discharge and pollution of "Waters of the State" and it is recommended that the Board be consulted regarding the acquisition of a National Pollutant Discharge Elimination System (NPDES) permit.

[State Government, #486]

Response: The NPS would obtain all necessary permits prior to undertaking any ground-disturbing activity.

Concern ID: 469 The NPS should continue to collaborate with the San Francisco Public Utilities Commission on the Upper Tuolumne River Ecosystem Project in order to protect special status species habitat and populations, including the Western pond turtle, in the river segments below O'Shaughnessy Dam.

. . .Sensitive species documented to be present within the Wild and Scenic River corridor Below O'Shaugnessy Dam include the western mastiff bat, spotted bat, and western pond turtle. The slender stemmed monkeyflower, and the yellow-lip pansy monkeyflower, both sensitive plants, are also recorded as being present in this area. According to the Tuolumne River Plan/Draft EIS, habitat for western pond turtles below O'Shaugnessy Dam have been compromised by regulated flow from Hetch Hetchy Reservoir and populations have likely been affected by dam operations. . . . The Tuolumne River Plan/Draft EIS states that Poopenaut Valley may be experiencing riparian encroachment into valuable wetland habitats, potentially due to altered natural groundwater recharge caused by the regulated hydrologic regime from Hetch Hetchy Reservoir. The Department recommends that the NPS continue to collaborate with the SFPUC on the Upper Tuolumne River Ecosystem Project in order to determine informed recommendations for flow release that will best suit the overall floodplain and palustrine wet meadow habitats critical to wildlife in the Poopenaut Valley. The Department acknowledges that the NPS has researched species present in this area, as many are listed as being detected in this low-elevation habitat of the Tuolumne Wild and Scenic River corridor. The Department recommends continued research and surveys for sensitive species potentially present in the lower segments of the river corridor, as well as implementation of management decisions designed to protect habitat, population movement corridors and persistence.

[State Government, #486]

Response: As noted in chapter 5, the NPS will continue to cooperate with the San Francisco Public Utilities Commission on the Looking Downstream project, which will be used to establish flow recommendations from O'Shaughnessy Dam.

Lightscapes

Concern ID: 470 **The TRP lightscapes impact analysis should include the impact of increased road traffic at night, and the relative impact of RVs in the Tuolumne Meadows campground.**

Regarding the subject of artificial lighting, increased road traffic at night has an impact and should be more fully addressed. Also, RV users may have a greater impact than tent campers with lighting. Where is this addressed in the TRP?

[Individual, #406]

Response: The TRP alternatives do not consider any actions that would change the amount of nighttime traffic traveling on Tioga Road. Therefore, they would have no impact on lightscapes related to nighttime road traffic. RVs in the campground would not necessarily have a different impact on the lightscape than cars and tents, or if they did, it would vary from day to day. The plan does not propose any action that would change the ratio of RVs to tents in the campground; therefore it would have no impact on the lightscape related to the number of RVs in the campground.

Soundscapes

Concern ID: 471 **The TRP DEIS soundscapes impact analysis should include additional consideration of the impact of noise, particularly motorcycle noise, on the visitor experience.**

The Draft TRP measures noise impacts through inadequate metrics which are limited to geographic scope, intensity, duration, and type (i.e., beneficial or adverse).[13] Glaringly absent is any consideration of human nature and human noise sensibilities, which should be included in any noise impact analysis of the visitor experience. If YNP expanded their analysis to include the visitor experience perhaps planners would be more inclined to include at least one proposed action to address disruptive and illegal motorcycle noise in the park.

Research shows that noise is more disturbing (i.e., has a detrimental impact on performance and enjoyment and is rated as irritating) if it is loud, occurs in bursts at irregular intervals (is unpredictable), and is perceived as not being under the control of the listener. Moreover, annoyance over the noise is higher if it interferes with tasks (such as listening for natural sounds), if the perpetrator is perceived as unconcerned about the welfare of the listener, and if it [the noise] is perceived as unnecessary.[14] All six of these criteria apply to noise from motorcycles with altered mufflers.

[Recreational Groups, #312]

Response: The metrics cited by the commenter (geographic context, duration, intensity, and type) are required by NPS Director's Order 12, which provides standards for impacts analysis in NPS environmental impact statements. Please note that the affected environment for the soundscapes analysis does define 'noise' and includes discussion on the types of noise that impact visitor experience in the wild and scenic river corridor. The FEIS has been revised to expand the discussion of impacts of motorcycle noise on the visitor experience. Please see also the response to concern #68.

Concern ID: 472 **The TRP DEIS soundscapes impact analysis should distinguish the specific impacts of different types of vehicles and commercial aircraft, and the proposed increase in public transit under alternative 4.**

Pages 8-128-129. The phrases "motor vehicle noise" "vehicle sounds" and "vehicle engine" are not interchangeable. The most pronounced sound from vehicles at speed, such as on straight stretches of Tioga Road, may be from friction between the road and tires and air resistance. Engine noise is more pronounced at slow speeds and when at rest and is more pronounced (on average) with motorcycles and buses, and more with diesel engines than gasoline engines (and then there are all-electric vehicles). Vehicle noise could also refer to the opening and closing of doors, radio/music systems and/or burglar alarms. This whole section of the report needs to be rewritten and expanded to fully analyze this subject and provide better guidance to planners. Regarding aircraft it is incorrect the National Park Service has no control over this issue. You have altitude restrictions and those should be fully

addressed in the TRP. It should also be noted that commercial aircraft are not just a sonic encroachment; their condensation trails often mar many a photography stop.
[Individual, #406]

Response: Chapter 9 of the TRP FEIS has been revised to address the impact of an increase in public transportation (proposed in the preferred alternative) on the Tuolumne Meadows soundscape in alternative 4. With the exception of proposing to increase public transportation by three buses per day (for a total of four buses per day) on Tioga Road in alternative 4, the TRP alternatives do not consider any actions that would affect the types of vehicles traveling on Tioga Road or commercial aircraft flying over the park. Therefore, distinguishing the impacts of these different modes of transportation is irrelevant to the decisions to be made by the plan. Regulating noise in the river corridor at places like Tuolumne Meadows campground (where alarms and radios can intrude into visitor experience) and motorcycle noise on park roads are park operations issues that are addressed outside of this wild and scenic river management plan process (see the response to concern #68). The NPS recognizes the impact of aircraft overflights; it is a national issue that is being addressed outside of this planning process.

Air Quality

Concern ID: 473 The NPS should consider negative air quality issues on trails with stock use.

During my last hike on the trail from Tuolumne Meadows toward Vogelsang, the mixture of fine dust & pulverized manure was so choking and awful that I'm not sure I even want to come back. Such dust would not be allowed by OSHA at any factory in the land. Visitors to our national parks should not be displaced by such awful impacts.
[Individual, #322]

Response: Chapters 8 and 9 of the TRP FEIS have been revised to specify that some wilderness users are offended by the smells associated with packstock use. However, packstock are not a known contributor to regional air pollution.

Concern ID: 474 The TRP EIS should discuss the relative impact of vehicle emissions from day users versus overnight users, as well as hybrid vehicles.

Page 8-142. The comment about vehicles left idling at various locations is valid but overstated. What is common is to see vendor trucks, administrative vehicles and especially buses left idling at viewpoints, parking lots, service locations and staging areas. I would also point out that many hybrid vehicles automatically shut down the gasoline or diesel motor when a vehicle has been stopped. I would also point out that vehicle emission systems work at peak efficiency after the engine has been warmed up. Most day visitors come during the middle of the day and stay for a short duration. Their vehicle emission control systems are operating at a more efficient level on average than the overnight user or employee whose vehicle will be started cold at Tuolumne Meadows and may also be running more frequently during the worse time of the day for air inversion. These differences should be corrected in all sections of the TRP where the subject of vehicle engine emissions is addressed.
[Individual, #406]

Response: Because Tioga Road is a state highway that accommodates through-traffic as well as day and overnight visitors to Tuolumne Meadows, it is not possible to calculate the relative impact of vehicle emissions from various highway travelers. The NPS assumes that mobile sources of emissions along Tioga Road would remain the same under any of the alternatives, as the plan would not affect the amount of through-traffic on Tioga Road (other than the possible addition of up to three regional transit buses per day under the preferred alternative, which would have a negligible impact on overall emissions in the river corridor). The composition of vehicle emissions would remain subject to state and federal emissions control standards and programs. For the foreseeable future, motor vehicle fleet turnover, cleaner burning fuels, improved technologies, and stricter state and federal standards would be expected to decrease emissions.

Concern ID: 475 The TRP should restrict the operating hours of stationary emissions sources, such as generators, and consider using portable biomass burners.

Stationary emission sources, such as electric generators, should be restricted to operating hours that will avoid compounding air inversion situations. The National Park Service should continue its program to upgrade and replace older equipment and seek more greenhouse friendly energy sources. State-of-the-art, portable biomass burners might be utilized to both dispose of cut fuels and provide electricity. The emissions generated from open-burning or from vehicles used to transport cut vegetation (as well as the fuel that is consumed to transport this material) may be a bigger greenhouse impact than using a portable biomass unit at Tuolumne Meadows.
[Individual, #406]

Response: The actions suggested are all operational in nature rather than a function of land use decisions or user capacity in the river corridor, which is the focus of this comprehensive management planning effort. The park will continue to use best management practices and utilize fuel efficient technology and equipment throughout the park to the greatest extent feasible.

The NPS currently utilizes portable biomass units for certain operations in the park, and may consider portable units in the future.

Concern ID: 476 The NPS should coordinate with air pollution control districts and the California Air Resources Board (CARB) to minimize local and regional smoke and air quality impacts.

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the project referenced above. Although the proposed project is not located within the jurisdiction of the District and air quality in the San Joaquin Valley has improved significantly, the Valley faces many air quality challenges to meet the health-based air pollution standards. Meeting the San Joaquin Valley's ozone and particulate matter standards will require collaboration with industry leaders, private citizens, and other government agencies. The District offers the following comments:

1. The District recognizes the importance of prescribed "planned ignition" burning as a means of reducing potential fuels and longer-term quality impacts.

2. The District encourages Yosemite National Park (Park) to remove vegetative fuel materials by mechanical treatment of other means to reduce unexpected future potential emissions.

3. The District requests the Park to work closely and coordinate with air pollution control districts and the California Air Resources Board (CARB) in regards to local and regional smoke and air quality impacts and how to minimize them, if and when they occur.

4. Planned and unplanned ignitions must abide by the requirements stipulated in California Code of Regulations Title 17, Subchapter 2 "Smoke Management for Agricultural and Prescribed Burning" in addition to any local Air Pollution Control District requirements.

5. The District requests the Park to mitigate fires during CARB or local air pollution control district declared "No Burn Day" and "Marginal" days.

6. During wildfires, the park needs to minimize smoke and air quality impacts by utilizing appropriate resources (limiting to size), and effectively communicating impacts to the public.
[County Government, #448]

Response: The NPS currently coordinates with CARB on these issues to minimize the effects of smoke from Yosemite fires, per the guidance of the Yosemite Fire Management Plan and NPS policy.

Concern ID: 477 The NPS should clarify why wildfire would be a short-term impact on air quality.

7. The District disagrees with the 2nd sentence of the following statement made on Chapter 8, Page 144, where, "In addition, wildland fires in the park, managed in accordance with the 2004 Fire Management Plan, could adversely impact local and regional air quality. The adverse impacts of these activities would be local and short term in nature." This statement is incorrect in that natural "lightning" ignited fire events that are managed by the Park are not of short duration but can last several months or until the season ending rain/snow event finally puts them out. These events occur during the District's high ozone season and have adversely impacted the air quality in the past. The District requests the Park to revise the sentence to reflect the long term nature and potentially significant impact of these fires.
[County Government, #448]

Page 8-144. Clarify what you mean when it is stated that wildfires are a short-term impact.
[Individual, #406]

Response: Based on the definition of 'short-term impact' in the DEIS and FEIS air quality impacts analysis (see Chapter 9, Air Quality subsection under Environmental Consequences Methodology), wildfires are considered to have short-term impacts on air quality because the impact, if it occurs, would be seasonal. A long-term impact would have a permanent impact on air quality, such as the installation or removal of a stationary emissions source (e.g., a power plant).

Concern ID: 478 The NPS should provide an option for smoke-free accommodations for visitors with health issues that are aggravated by campground smoke.

All overnight accommodations, including camping, should provide an option for a smoke free environment for those with health issues related to smoke. This includes respiratory and other disabilities related to smoke. My wife gets disabling migraines from some types of smoke and diesel fumes. Camping in the Park is nearly impossible because of campground smoke. This also creates an issues with retrieving wilderness permits that should be addressed both by this plan and the Wilderness Stewardship Plan. Please address these issues in terms of the Americans with Disabilities Act (ADA.)
[Individual, #401]

Response: Smoke-free accommodations are already available at Tuolumne Meadows at the Tuolumne Meadows Lodge. In regards to campfire smoke, the public would have an opportunity to comment on site specific details for the campground rehabilitation when environmental compliance for that action is undertaken. Options for the campground rehabilitation could include a reduction in the number of campfire rings.

Concern ID: 479 The NPS should clarify the impact of increased regional transit and the increased use of the Tuolumne Meadows shuttle on air quality.

Page 8-150. The TRP states "The increased capacity of the regional transportation systems would further reduce vehicle trips within the meadows area." There is no evidence to support this unless the National Park Service intends to mandate bus use. Otherwise, the bus traffic is additive to the overall projected increase of visitor use for the Tuolumne Meadows area. The second paragraph under "conclusion" also makes the following claim: "...the proposed changes to shuttle circulation and frequency, the increased use of regional transportation, the reduction of commercial services, and the removal of the public fuel station would result in a local long-term beneficial impact..." If these actions are growth inducement then there is no benefit since the TRP projects increased visitation to the Tuolumne Meadows area and Alternative 4 is attempting to accommodate that growth. What percentage of benefit is ascribed to each action? What is the projected ridership of the various buses and at what point does ridership fall below a projected or claimed benefit? What about the statement elsewhere in the TRP that visitors staying at Tuolumne Meadows may make additional trips to get supplies from Lee Vining or Crane Flat?
[Individual, #406]

Response: The FEIS impact analysis has been revised to note that the through traffic on Tioga Road would not be impacted by the plan and the addition of up to three regional transit buses per day and the increased frequency of the in-park shuttle would have a negligible to minor localized impact on air quality at Tuolumne Meadows.

Concern ID: 480 The NPS should consider that some visitors enjoy the smell of wood smoke.

Concerning the negative aspects of wood smoke, p 8-43; at low concentrations and for a short time, many people treasure the smell of a campfire. I am one.
[Individual, #304]

Response: Campfires in the campground would not be affected by the TRP, except that the number of campsites (each with a campfire ring) would vary slightly under the different alternatives.However, if air quality concerns increase and standards are continually exceeded, the NPS is required under the federal and state Clean Air Acts to take action to address the concerns.

Visitor Experience

Concern ID: 481 The TRP should analyze the impact of removing the mountain shop and mountaineering school on visitor services, recreation, and visitor experience.

The elimination of the YMS from the Tuolumne area has a significant adverse impact on visitors seeking a guided recreational opportunity in Yosemite, removes an ADA accommodation service and has socioeconomic impacts in that only those who are fully equipped will be able to enjoy these traditional services in the Tuolumne area. We believe the removal of the mountain shop and the YMS will adversely impact visitor services, recreation, and visitor experience and these impacts are not analyzed in these sections of Chapter 8.
[Business, #383]

Response: The TRP FEIS has been revised to state that the mountaineering shop would be removed under the preferred alternative, but the mountaineering school function would be retained and relocated to the Tuolumne Meadows Lodge. The impact of removing the mountaineering shop on the visitor experience is analyzed in chapter 9.

Concern ID: 482 The NPS should clarify the term 'frontcountry' and if the group party size cited in the "Visitor Experience" section of the affected environment would change the group encounter size used in the TRP.

Page 8-167. The term "frontcountry" appears to mean developed areas of the Park. Please clarify the use of this term. Table 8-12 indicates that group size is 3.4 people which is close to the car occupancy planning statistic of 2.9 per car. The table notes that the group size of 3.4 for the Tuolumne Meadows areas is less than the overall park users number of 5.2 per group....Secondly, on trail "encounter" monitoring, are groups going to be characterized or defined as being from three to five parties, I mean, people per group (on average)?
[Individual, #406]

Response: 'Frontcountry' has been added to the glossary with the following definition: An area generally accessible by road, as opposed to more remote 'backcountry' areas, where access requires trail or crosscountry travel. Frontcountry areas often have facilities to support visitor use, as opposed to backcountry areas, where visitors are expected to be more self-reliant. The standard for encounters with other groups on trails, established to protect the wilderness experience along the river, does not specify any number of people per group. Group size for day use in wilderness is currently restricted to 8 people per group off trail and 35 people per group on trail, with overnight use limited to 8 people per group off trail and 15 on trail; the TRP preferred alternative would retain these wilderness group size limits.

Park Operations and Facilities

Concern ID: 483 The TRP FEIS should reevaluate the impacts of removing of the fuel station at Tuolumne Meadows on visitor experience, park operations, and transportation, as it would shift use to other services stations like Crane Flat.

We do not believe the existing visitor and operational use of the gas station was accurately described in the TRP and removal of the gas station was not adequately analyzed in the "Affected Environment and Environmental Consequences" chapter of the TRP (Chapter 8) under the Visitor Services, Park Operations, or Transportation sections of this chapter because removing the station affects all those areas. Its removal was only briefly mentioned in the analysis of Visitor Experience and was noted to affect a "very small number of people that need to re-fuel" (pg. 8-192). The table included below illustrates the number of gallons sold at each service station within the park during peak summer months over the past two years. These numbers show that while Tuolumne is less used than other service stations in the park, it provides a service to more than just a "very small number of people" and as use goes up in Tuolumne, it decreases at Crane Flat.

Gallons Pumped	*Tuolumne*	*Wawona*	*Crane Flat*
July 2011	*15,558*	*79,501*	*123,387*
August 2011	*29,604*	*79,405*	*119,304*
July 2012	*28,491*	*79,264*	*133,807*
August 2012	*33,410*	*81,054*	*131,263*

…Chapter 8 should include a quantitative statement of current use and adequate analysis of the impacts of the station's removal, including the impact on adjacent services, such as the Crane Flat service station.
The TRP also does not adequately address how the removal of the station will affect Park Operations. The service station is currently the primary source for fueling concessioner and park vehicles stationed at Tuolumne and for private vehicles of employees who live in Tuolumne… While the retention and relocation of diesel fuel in the Tuolumne area will benefit some park operations, the majority of vehicles stationed in Tuolumne require gasoline, not diesel. The TRP should analyze the operational efficiency of removing gasoline service in the Tuolumne area. For instance, it takes approximately one hour to travel from Tuolumne Meadows to Crane Flat and the round trip would consume roughly 20% of the fuel supply from an average fuel tank and over two hours of employee time. The plan calls for an increase in employee housing so it is fair to assume that there will be a correlated increase in operational and private vehicles in Tuolumne. Unless there is a plan to add gasoline to the waste water treatment site where diesel will be relocated, this is an impact that should be discussed and analyzed for the administrative vehicles and employees that are stationed in Tuolumne for the summer in the Park Operations section of the plan.
[Business, #383]

Response: The data provided by the commenter have been incorporated into FEIS in chapter 9, under the park operations section. The elimination of the fuel station will have little effect on park operations, as the preferred alternative has been revised to include aboveground fuel tanks (both gasoline and diesel) near the wastewater treatment plant in Tuolumne Meadows. These would not be advertised, but would be available to visitors who ran out of gas.

Concern ID: 484 The TRP should include more detail regarding fire management at Tuolumne Meadows.

Page 8-70. If most visitor services and administrative sites are in the upland community vegetation type how is this addressed in the fire management plan? The information should be in the TRP, not a reference made to look it up in another planning document.
[Individual, #406]

Response: The details of fire management in Yosemite National Park, including Tuolumne Meadows, are directed by the Yosemite National Park Fire Management Plan (NPS 2004e).

Transportation

Concern ID: 485 The NPS should clarify how the ridership on tour buses, YARTs regional transit, and Yosemite Valley-Tuolumne Meadows bus was factored into transportation planning.

The YARTS ridership figures are misleading because of the heavy government subsidies it receives and ridership includes employees who are paid to ride the bus on the 140 corridor. The TRP reports that tour/charter bus entries declined from 1,509 in 2000 to 607 in 2009. Why the decline and could the reasons for the decline (such as increased entrance fees) be an indicator of how the National Park Service could influence future traffic patterns for all users?

. . .Page 8-229. If the ridership on the tour bus from Yosemite Valley to Tuolumne Meadows is carrying an average of 27 passengers (and there is no information that this is true only the statement that on one occasion 27 people were on the bus on a Saturday run) why the need for 45 passenger buses (as listed in the alternatives under transit service)?

[Individual, #406]

Response: It is not known why tour/charter bus entries declined from 2000 to 2009. The preferred alternative would accommodate the current level of charter tour buses, the current level of service on the Yosemite Valley-Tuolumne Meadows concessioner bus, and an increase in Yosemite Area Regional Transit (YARTS) to allow people who did not wish to seek parking at Tuolumne Meadows to leave their cars outside the park at regional transit stops, such as Lee Vining. Three new bus runs using 45-passenger buses would be initiated on the YARTS route on Highway 120 (which is not typically used by employees) to relieve traffic congestion at Tuolumne Meadows on peak days. The 45-passenger bus figure is used in order to estimate the maximum number of people who could arrive into the corridor by public transit, as required by the definition of user capacity. In practice, the number of passengers could be less.

Concern ID: 486 The TRP transportation impacts analysis should clarify why removing the fuel station and store in alternative 1 would reduce parking demand.

Page 8-236. Clearly Alternative 1 would create a traffic nightmare for day visitors unless overall traffic volume on Tioga Road is going to be substantially reduced. How does removing the fuel station and store reduce parking demand? People stopping for these services are most likely stopping at Tuolumne Meadows anyway.

[Individual, #406]

Response: Alternative 1 would have the lowest user capacity of all the alternatives, which is the primary reason there would be less parking available in this alternative. All commercial services, including the gas station, would be removed because they would not be consistent with the self-reliant experience envisioned by this alternative. Eliminating the store, grill, commercial trail rides, and fuel station would result in fewer people stopping solely to receive those services, which would theoretically somewhat reduce the demand for day parking; however, the impact analysis for this alternative acknowledges that for people wishing to stop spontaneously at Tuolumne Meadows, it would be difficult to find parking most of the time during the peak summer season.

Concern ID: 487 The TRP transportation impacts analysis should clarify how the TRP would meet current parking demand in alternative 2, and how planners would address the long-term impact of limiting day use parking capacity.

Page 8-238. Alternative 2 is characterized as meeting the current parking demand for day visitors but I see it as falling short by some 35 spaces to address peak demand. It also does not address future demand (after 2014) and the TRP is supposed to guide planners for the next 20 years. Should this not be explained in the TRP document? Alternatives 3 and 4 provide even less day use parking capacity.

[Individual, #406]

Response: In all alternatives, the amount of parking provided is tied to the user capacity for each alternative and the site constraints that limit the amount and location of development to protect and enhance river values. The user capacity program manages day visitors by establishing a corresponding number of day parking spaces at levels and in locations that are protective of river values. The maximum demand for visitor parking is calculated as 870 vehicles, based on the highest number of vehicles counted during a study conducted in summer 2011. Alternative 2 would provide 982 formal designated parking spaces for visitors, 340 of which are for overnight visitors (excluding the campground), leaving 642 day visitor spaces. From the DEIS and FEIS: "Due to the dispersed nature of this parking and to ensure that parking supply (and corresponding day user capacity) is not exceeded, these spaces are considered full when they are 90% occupied (578 spaces). This would ensure that visitors could find a space without recirculating and contributing to traffic congestion. . . . These 918 spaces (578 + 340) would accommodate 100% of existing peak season parking demand and accommodate the projected 3% annual visitation growth through 2014. However, if visitation continues to grow 3% annually (as projected), after 2014, some day visitors may not find parking during peak use periods. Parking should remain adequate during nonpeak periods." In addition, chapter 5 of the DEIS and FEIS notes that a day use parking reservation system could be implemented if parking demand exceeds parking supply at thresholds established by the plan.

Energy Consumption and Climate Change

Concern ID: 488 An increased reliance on shuttle service does not have a beneficial impact on greenhouse gas emissions, because it is not clear if shuttles would encourage additional visitation to the park.

Page 8-248. I concur with the TRP noting that the closure of the fuel station and store could create more greenhouse emissions as employees and visitors travel to Lee Vining or Crane Flat to get supplies. I disagree that increased reliance on shuttle bus service would have a beneficial impact on greenhouse gas emissions. You don't know if shuttle service is additive or subtractive because you don't know if it encourages more visitation or longer visitation to Tuolumne Meadows or if it really reduces the overall number of car "jockeying" around the area as a visitor spends the day. Given the duration of time statistics presented in the TRP I would guess most people stop at a scenic viewpoint once or twice then park their car for a short outing rather than move around. On the other hand, if the shuttles keep overnight guests cars stationary then an argument can be made for this benefit.
[Individual, #406]

Response: The TRP FEIS has been revised to clarify that the visitor use capacity established for the Tuolumne River corridor area would not increase or decrease with any mode of transportation. Once the overall capacity was reached, if more people began arriving by public transportation, fewer people would be able to park private vehicles in the corridor. Assuming that public transportation produces fewer greenhouse gas emissions per capita than private vehicles (a generally accepted analysis), an increase in use of public transportation would result in a beneficial impact on greenhouse gas emissions.

Concern ID: 489 The Energy Consumption and Climate Change impact topic should address the opening/closing of Tioga Road, the potential for increased fire risk, and the carbon footprint of an expanded public transit service.

Page 8-243. With so much discussion in the TRP about climate change why is the operating season of Tioga Road not addressed? Why is the potential for elevated fire occurrence not addressed? And, why is the carbon footprint of expanded transit service not addressed?
[Individual, #406]

Response: None of the alternatives would affect the opening and closing of Tioga Road; therefore there would be no impact on energy consumption associated with this activity under any alternative. If warming trends continue, the park may establish opening dates for the road and facilities in the meadows to address increased energy use as a result of a longer operating season; however this is outside of the scope of this plan.

The risk of catastrophic fire was not considered a development constraint for the TRP. Catastrophic wildfire is considered unlikely, even given climate change, due to the ample number of natural fuelbreaks around Tuolumne Meadows. Lodgepole pines in Yosemite do not bear serotinous cones (which depend on fire to be opened), which is consistent with the evidence that canopy/catastrophic fire in the Sierra Nevada high country (not the foothills) has historically been rare to nonexistent. Throughout the park, fire safety is an integral part of park operations, and procedures already in place would give highest priority to protection of public safety in the event of fire or risk of fire. The Energy Consumption and Climate Change section already does address carbon impacts of the expanded public transit system.

Socioeconomics

Concern ID: 490 The TRP DEIS did not sufficiently analyze the impact of commercial use restrictions on commercial outfitter operations and employees.

The TRP should highlight that recreational commercial groups will not be permitted on sections of the Pacific Crest Trail/John Muir Trail in July and August. Guided climbing, fishing, backpacking and commercial stock trips will no longer be permitted in the Lyell Canyon on the weekends or at Glen Aulin all week during July and August. We believe this is a significant impact to recreation and the visitor experience. lt also eliminates several traditional employment opportunities for both the concessionaire and independent business operators within Mono and Inyo counties, with the result that east side pack stations might no longer be 'financially viable with this restriction. We did not find that the socioeconomic impact of this restriction was analyzed. Additionally, we question if the Wilderness Management Plan might be the more appropriate vehicle to consider and analyze this type of action.
[Business, #383]

Response: Each of the action alternatives places some restrictions on commercial recreation use in the wilderness sections, consistent with the findings of the determination of extent necessary (which is required under the Wilderness Act). The socioeconomic analysis included in the TRP DEIS addressed the adverse impact on the local and regional economies from reduced opportunities for commercial use in the river corridor. The analysis assumed that commercial outfitters might be able to redirect some of the trips out of the river corridor, but that some outfitters might instead reduce operations, resulting in adverse impacts on the local and regional economies. Based on the analysis included in the DEIS and public comments, the determination of extent necessary (DEN) for commercial use in wilderness has been reevaluated and revised to reflect that the currently low levels of commercial use in wild segments of the Tuolumne River corridor are consistent with wilderness character and do further the purposes of the Wilderness Act. In the FEIS, under alternatives 2-4, the percentages of the total overnight capacity for Lyell Canyon allocated for commercial educational use on weekends and holidays during July and August was raised from 10% to 15%, and the percentage of total use allocated for recreational/scenic trips was raised from 5% to 10%. Only alternative 1 would adversely impact current levels of commercial use in wilderness. The number of employees lost due to a reduction in outfitter operations is expected to have a minor impact on the regional economy. Given the smaller local economy in Mono County and the concentration of outfitters in this area, it is possible that the effect on the local economy in Mono County could be moderate if all operations removed from the river corridor were lost rather than relocated to other areas within the park.

Concern ID: 491 The NPS should expand the TRP socioeconomic analysis to include an assessment of all of the communities within the "affected region" identified, specifically the City of Sonora.

Chapter 8 addresses the socioeconomic impacts of implementing the four alternatives. The study defines four counties as the "affected region" which includes the counties that either encompass the park or border the park. Tuolumne County is one of the counties that encompass a portion of the park. However, the study only specifically addresses the impacts on five communities within the four County region. These five communities are identified as being in the top fifteen communities mentioned in the referenced visitor study but the Draft EIS is silent regarding the impacts to the remaining ten communities. Given the social and economic similarity between Sonora and the

communities identified, we surmise that the City may be one of the remaining fifteen communities that were not analyzed. As a result, the socioeconomic analysis need to be expanded to include an assessment of all of the communities within the "affected region" identified.
[Town or City Government, #384]

Page 8-260. Who are the top five communities mentioned in the survey regarding "...overnight stays on the night before a park visit..." that is referenced in the TRP and why are they not all identified?
[Individual, #406]

Response: Sonora was not in the top 15 communities listed in a visitor study for overnight stays before or after a park visit. The full list of communities includes communities throughout California and a few communities in Nevada. The list is available in the study cited (Littlejohn, et al. 2005). The communities listed were assumed to be the most affected by changes in visitor numbers and visitor spending, NPS and concessioner employee spending, housing and impacts on other community infrastructure. As mentioned in the text, many other communities throughout California could be affected.

There is a lack of economic data available on the City of Sonora; however, the FEIS has been updated to include Sonora in chapter 9, under Socioeconomics, Affected Environment. The impacts of the plan's actions on Sonora are likely to be mixed, similar to those described in the DEIS for the affected region. Changes in the river corridor that reduce lodging and services available in the park could result in some of these services being purchased outside the park and could benefit local economies, such as Sonora. However, if the management changes were to reduce visitor levels overall, the effect on Sonora's economy would be adverse. Changes proposed in the river corridor would not be expected to affect overall population trends in Sonora or community facilities or services.

Concern ID: 492 The TRP DEIS did not sufficiently analyze the impact of commercial use restrictions on Tuolumne County.

Pages 8-267 and following. The TRP notes revenue losses for the concessioner and the National Park Service with the proposed reduction in overnight lodging at Tuolumne Meadows. This is also a revenue loss to the County of Tuolumne through lost Transient Occupancy Taxes. The TRP notes that with the closure of the gas station and store at Tuolumne Meadows customers will have to go to Lee Vining or possibly Crane Flat for supplies. These locations are not in Tuolumne County, therefore there is lost sales tax revenue for the county. These fiscal impacts should be acknowledged in the TRP.
[Individual, #406]

Response: The analysis of alternative 1, which eliminates lodging at Tuolumne Meadows Lodge and the Glen Aulin High Sierra Camp, documents the potential for a long-term minor to moderate adverse impact on the regional economy but does not specifically address the impact of reduced Transient Occupancy Taxes (TOT) or sales taxes on Tuolumne County. The TRP FEIS has been revised to document that Tuolumne County would lose TOT revenues from lodging removed from the river corridor, as well as sales tax from removal of other services. Regarding commercial services in wilderness, the determination of extent necessary for those services (appendix C) has been revised to slightly increase the allowable level of commercial use in Lyell Canyon. As revised, the TRP would have little effect on existing levels of commercial use.

Historic Buildings, Structures and Cultural Landscapes

Concern ID: 493 The NPS should reconsider or clarify why the preferred alternative would remove historic structures to reduce risks to water quality and consolidate park operations.

Further, we take issue with the plan to remove 7 tent cabins at Ranger Camp, a barn and tack shed, and the fuel station and mountaineering school at Tuolumne Meadows store and fuel station. We do not find compelling the proposed rationale to reduce risks to water quality and consolidate operations at the stables.
[Conservation/Preservation, #385]

Response: The preferred alternative has been revised to clarify that the historic structures at the NPS stable would be adaptively re-used if possible as part of the site redevelopment for employee housing. This action and the action to alter, renovate, or replace historic tent cabins would require additional NHPA compliance in consultation with the California state historic preservation officer. Adverse impacts on these structures and the Tuolumne Meadows Historic District would be avoided, minimized, or mitigated to the maximum extent possible while bringing all housing into compliance with current OSHA codes and NPS standards.

The underground tanks at the public fuel station (known historically as the Tuolumne Meadows Gas Station) would be removed to eliminate a risk to water quality. The historic gas station building would be also removed. The gas station function is not considered necessary under Wild and Scenic Rivers Act for the preferred alternative (see the TRP FEIS chapter 7) and this existing developed area is needed in order to relocate parking from sensitive meadows to more resilient upland environments.

The NPS considered rehabilitating the historic gas station building to use as a visitor contact station. However, this NPS determined that the gas station structure would be too small to accommodate the prescribed levels of use in the preferred alternative.

The gas station building is a contributing element to the Tuolumne Meadows Historic District and, in accordance with NHPA requirements, the NPS determined that removing this structure would have an adverse effect on the historic district (see TRP FEIS chapter 9).

Concern ID: 494 The NPS should clarify the historic status and proposed treatment of the NPS stable in the preferred alternative.

Is the NPS barn an historic structure? If so, will it be razed, moved or left in place.
[Individual, #13]

Response: The barn building at the NPS stable is not a contributing structure to the Tuolumne Meadows Historic District, which was determined to be eligible for listing on the National Register of Historic Places in 2007 (see NPS 2007t). Under the preferred alternative, all historic stable structures would be retained and adaptively reused if possible. Use of the site currently occupied by the NPS stable for additional NPS employee housing would require additional site-specific planning and environmental compliance in consultation with the California state historic preservation officer.

Concern ID: 495 The NPS should clarify the historic status and proposed treatment of the ranger station in the Tuolumne Meadows site plan.

It is unclear to me about the future of the present ranger station. Is it an historic structure? Will it remain in place and if so, what will it be used for? Or, will it be physically removed and that function (ranger administrative) be moved to the visitor center?
[Individual, #13]

To what would the Ranger Station be repurposed?
[Individual, #270]

Response: The Tuolumne Meadows Ranger Station is a historic structure that is listed on the National Register of Historic Places. The ranger station also contributes to the Tuolumne Meadows Historic District, which was determined to be eligible for listing on the National Register of Historic Places in 2007 (see chapter 9 of the TRP/FEIS under Historic Properties). The preferred alternative has been revised to show that the existing historic ranger station will be retained and rehabilitated in its current location to accommodate park operations. The ranger station is overcrowded, with insufficient space for NPS staff. Because additional space will be required, rehabilitation of the building would likely require an addition to the building. The park would avoid adverse effects to the historic structure through application of the *Secretary of the Interior's Standards for the Treatment of Historic Properties* in conjunction with the Yosemite Design Guidelines (NPS 2011a) and through consultation with the California state historic preservation officer.

Concern ID: 496 The NPS should clarify if the old ranger station (now the campground contact station) would be retained or removed in alternative 4.

Among historic buildings listed in Figure 8-11 p 8-273, I do not see reference to the stone ranger station on the south side of Tioga Road between the present store and river. I believe it now serves as the campsite registration office noted in Appendix K, p K-11 and in photo 13, p K-18. It is significant to me because it was my first contact with a Tuolumne Meadows park ranger ca 1958. I also faintly remember phoning a ranger there and being patched through to Tuolumne Meadows number 9. Perhaps you are listing this building as "Contact station (3005)", p 8-278, or as "campground office", p 7-92, but is not evident the building I'm referring to will be honored or retained.
[Individual, #304]

Response: The structure the commenter refers to is called the Tuolumne Meadows campground office (it s current use) in the TRP. It is known in historic documentation as the Tuolumne Meadows Campground Contact Station. This historic structure would be retained with no proposed changes under all of the TRP FEIS alternatives.

Concern ID: 497 The TRP should acknowledge that removal of historic buildings results in the irreversible and irretrievable loss of cultural resources.

Pages 8-343 & 348. The removal of historic buildings results in the irreversible and irretrievable loss of a cultural resource. Glen Aulin and the gas station should be viewed as part of a class or type of finite and dwindling historic resources whose alteration or removal should not be sanctioned by the National Park Service.
[Individual, #406]

Response: Removal or rehabilitation of historic buildings and/or structures that results in an adverse effect on the Tuolumne Meadows Historic District or Tioga Road Historic District are identified as an irreversible impact in chapter 8 of the TRP DEIS and chapter 9 of the TRP FEIS. The preferred alternative has been revised to leave in place all historic guest tent cabins at Glen Aulin High Sierra Camp (while reducing the number of beds in two of them); however, the Tuolumne Meadows public fuel station would still be removed in order to relocate parking from sensitive meadows to more resilient upland environments.

Concern ID: 498 The TRP should evaluate the cumulative adverse effect on cultural resources resulting from the preferred alternative of the Merced River Plan.

Finally, our concerns are heightened by the fact that several additional serious impacts to cultural resources are proposed in the preferred alternative in the Merced Wild and Scenic River Draft Comprehensive Management Plan, for which we will be commenting separately. The impacts must be contextualized with the approved Tuolumne Plan given that they will cause significant cumulative effects to historic resources.
[Conservation/Preservation, #385]

Response: The TRP FEIS has been updated to note that only one historic building in the entire river corridor would be removed under the preferred alternative (the Tuolumne Meadows gas station). In addition, some historic culverts would be rehabilitated or replaced and somehistoric turnouts removed to protect the meadows, which are a key component of the Tuolumne Meadows Historic District. The vast majority of historic buildings and structures in the river corridor, including those that are listed on the National Register of Historic Places, would remain unaffected, with the following exceptions: the Tuolumne Meadows Ranger Station, structures at the NPS stable, and the CCC mess hall at Road Crew Camp would be rehabilitated to accommodate park operations; there would be some internal reconfiguration of historic comfort stations at Tuolumne Meadows Campground to upgrade plumbing systems; the historic dining hall/kitchen at Tuolumne Meaodws Lodge would be relocated out of a sensitive riparian area; and 11 historic tent cabins would be converted to hard-sided cabins (in situ, where possible, using existing foundations and materials) to comply with OSHA and NPS codes and standards. The cumulative effect of these actions on cultural resources in Yosemite Valley would be negligible.

American Indian Traditional Cultural Resources

Concern ID: 499 **The TRP should specify the impact of each facility proposed for removal on traditional cultural resources of American Indians who participated in the TRP planning process.**

Page 8-341. Regarding the statement "This would improve the feeling and setting of Tuolumne Meadows from the perspective of American Indians..." what percentage of improvement or how important was it to the respondents for each of the facilities under discussion that are proposed to be removed. Specifically, how great of an impact would it be to them if the gas station were left in place?
[Individual, #406]

Response: As noted in the impact analysis methodologies for American Indian Traditional Cultural Resources, "Traditional cultural resources in the Tuolumne River corridor were analyzed qualitatively, based on existing knowledge about values and significant elements and modifications that could be identified to alter character-defining features." Risks to water quality would be considered an adverse impact on American Indian values because the water is seen as a spiritual connector of important places. However, all alternatives would replace the aging wastewater treatment plant with a new one, built to modern codes and sized for the appropriate alternative, would significantly reduce the sedimentation problem from the "little blue slide" east of Tuolumne Meadows, and continue existing packstock manure elimination practices. The preferred alternative would additionally eliminate commercial day-rides as well as the gas station, both because they pose risks to water quality.

Appendix A: Existing Facilities Analysis for the Tuolumne Wild and Scenic River Corridor

Please note that the DEIS appendix A is now chapter 7 of the FEIS.

Concern ID: 500 **The determination of "necessary" facilities in the river corridor has changed since the designation of the Tuolumne River in 1984. The NPS should not "grandfather in" facilities as "necessary" because they were constructed prior to the designation of the Tuolumne Wild and Scenic River in 1984.**

Necessary Facilities Analysis
1) The Park argues that many current facilities in the river corridor are necessary because they were constructed to facilitate visitor use and resource protection in the Park's past. This argument relies heavily upon the debatable assumption that the Park Service chose only to construct facilities that were absolutely necessary for visitor use between the 1920s and the river's designation. Obviously, CSERC disagrees that "necessity" was the driving purpose behind many facilities being constructed. The strict regulations now being required for management approval of

retaining facilities within the river corridor are a direct result of the Wild and Scenic River designation in 1984. Prior to this designation, regulations were much more lenient for development in the Tuolumne Meadows area and elsewhere along river corridors in the Park. There was no legal constraint tied to a facility being deemed to be "necessary" prior to the Wild and Scenic designation in 1984.

2) As noted above, the Park's justification for retaining so many existing facilities is at least partly based on the fact that the facilities were built, therefore they were necessary. Thus the Park looks back to past Park decisions as somehow having important value that must be accepted as valid today. Yet that argument is completely disregarded when past Park decisions support a different outcome than what present Park staff is recommending. While the Park is ready and willing to justify the necessity of facilities in the river corridor based on the fact that past Park management allowed for them, the Park blatantly ignores some explicit management directives made in the same period by Park decision-makers. One such example is the 1980 General Management Plan that calls for the removal of the Campground A-loop, an action that is not proposed under the preferred alternative but is included in Alternative 1.

3) Reduction of the number of sites in the campground by half in the 1980 GMP shows that the Park is capable of constructing facilities they deemed were necessary, and then removing or reducing those facilities once Park staff realized they were excessive or not protecting resource values.

Our Center strongly disagrees with the grandfathering in of services and facilities because of the claim that they must have been necessary because they were constructed by prior Park managers. The Park Service should acknowledge that the construction of a facility before the Wild and Scenic designation does not equate to any justification of criteria showing "necessity."

[Conservation/Preservation, #240]

Response: The necessity of various kinds of facilities depends in part on the kind of visitor use envisioned in the Tuolumne Final Study (USFS and NPS 1979b), which established the eligibility of the Tuolumne River for inclusion in the national wild and scenic rivers system. The study noted that "Tuolumne Meadows contains more development (600 campsites 50 walk-in sites, and 66 tent cabins) and attracts more people (51,206 overnight campers, June to August 1977) than any other area within the study river. ... Strip development along the road is visible from the river, and vehicles using the road system can be seen and heard from points along the river. With the exception of the bridge, the river has not been adversely impacted by development. Water quality and clarity are exceptional, and present NPS plans are to improve and protect the outstanding visual quality of this section of the river and its meadow setting. This segment meets criteria for 'scenic' river classification." This finding was consistent 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." Under the preferred alternative for the TRP, the Tuolumne Meadows area would continue to serve as a primary visitor destination within Yosemite National Park, one with accessible overnight facilities for visitors, as it did at the time of designation and for many years before that. Therefore the determination of necessary facilities has not significantly changed from the time of designation. However, the kinds of visitor use proposed under the preferred alternative would be more protective of river values and somewhat less dependent on commercial services. Therefore, some of the facilities that were accepted at the time of designation are no longer considered necessary and would be removed under the preferred alternative. These include facilities that are inappropriately sited in sensitive meadow areas and the fuel station, which poses a risk to water quality.

The commentor is correct in noting that the park's General Management Plan provides other direction as to what may be considered necessary, as do the visions within each of the alternatives in this plan. The commentor fails to note, however, that the same General Management Plan called for the Tuolumne Campground to have 450 sites, a number that this plan finds infeasible due to the amount of water that would be necessary for so many campsites. Also, as shown in Appendix E, the TRP will amend the General Management Plan, indicating that the visions and determinations within this plan prevail over those within the General Management Plan. As noted above, those determinations are largely congruent with the vision, as expressed over several foregoing

decades, of Tuolumne Meadows as a major visitor destination, complete with overnight facilities, utilities, visitor services, and employee housing.

Concern ID: 501 The NPS should clarify why, in the Facilities Analysis in the DEIS Appendix A [Chapter 7 of the FEIS], the public fuel station not considered necessary but the store and grill are considered necessary facilities.

4) Table A-1, page A-9, shows that the store and grill are necessary because "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." Yet, the gas station isn't necessary for use levels under the preferred alternative because "gas is available in Lee Vining and at Crane Flat, both of which are less than 40 miles away." These two planning staff justifications contradict one another. If a gas station is not necessary because of the proximity of similar facilities, than the store and grill should not be deemed necessary because similar facilities are the same distance away. Part of experiencing a remote and rugged natural setting is having to cope with the limited access to supplies and conveniences. The Park service does not need to be in the business of providing conveniences for those who irresponsibly come to remote places unprepared. The Park service should be educating their visitors about coming prepared to remote locations, not enabling their visitors to come unprepared at the expense of those who do come prepared.
[Conservation/Preservation, #240]

The Park should actually remove other "unnecessary" facilities, not just the gas station and the mountaineering shop/school
[Individual, #273]

Response: The facility analysis in chapter 7 of the TRP FEIS (formerly appendix A of the TRP DEIS) has been revised to clarify that the necessity of a public fuel station or a store and grill depend on the kind of visitor use envisioned under each alternative. Each of these facilities would be necessary to support some kinds of visitor use, but not all, as described in the TRP FEIS. Furthermore, food is a basic necessity of life; with 200 employees (many of whom do not own a car) and as many as 2,000 campers in Tuolumne Meadows on any given night, a store with basic food items is necessary. For the same reason, the preferred alternative has been revised to include administrative fuel pumps that those employees who do own a vehicle may use (as well as visitors in an emergency). A major public fuel station, though, is unnecessary, as the typical vehicle carries enough fuel for 300-700 miles of driving, an amount easily enough to get to Lee Vining or Crane Flat.

Concern ID: 502 The NPS preferred alternative should be consistent with the Wild and Scenic Rivers Act definition of "necessary."

CSERC URGES PARK PLANNING STAFF TO ENSURE THAT THE FINAL SELECTED ALTERNATIVE IS FULLY CONSISTENT WITH THE WSRA DEFINITION AND INTENT CONCERNING "NECESSARY."
[Conservation/Preservation, #240]

Response: The Wild and Scenic Rivers Act does not define the term 'necessary.' The term is used in the Secretaries' Guidelines for River Areas (USDI and USDA 1982), which 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." The Secretaries Guidelines do not provide additional guidance about determining whether facilities are necessary. However, some guidance is provided by the Tuolumne Final Study (USFS and NPS 1979b), which established the eligibility of the Tuolumne River for inclusion in the national wild and scenic rivers system. That study noted that "Tuolumne Meadows contains more development (600 campsites 50 walk-in sites, and 66 tent cabins) and attracts more people (51,206 overnight campers, June to August 1977) than any other area within the study river.... Strip development along the road is visible from the river, and vehicles using the road system can be seen and heard from points along the river. With the exception of the bridge, the river has not been

adversely impacted by development. Water quality and clarity are exceptional, and present National Park Service plans are to improve and protect the outstanding visual quality of this section of the river and its meadow setting. This segment meets criteria for 'scenic' river classification." The rationale for determining the necessity of facilities described in chapter 7 of the FEIS--essentially that they are necessary to support the use of the Tuolumne Meadows area as a primary visitor destination within Yosemite National Park providing overnight facilities for visitors--is consistent with the findings of the Tuolumne Final Study that the facilities existing in 1979 were not adversely affecting river values or disqualifying the Tuolumne Meadows segment for classification as 'scenic.'

Concern ID: 503 The NPS should clarify the need for wastewater treatment ponds in the EIS facilities analysis (DEIS Appendix A, FEIS Chapter 7).

5) The necessity of the Wastewater Containment Ponds is attempted to be justified in an unacceptably brief table on page A-6, which states: "sufficient visitor use continues to necessitate wastewater treatment." While that much is obvious, the size and capacity of the ponds is a variable that directly affects the "necessity" of those facilities operating at specified capacities.

THE PARK SHOULD ADDRESS THE NECESSITY OF THESE FACILITIES TO OPERATE AT A HEIGHTENED CAPACITY IN ITS FINAL EIS.

[Conservation/Preservation, #241]

Response: The facility analysis, now included as chapter 7 of the TRP FEIS, has been revised to clarify that at the design capacities identified for the wastewater treatment system under alternatives 2-4, the wastewater containment ponds would remain a necessary component of the system unless a technology could be found that would allow all the treatment facilities to be consolidated on the south side of Tioga Road. Even if the sprayfield had to remain on the north side of Tioga Road, the proposed tertiary treatment at the wastewater treatment plant might make the ponds unnecessary.

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

Concern ID: 504 The NPS should define 'commercial use', 'recreational purpose', and 'commercial group' in the TRP alternatives chapter and clarify how recreational commercial use would be affected by the plan in the main body of the TRP, rather than in an appendix.

In regards to recreational use at Glen Aulin, guided services, and commercial stock use, we believe the TRP restrictions on recreational commercial users need further clarification. On page 7-87 the TRP states that commercial groups seeking solely a recreational experience will not be permitted in the Glen Aulin zone and Lyell Canyon zone during July and August (Lyell Canyon permitted Mon-Thurs). This information is buried in the TRP description of alternatives and readers are referenced to Appendix C, which we find to be a long and confusing section and it is difficult to understand the implications to and impacts on commercial recreational use. The TRP does not clearly define a "recreational purpose" or a "commercial group" unless one traces the information down in a large appendix.

. . .We also believe that the action should be better defined in the main TRP and in supporting documents. For instance, a "commercial group" should be defined so the general reader can understand its meaning. As examples of the types of questions and issues that we believe are relevant, we offer the following examples: Do the ranger-lead High Sierra Camp Loop Hiker groups fall into the commercial group category? Does a family hiking to stay at a HSC count as a commercial group since they are assisted through the commercial offerings offered at the HSC?Does this restriction apply to commercial stock trips, guided climbing lessons and/or backpacking trips originating from the Eastern Sierra? Will the restriction apply to the YMS and guided group backpacks along the Pacific Crest Trail? Will those travelers need to time their trips to avoid Yosemite during July and August? Will a novice mountaineering couple from the Bay Area be allowed to hire a guide to take them up to the top of Mt. Lyell for a weekend backpacking trip in July and August? These restrictions need to be clarified in the TRP so that the public understands

the nature and extent of limitations that are being placed on recreational opportunities and the visitor experience. The summary of recreational restrictions in the TRP is misleading when only day-ride elimination is called out.
[Business, #383]

Response: Under all alternatives, commercial use in wild segments of the river is defined as the Glen Aulin High Sierra Camp, all concessioner stock day rides, and all commercial day hikes, overnight hikes, and overnight stock trips provided by guides or outfitters. Commercial use is more explicitly defined in the Determination of Extent Necessary (appendix C, section 5B). The preferred alternative specifies that in wild segments, the Glen Aulin High Sierra Camp and commercial hikes and stock trips provided by guides or outfitters would be retained with some regulations on the levels of service, while concessioner stock day rides would be discontinued. The overall levels of commercial use in the wild segments of the Tuolumne River would be limited according to the provisions of the Determination of Extent Necessary.

Concern ID: 505 The NPS should clarify how it would determine whether commercial climbing groups have a scenic, educational, or recreational purpose (or all three).

During the peak use months of July and August, commercial groups having only a recreational purpose would no longer have access" (Glen Aulin zone) or "would be restricted to Monday-Thursday only" (Lyell Canyon zone); "groups having an educational or scenic, as well as a recreational, purpose would continue to have access". In theory this is probably OK. But in reality it probably opens a can of worms. The distinction is pretty gray, for example, between a commercial rock climbing group with only a recreational purpose and a commercial rock climbing group with a scenic or educational as well as a recreational purpose. Any location to do rock climbing in Yosemite is scenic; how do you tell a commercial rock climbing group that they can't access these zones on a weekend because their purpose is only recreational?
[Individual, #253]

Response: Climbing is listed in the determination of extent necessary (appendix C, section 5(A) and section 5(C)2 and 3) as an appropriate type of recreational and educational activity in the Yosemite Wilderness. Commercial climbing groups could be either recreational only or both recreational and educational. A guided climb would be considered recreational only in most cases. Climbing instruction would fit both categories.

Concern ID: 506 The NPS should revise the Determination of Extent Necessary to reflect that commercial guides provide Leave No Trace education to visitors.

AMGA credentialed guides promote the preservation of wilderness character. In essence, they are a Resource to the Resource. They facilitate the public's access to opportunities for solitude or primitive and unconfined recreation. They connect the public with the natural, undeveloped world. They integrate Leave No Trace principles into their teaching and their leadership, setting an example for both the guided and self- guided public. Indeed, the environmental footprint of a guided climbing party is identical, or many times, less than the self-guided party.
[Recreational Groups, #244]

Response: The NPS concurs, Leave-No-Trace principles are an important part of all commercial trips, and integrating these principles into commercial trips sets a valuable example for the public. Because it is a required component of all trips (commercial and noncommercial), Leave-No-Trace education alone does not qualify a group as having an educational purpose: "Exception: Leave No Trace training is considered a fundamental prerequisite for all wilderness visitors and as such will not be considered formal education" [appendix C, section 5(C)2].

Concern ID: 507 **The NPS should clarify if Section 6E of the Determination of Extent Necessary prohibits commercial groups from accessing their destination through the river corridor.**

- Section 6E sets a maximum amount of 2 "commercial groups" per trail, per day. While this may be appropriate for hiking groups of 12, it is not clear whether this would prohibit a guided climbing party from accessing a climbing area through the river corridor. The AMGA would like to see clarification on this point, in that we would not support such a prohibition, even a de facto prohibition

[Recreational Groups, #244]

Response: The Determination of Extent Necessary does not prohibit commercial groups from accessing their destination through the river corridor. It addresses the number of such groups staying overnight in the river corridor. Groups passing through en route to a different destination are not prevented from doing so.

Concern ID: 508 **The NPS should clarify Section 8A(1) of the Determination of Extent Necessary to consider commercial groups that serve walk-in customers, such as the mountaineering school.**

- Section 8A(1) requires any permit holder, be it concession, CUA, or SUP, to submit "proposed itineraries by May 1 or as soon as possible" for a lottery for use that summer. Any itineraries submitted later would be allocated on a first-come, first-serve basis under the same criteria as the lottery. While this may be a practical system for a pack outfitter who plans regular group trips, it seems inflexible for smaller operators who may serve walk-in (or last minute) visitors, such as the climbing school. We would like to see this clarified in a favorable manner.

[Recreational Groups, #244]

Response: Like all commercial users, walk-ins submit a proposed trip itinerary to the Yosemite Wilderness Office. The Determination of Extent Necessary (DEN) does not determine all operational details of how permits are managed; in fact, flexibility in adjusting these systems is essential to their effectiveness. Once the TRP and the DEN are approved, an operating system will be implemented, which may be updated over time.

Concern ID: 509 **The NPS has correctly drafted Section 8B of the Determination of Extent Necessary.**

- We firmly support Section 8B, giving preference to the lowest-impact proposal between groups with the same wilderness purposes. We believe it is essential that guided users maintain the highest level of wilderness stewardship, and serve as an example to the self-guided public.

[Recreational Groups, #244]

Response: No response required.

Concern ID: 510 **The NPS should clarify why a system to allocate commercial use is necessary to protect the Tuolumne River.**

The DEIS prepares a complicated system to allocate commercial use. Today, there are lots of limitations that prevent us from getting a pack trip on the trail. Why impose more restrictions?

This document attempts to judge and evaluate commercial use. Imposing restrictions on the number of mules per person, giving priority to a member of the public that is on a so called educational trip, assuming a group with less livestock per person should have greater access than a riding group, etc. are not necessary to protect the Tuolumne River.

[Business, #320]

Response: The Wilderness Act, and recent litigation regarding it, requires a specialized 'determination of extent necessary' for commercial services in wilderness. Such services must further one of the purposes of Wilderness and are subject to the provisions of the Act.

Concern ID: 511 **The NPS should clarify why commercial use prioritizes commercial uses with a 'scenic' purpose over a 'recreational' purpose, and how this system would be effectively applied in locations like Lyell Canyon.**

4) Giving preference to groups having more than a "recreational" purpose over those who have solely a "recreational" purpose is unlikely to have an effect on use in Lyell Canyon. It is highly unlikely that any commercial group, knowing these restrictions are in place, would fail to argue that their group's visit has a "scenic" purpose as well, given the obviously scenic nature of the area. The division of uses based on these purposes is misleading in that it implies these management practices represent a positive change to use patterns in this sensitive, highly impacted area.

THE PARK SHOULD NOT ALLOW ANY COMMERCIAL USE IN THE LYELL CANYON ZONE DURING PEAK USE TIMES DURING PEAK USE MONTHS, REGARDLESS OF THE "PURPOSE" OF THE VISIT. OUR CENTER DISPUTES THE EFFECTIVITY OF PRIORITIZING COMMERCIAL USES BASED ON "SCENIC" VERSUS "RECREATIONAL" PURPOSES.

[Conservation/Preservation, #241]

Response: Part 6 of the Wilderness Act expressly prohibits commercial use unless it furthers one of the purposes of the act, and then only to the extent necessary, as explained in the Determination of Extent Necessary (appendix C). All groups in wilderness have a recreational purpose, but not all groups provide instruction in the scenic purpose (which is defined to be art and photography). The NPS does not value one purpose over another. However, groups realizing more than one purpose are given priority over those realizing only one (recreational) purpose.

Appendix F: Revisions to Outstandingly Remarkable Value Statements, 1984-2012

Concern ID: 512 **The NPS should clarify in Appendix F why the Recreational ORVs were revised from their 2007 version.**

Reducing the ORV to only the road seems to minimize all the other activities that visitors with varied abilities love to do within the river corridor. The justification for the ORV revision listed in Appendix F, "The recreational ORV was rewritten to express the recreational value of the front- country river setting rather than specific kinds of activities, which would not necessarily be river-related or unique, rare or exemplary," needs further clarification. lt is vague, and does not explain a major change that did not involve additional public comment or new studies.

[Business, #383]

1. Please consider adopting the ORV descriptions that were presented to the public in 2007/2008. The ORVs that are used as a comparison in Appendix F are better written and in my opinion, better capture the values that are important in Tuolumne and the river. The recreational ORV, especially, is much better in the earlier version than currently described in the TRP as it captured the character of the range of recreational experiences available in the river corridor for people of all ages and abilities. The current description which highlights the Tioga Road really doesn't seem to capture the value of recreation in the Tuolumne River.

[Individual, #416]

Response: Appendix F of the TRP DEIS (now appendix G in the TRP FEIS) has been revised to clarify why the descriptions of the outstandingly remarkable recreational values changed. Briefly, both of the descriptions were refined from several previous statements to clarify how the values were river-related as well as rare, unique, or exemplary. Also, in response to this concern, the recreational ORV was reworded to emphasize the access that the road provides to the High Sierra—access that is both rare and river-related.

Appendix H: Ecological Restoration Planning for the Tuolumne Wild and Scenic River Comprehensive Management Plan

Concern ID: 513 **The Ecological Restoration Plan (DEIS Appendix H) "Monitoring and Long Term Maintenance" section follows the intent of the Wild and Scenic Rivers Act.**

Although I have reservations on how visitors can be controlled by fences, etc, Appendix H, p H-132, in the section Monitoring and long Term Maintenance well sums up the work intended by W&S designation.
[Individual, #304]

Response: No response required.

Appendix J: Scenic Vista Management in the Tuolumne River Corridor

Concern ID: 514 **The NPS should use a photo in Appendix I that shows Cathedral Peak and the structures at Soda Springs.**

In Appendix I, page 1, a view SW from Soda Springs and GSWR with several peaks in view. Why is Cathedral Peak and the bridge not included? Is it that I am biased toward these features by my own use of that area? Why is the Soda Springs enclosure never shown since it is such an important place to American Indians as well as to conservationists?
[Individual, #304]

Response: "Appendix I: Scenic Vista Management in the Tuolumne River Corridor" in the TRP FEIS (which was appendix J in the TRP DEIS) includes a photo for each of the scenic vista points illustrating the major features visible from that point.

Concern ID: 515 **The NPS should clarify, map and cumulatively evaluate the scenic actions proposed in the west end of Tuolumne Meadows.**

Scenic Actions - Appendix J
The scenic actions proposed in the west end of TM need to be mapped and evaluated in concert with each other. There would be a swath of conifers removed from the Tuolumne Meadow Trail to Parsons Lodge. A swath of conifers removed from the Pothole Dome Turnout, and a swath of conifers removed from Parson's Lodge. Imagine these areas cleared (albeit with feathering), and all remaining areas of the meadow choked with conifers. Again, the aggressiveness of conifer encroachment is not taken into consideration.
[Individual, #351]

Again my bias may keep me from seeing the scene shown in Appendix J Figure J-12 because from that location I see through the trees (some to soon be removed) to the GSWR [Great Sierra Wagon Road], bridge and Soda Springs beyond.
[Individual, #304]

Response: Under all the action alternatives the NPS would manage conifer encroachment in areas other than designated scenic vista points in accordance with the ecological restoration planning for the corridor. Conifer encroachment into subalpine meadows is occurring throughout the Sierra Nevada mountain range, and in Tuolumne Meadows, it is related to the overall health of the meadows. The NPS acknowledges that more research is necessary to examine evidence of the historic vegetation communities in areas of concern, the most efficient and effective techniques for restoration, and the feasibility, as well as the appropriateness, of potential ecological restoration activities. The NPS believes that addressing the root cause of this change, if it is human-caused, is the major planning issue to address. Where conifer encroachment can be attributed to bare ground resulting from human trampling or development, and/or research indicates that conifer encroachment is tied to anthropogenic impacts, ecological restoration that includes conifer removal to restore those plant communities

may be appropriate. Many areas of Tuolumne Meadows are, even with the human effects noted, too wet for conifer establishment, and views from the scenic vista points are likely to remain excellent.

Concern ID: 516 The NPS should incorporate additional scenic interpretive signs.

In Appendix J, p J-8, Little Blue Slide, I suggest an interpretative sign calling attention to Mt Lyell and/or Lyell Fork as a source of the TW&SR. I have never been certain I could see Mt Lyell from this spot. . . . The text in Appendix J beside Figure J-3 indicates the pond in the foreground is "the meandering Tuolumne River". Is this true, or is this Dana Fork? Also, in Appendix J, p J-4, after some of the trees are removed, would it be appropriate to add a interpretive sign saying, high up between the two peaks is the source of the Dana Fork of T W&S R that flows through the pond at your feet, etc? Likewise, at p. J-5, the same sign could be placed for explaining that Dana Fork is one source of T W&S R. Would the signs alone raise the VRA score?
[Individual, #304]

Response: The NPS will consider this suggestion in concert with a comprehensive assessment of signs in the park. This assessment will ensure that signs in the highest priority areas are in place, ensure that a reasonable number of signs are in the park, and to ensure traffic safety. Such signs may also be placed outside of this planning process.

Appendix L: Class C Net Construction Cost Estimates for Implementing the Tuolumne Wild and Scenic River Comprehensive Management Plan

Concern ID: 517 The NPS should include utility system upgrades in the TRP EIS cost estimate (DEIS Appendix L, FEIS Appendix N) and discuss their phasing.

The cost of replacing leaking domestic water lines and installing low flow fixtures throughout Tuolumne Meadows is not shown in Appendix L, but should be. I found nowhere in these documents a goal mentioned for these replacements, but that would be reassuring that there is commitment as to when this proposed work will be done. These changes will reduce diversion from Dana Fork. Say when this important water saving work will be done.
[Individual, #304]

Response: The cost estimates included in the TRP FEIS appendix N include the costs of utility system upgrades. The TRP FEIS has been revised to include a phasing schedule for plan implementation, including utility upgrades.

Concern ID: 518 The NPS should include the cost of meadow restoration in TRP EIS cost estimate (DEIS Appendix L, FEIS Appendix N).

Cost of meadow restoration is not broken out separately in Appendix L.
[Individual, #304]

Response: The cost of meadow restoration has been included in the revised cost estimates in TRP FEIS appendix N.

Appendix M: Cumulative Plans and Projects List

Concern ID: 519 The NPS should not rehabilitate the Tioga Road through Tuolumne Meadows until the actions called for in the TRP are done (e.g., culvert work).

Appendix M, Tioga Road Rehab project is wasteful to repave the road in TM before the culvert replacement work is done which likely will require surface paving patching thereafter.
[Individual, #304]

Response: The improvements proposed in the Tioga Road Rehabilitation project in Tuolumne Meadows will take place in conjunction with road and culvert improvements proposed in the TRP FEIS if possible. Before the

Record of Decision is signed for TRP and implementation funding is place, it is difficult to commit to concurrent road projects. The phasing plan provides details on the timing of the various projects called for in the TRP (appendix L).

Technical Corrections

The NPS corrected the TRP FEIS to reflect the following technical edits and/or corrections suggested in comments on the TRP DEIS.

Did you notice that the number of trips and number of boaters are opposite from page ES-12 compared to Chapter 7 page 7-57?

[Individual, #21]

Text revision requested on page 8-21 in the EIS Hydrology section. In the second sentence, instead of beginning with "The Dana Fork?" I request reversing the order of the source peaks to read: Mount Lyell at 13,114 ft-foot elevation (reference: Merced Peak USGS 15' topo 1953, a later map is available) is the highest peak in Yosemite (Wikipedia) with Lyell Glacier on its north face. Lyell Fork flow appears from under the glacier at about 11,500 - foot elevation. Lyell Fork contributes the larger runoff of the two sources tributaries, contributing 60% while Dana Fork 40%. Dana Fork draining the west-facing slopes of 13,057-foot high Mount Dana (reference: Mt Dana USGS 7.5' topo 1994) is the other source tributary. The confluence of these two forks form the main stem just upstream from the highway bridge in the center of the Tuolumne Meadows complex of meadows. The Tuolumne River continues?

I make this request since text falsely gives the impression that Mt Dana is the primary source of T W&S R. However, Mt Lyell, the higher peak, and because I have seen a stream flowing across the glacier at ca 12,200-foot elevation before disappearing beneath the ice, and Lyell Fork contributes the larger annual flow of the two source watersheds, p 8-21 and 22. Also, when I initially drafted these first 22 words of what later was enacted into the Wild and Scenic Act, I only included Lyell Fork as the source, but a few days later I added Dana Fork because it is an important source of runoff, also comes from a high peak and watershed, and the massive mountain is visible from the central part of Tuolumne Meadows visited by most folks, as illustrated in the photos on page 2-5 and 3-2 and Appendix J, p J-5 and J-8. I had hiked through Parker Pass meadow and climbed both peaks 12 years or more before drafting the initial study act language in 1973 so I had a memory of their beauty, streams and size. The alphabetical order in which the two names appear in the act, page 1-4, is not the most important thing about these two forks. Those words in the Act relating to Mt Lyell and Mt Dana are there because I felt these source tributaries and main stem in the park were not getting the attention from park managers that they deserve, as this thick text now indicates.

[Individual, #304]

An error is found in Appendix G, p G-7, which should say Tuolumne Wild and Scenic River designation was, as you know, in 1984 instead of the printed date of 1979, which was the date of the Final Study Report and EIS.

[Individual, #304]

Please repair a typo on p 3-3 which says "the headwaters of the Hetch Hetchy Reservoir for this segment" because to me a " headwaters" means all the way to Mt Lyell and Mt Dana. I suggest changing "headwaters" to "head of Hetch Hetchy Reservoir"

[Individual, #304]

Text correction footnote: A footnote on p 1-5 or 1-4 in the law section is needed to say the Tuolumne River was codified as number 53 because by the time the California Wilderness Bill was enactment on September 28, 1984 number 52 had been taken, reference: 16 U.S.C. 1274 Chapter 28.

[Individual, #304]

Adding a potable water tank at Gaylor Pit is proposed on p 7-97. If so, also add that for Alternate 4 on p 7-94.

[Individual, #304]

There is a date error in Appendix O, p O-5 paragraph 1, and many other places in the entire three volumes that state public review of these documents began in 2012, whereas, as you know, it began in 2013. The correct year on the front and back covers and at the end of the appendices partly corrects the error.

[Individual, #304]

Correction of text in Appendix M at page M-16 that says SFPUC Water System Improvement Program states diversion of 265 mgd from the TR at Hetch Hetchy by 2018. Actually, after heavy pressure from the Tuolumne River Trust and other groups, the final revised plan released ca October 15 and revised slightly upward in late Oct 2008 was approved by the Planning Commission and the SFPUC has a goal of 223 mgd from the TR as a five year running average by 2018. The number 265 mgd includes the average of 15% of total supply coming from Bay Area watersheds. I have documentation and personal notes from the two agency meetings that adopted that goal of 223 mgd, should you wish to see them. Please make this correction.

[Individual, #304]

Also the table concerning Alternative 4 seems to be in error concerning the number of busses. I assume that is a typo.

[Individual, #389]

In the User Capacity Table on p. 6-20, the number of buses is listed as "2," but then in the calculation is listed as "8." Is this a typographical error?

[Conservation/Preservation, #315]

Pg 7-92…Please note under the section regarding the campground that the number 30 is missing from the parenthetical in the first bullet point.

[Individual, #406]

1. 2-11: The SFPUC proposes edits to the text: "Based on that decision the Hetch Hetchy Reservoir lies between two of the eligible designated segments of the Tuolumne Wild ond Scenic River within Yosemite National Park, but it is not, itself, included in the designated river corridor. Therefore, the management of the reservoir and O'Shaughnessy Dam is not addressed in the Tuolumne River Plan. Further, the designation for the Tuolumne River states: "Nothing in the section designating the Tuolumne River is intended or shall be construed to affect any rights, obligations, privileges, or benefits granted under any prior authority of law including chapter 4 of the Act of December 19,1913, commonly referred to as the Raker Act (38 Stat. 242) and including any agreement or administrative ruling entered into or mode effective before enactment of this designation. 16 U.S.C. 1274(a)(53)" While O'Shaughnessy Dam is an impoundment on a wild and scenic river, the issue of possibly removing it and designating an additional wild and scenic river segment is beyond the scope of this plan and environmental impact statement. Any major change in the status of the dam initiated by the federal government would require an act of Congress. Additional planning and NEPA compliance would be triggered by such congressional action. "

[Public Utility, #446]

2-13: The SFPUC proposes edits to the text: "O'Shaughnessy Dam and the Hetch Hetchy Reservoir are authorized under chapter 4 of the Act of December 19,1913, commonly referred to as the Raker Act (38 Stat. 242) the 1913 Hetch Hetchy Reservoir Site Act, commonly known as the Raker Act, which grants the City and County of San Francisco certain lands and rights-of-way in Yosemite National Park for the purpose of building a reservoir and associated infrastructure, in order to generate a municipal water supply and hydroelectric power for the city. "

[Public Utility, #446]

2-13, third paragraph: The SFPUC proposes edits to text: which includes the entire Tuolumne River watershed within Yosemite National Park."

[Public Utility, #446]

4. 2-13, third paragraph: It should be mentioned that the Raker Act stipulations also direct instream flow requirements for O'Shaughnessy Dam.

[Public Utility, #446]

5. 2-16: The SFPUC proposes edits to the text: "The Hetch Hetchy Reservoir remains a drinking water source for the City and County of San Francisco is the primary source of drinking water delivered by the City and County of San Francisco to 2.6 million water users in Alameda, Santa Clara, San Mateo and San Francisco counties in the San Francisco Bay Area."

[Public Utility, #446]

8. 2-17: The SFPUC proposes edits to text: "In 2006 the SFPUC adopted a policy that establishes a management direction to protect and rehabilitate ecosystems affected by dam operations, within the context of meeting water supply, power generation, water quality, and existing minimum in-stream flow requirements that were first established in 1985. Minimum instream flow requirements for releases from O'Shaughnessy Dam were first established by stipulation between San Francisco and the Department of the Interior in 1961, and further supplemented and amended in 1985 and 1987. These flow requirements focused primarily on maintaining habitat for trout in the reach from O'Shaughnessy Dam to Early Intake, a species that is not believed to be native above Preston Falls on the Tuolumne River."

[Public Utility, #446]

*9. 2-17: first paragraph. The SFPUC recommends that NPS consider the following information and editing current draft text to provide greater clarification: There are at least two species of trout present in the upper Tuolumne River between O'Shaughnessy Dam and Early Intake: native rainbow trout (*Oncorhynchus mykiss*) and non-native brown trout (*Salmo trutta*). Both species were likely introduced (stocked) above Preston Falls (near the Yosemite National Park boundary), which is thought to be the post-glacial historical upstream distribution limit for all fish species on the Tuolumne prior to fish stocking.*

[Public Utility, #446]

10. 2-19: Please include the MOA objective of providing watershed protections to preserve filtration avoidance status of the Hetch Hetchy water supply.

[Public Utility, #446]

Page 8-101 Table 8-6. Bottom line, is it "FE" or is it suppose to be "FT" under column two (Federal-ESA)?

[Individual, #406]

11. 2-19: The watershed agreement with Yosemite National Park for water quality is mentioned, but not the dollar value contributed by the City or the projects funded by ratepayers. There is a complete list of water quality projects in Volume 2 at page 8-27, but no indication that the City funded any of these projects or their cost. There is a reference to an SFPUC report that may document projects undertaken for watershed protection on p. 12-29. The SFPUC recommends the identification of SFPUC funded projects and the associated cost.

[Public Utility, #446]

1. 5-45, first paragraph: The SFPUC suggests replacing this paragraph with the following: "The ecological health of the Poopenaut Valley's unique low-elevation meadow, wetland, and riparian habitats, which provide important wildlife habitat, depends upon the hydrology of Tuolumne River, which has been regulated by O'Shaughnessy Dam since 1923. No condition assessments were conducted at or near the time of designation. However, no major changes in development or use have occurred in this area since designation; thus it is likely conditions then were similar to current conditions. Research conducted since designation (NPS, Stock et al. 2007k) (discussed below) indicates that despite flow regulation, a diverse community of low-elevation riparian, wetland, meadow, and upland forest vegetation continues to persist, in turn supporting a diverse set of avian, bat, and other wildlife species (NPS, Stock et al. 2012)."

[Public Utility, #446]

2. 5-45, first paragraph and other references to "NPS, Stock et al. 2007k" and "NPS, Stock et al. 2007i": The NPS report cited in the TRP was published by the NPS in 2009, and described results from fieldwork and analyses conducted in 2007. A series of "Looking Downstream Project" reports containing additional study results have been published since this initial report on the Poopenaut Valley ecosystem, including the latest final report in 2012, which describes results from the 2010 field season. Those reports should be referenced.

[Public Utility, #446]

3. 5-46, third full paragraph, under heading "Actions NPS will Take..." : The SFPUC suggests replacing this paragraph with the following: "The San Francisco Public Utilities Commission (SFPUC) currently manages instream flow releases as required by the 1985 and 1987 Stipulations associated with the Raker Act. The NPS will continue collaboration with the SFPUC and other stakeholders to support the development and implementation of a new instream flow management plan for O'Shaughnessy Dam, which the SFPUC is preparing as part of the collaborative Upper Tuolumne River Ecosystem Program. The new instream flow plan will modify O'Shaughnessy Dam instream flow releases to better support broad river ecosystem values in the upper Tuolumne River (including Poopenaut Valley wetlands and meadows), mimic natural hydrology, and provide for long-term ecological monitoring."

[Public Utility, #446]

4. 5-46, fourth full paragraph, consisting of one sentence, under heading "Current Findings Regarding Management Standard...": The SFPUC suggests replacing this sentence with the following: "These terms are not defined in the TRP because O'Shaughnessy Dam instream flow releases that sustain the Outstandingly Remarkable Biological Values in the Poopenaut Valley are subject to stipulations associated with the Raker Act. The existing stipulations do not include ecosystem monitoring elements. The NPS will continue collaboration with the SFPUC and other stakeholders to support the development and implementation of a new instream flow management plan for O'Shaughnessy Dam, which the SFPUC is preparing as part of the collaborative Upper Tuolumne River Ecosystem Program. The new flow plan will include monitoring and adaptive management elements linked to anticipated ecological outcomes."

[Public Utility, #446]

5. 5-47, first full paragraph, under heading "Conclusions...": The SFPUC suggests replacing this paragraph with the following: "Since 1923, O'Shaughnessy Dam has regulated the magnitude, timing, duration, and frequency of instream flow below the dam. Despite continued flow regulation, a diverse community of low-elevation riparian, wetland, meadow, and upland forest vegetation continues to persist, in turn supporting a diverse set of avian, bat, and other wildlife species. However, NPS studies conducted as part of the Upper Tuolumne River Ecosystem Program suggest that some portions of the wetlands and meadows in the Poopenaut Valley appear to be transitioning to drier upland vegetation types, while some encroachment of riparian vegetation into the river channel has taken place. These changes may be symptomatic of flow regulation by O'Shaughnessy Dam. The NPS will continue collaboration with the SFPUC and other stakeholders to support the development and implementation of a new instream flow management plan for O'Shaughnessy Dam, which the SFPUC is preparing as part of the collaborative Upper Tuolumne River Ecosystem Program. The new instream flow plan will modify O'Shaughnessy Dam instream flow releases to better support broad river ecosystem values in the upper Tuolumne River (including Poopenaut Valley wetlands and meadows), mimic natural hydrology, and provide for long-term ecological monitoring."

[Public Utility, #446]

6. 5-79: The SFPUC proposes edits to text: "Because water quality in the Hetch Hetchy Reservoir is critical to the water supply for the City of San Francisco and its water customers, the 1913 Raker Act requires certain sanitary regulations be established for the Tuolumne watershed above Hetch Hetchy Reservoir grants the city the authority to protect the Hetch Hetchy watershed."

[Public Utility, #446]

2. 5-80: TRP references "SFPUC 2009 HHSS". The SFPUC recommends this report refer to the 2012 HHSS instead as there are Concerns that have been reported (to NPS) since 2009.

[Public Utility, #446]

7. 5-82: NPS should use fecal coliform (FC) standards because of the filtration avoidance status of the Hetch Hetchy supply. Filtration avoidance is based on FC rather than E. coli (EC); this is not anticipated to change. EC is a useful supplemental monitoring tool. Not using FC disregards the Watershed Protection MOA objectives.

[Public Utility, #446]

8. 5-82: SFPUC recommends that the management standard should track violations of Raker Act WQ provisions as incorporated into YNP Superintendent's Compendium. The 235 EC MPN/100 ml coliform standards do not reflect the objectives of the Watershed Protection Agreement between NPS and SFPUC to preserve filtration avoidance status of the HH Supply. The threshold of 20 MPN/100 ml from T22 Section 64652.5.cl should be adhered to. Adverse impact coliform standards reflect only recreational use and not the filtration avoidance drinking water supply use. The RWQCB basin plan standards do not reflect special requirements for filtration avoidance.

[Public Utility, #446]

9. 5-87, second paragraph: A water year in California is typically considered to be October 1 to September 30 of the following year.

[Public Utility, #446]

10. 5-89, first full paragraph: The SFPUC suggests replacing this paragraph with the following text: "The natural flow regime of the Tuolumne River downstream of O'Shaughnessy Dam is regulated by water and power supply operations at O'Shaughnessy Dam. Required minimum instream flow releases from O'Shaughnessy Dam are currently governed by the 1985 and 1987 Stipulations associated with the Raker Act. A new instream flow management plan for O'Shaughnessy Dam is being developed by the SFPUC as part of the Upper Tuolumne River Ecosystem Program, in collaboration with the NPS, USES, USFWS, and the Upper Tuolumne River Stakeholder Group. The new instream flow plan will modify O'Shaughnessy Dam instream flow releases to better support broad river ecosystem values in the upper Tuolumne River (including Poopenaut Valley wetlands and meadows), mimic natural hydrology, and provide for long-term ecological monitoring."

[Public Utility, #446]

1. 7-19: The SFPUC recommends that a statement that all alternatives would implement meadow readiness and meadow capacity stock controls be included into the text.

[Public Utility, #446]

2. 8-23: The SFPUC proposes edits to text: "In 1985 and 1987, the City and County of San Francisco and the Secretary of the Interior entered into an-amendments to their 1961 agreement requiring minimum in-stream flow releases below O'Shaughnessy Dam and. to adopt a minimum flow schedule pending further study of habitat conditions in the river to Early Intake. The flow requirements adopted in 1987the amended agreement focused primarily on maintaining habitat for trout, a species that is not believed to be native to the Tuolumne River within Yosemite National Park. Current minimum flow releases vary from month to month and year to year, depending on precipitation amounts and other seasonal issues and are regularly monitored and reported on by Hetch Hetchy Water and Power (McGurk 2008a)."

[Public Utility, #446]

3. 8-27: Several issues related to water quality are listed here. The SFPUC recommends the following be added to the list: - 2010. The five year MOA that updated and replaced the 2005 watershed protection plan (NPS Agreement Number: G8802100109). - 2012. Concessionaire corral modifications at Tuolumne Meadows to mitigate water quality concerns created by the corral's proximity to a watercourse leading to Dog Creek and the Tuolumne River.

[Public Utility, #446]

4. 8-47, second paragraph: The SFPUC proposes replacing this paragraph with the following: "In the river corridor below Hetch Hetchy Reservoir, O'Shaughnessy Dam regulates the magnitude, timing, duration, frequency, and rate of change of the hydrologic regime. While the specific impacts of flow regulation by O'Shaughnessy Dam on Poopenaut Valley wetlands and meadows are not completely understood, it is likely that observed conifer encroachment into the meadows and riparian vegetation encroachment into the Tuolumne River channel are related to flow regulation (NPS, Buhler and Santina 20071 and NPS, Stock et al 2009). The NPS is collaborating with the SFPUC and other stakeholders to develop a new instream flow management plan for O'Shaughnessy Dam, which will include a long- term monitoring effort to track potential changes resulting from improved instream flow management and increase understanding of flow regulation effects on wetlands and meadows in the Poopenaut Valley."

[Public Utility, #446]

5. 8-102, comment regarding the last paragraph, continuing on to 8-103: The NPS and SFPUC have conducted herpetofauna surveys between O'Shaughnessy Dam and Kirkwood Powerhouse (the "Hetch Hetchy Reach") annually since 2008. Lack of records within the park likely indicate limited habitat potential due to elevation and water temperatures. A small population of foothill yellow-legged frog has been detected about 5 miles downstream of the park boundary, near Early Intake. Modeling conducted as part of the Upper Tuolumne River Ecosystem Program suggests pre-dam hydrologic conditions in the Hetch Hetchy Reach were not conducive to foothill yellow-legged frog reproduction, due to naturally variable high magnitude snowmelt runoff that delayed onset of breeding and alternately scoured and desiccated egg masses. Flow regulation by O'Shaughnessy Dam has likely facilitated limited mainstem colonization due to steady summer baseflows and reductions in snowmelt flood magnitude and frequency. The forthcoming instream flow plan for O'Shaughnessy Dam includes measures to improve conditions for foothill yellow-legged frog in drier years. Herpetofauna survey findings will be included in the instream flow plan. The SFPUC recommends the TRP text be edited to clarify statements regarding the status of populations and effects of O'Shaughnessy Dam on foothill yellow-legged frog as reflected in the Upper Tuolumne River Ecosystem Program supporting documents.

. . .6. 8-104, comment regarding the third paragraph: Western pond turtle populations are likely affected by cold water releases from O'Shaughnessy Dam, however turtle populations have been found to be in good condition (i.e. multiple age classes, good available habitat) in the areas where they occur, including perched ponds not affected by regulated flows in the Poopenaut Valley, and in slack water habitats downstream of Preston Falls, outside the park boundary. While the forthcoming instream flow management plan for O'Shaughnessy Dam does not currently include specific flow measures for western pond turtle, changes in releases to more closely mimic natural hydrology (particularly lower magnitude summer baseflows) should benefit the species. Herpetofauna survey findings will be included in the instream flow plan. The SFPUC recommends the TRP text be edited to clarify statements regarding the status of populations and effects of O'Shaughnessy Dam on western pond turtle as reflected in the Upper Tuolumne River Ecosystem Program supporting documents.

[Public Utility, #446]

Appendix B-2: The SFPUC proposes edits to text: : "In 1913, 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 Raker Act also recognizes the prior rights of the Modesto and Turlock Irrigation Districts to receive water from the Tuolumne, and specifies the amount of water that San Francisco must bypass to the Districts through Hetch Hetchy Project facilities. A certain volume of water is required to be released from the reservoir, depending on the 'natural daily flow' of the river."

[Public Utility, #446]

1. M-16: The SFPUC proposes edits to text: "The San Francisco Public Utilities Commission (SFPUC) approved its Water System Improvement Program (WSIP) in 2008, which limits water deliveries from all water sources to Bay Area water customers to 265 million gallons per day through 2018. Before 2018, SFPUC and its wholesale customers in the San Francisco Bay Area will be required to meet additional demands by conservation and recycling. The SFPUC water supply program includes up to 20% reduction in water service system wide during extended droughts.

[Public Utility, #446]

2. M-16: The WSIP PEIR includes an associated mitigation measure, which directs the SFPUC to study Poopenaut Valley meadow and wetland vegetation and modify spring snowmelt spill releases to provide higher magnitude and/or prolonged inundation of Poopenaut Valley wetlands.This mitigation measure is being implemented via the instream flow management plan for O'Shaughnessy Dam, currently being prepared by the SFPUC in collaboration with the NPS and other stakeholders as part of the Upper Tuolumne River Ecosystem Program.

[Public Utility, #446]

Photo numbering is confusing to me in appendix K, p K-19. Could those four photos be corrected?

[Individual, #304]

Requests to Extend Comment Period

Concern ID: 520 The NPS should extend the comment period for the TRP DEIS.

With so large a document, I feel that 90-day public comment period would be more appropriate than a 60-day public comment period. Please consider extending the comment period by 30 days or re-opening the comment period for an additional 30 days.
[Individual, #307]

Park Planners: What is the date of the 60 day deadline for comments on the T W&S R CMP and EIS? I calculate it could be as early as Mar 9 post mark. Are you aware that a lot of the folks most interested in this CMP among agency, NGO and private citizens are also bound up in a Don Pedro Reservoir relicensing response deadline at this same time with comment deadline on up to 90 revised Initial Study Plans falling on March 11. Three weeks extension on your end would help.
[Individual, #21]

Another concern I have is the constrained time frame for the public in responding to this draft plan. The National Park Service has expended a lot of effort over the past seven to ten years to develop the TRP which was legally supposed to have been prepared and adopted decades ago but the Public has been given only 60 days to review and comment on this draft. Additionally, the TRP references other planning documents that must be reviewed to gain a comprehensive understanding of how other proposed projects and policies being undertaken by the National Park Service will directly or indirectly impact the TRP planning area. Complicating things even more is the concurrent issuance of the draft Merced River plan. Policies governing the use of Yosemite Valley will have a significant impact on the Tuolumne River corridor. I request that the public commenting period for both plans be extended.
[Individual, #406]

Response: The TRP was released for a 70-day public comment period, 10 days more than the minimum required by agency policy (per NPS Director's Order 12). The agency received a robust amount of thoughtful and valuable comments and determined that the 70-day comment period was sufficient.

Out-of-Scope Comments

Some comments were considered out of the scope of the TRP. The NPS did not prepare formal responses to these comments. Out-of-scope concerns and comments were considered and determined to be in one of the following categories:

- The comment request does not require a wild and scenic river management plan in order to implement the suggestion. For example, the NPS received a request to change the campground reservation system for Tuolumne Meadows Campground. This comment can be forwarded for consideration outside of the TRP planning process and could be implemented without a TRP.
- The comment request included locations outside the wild and scenic river corridor. Examples of this included requests for more information regarding compliance actions in Yosemite Valley.
- The comment included personal expressions. The NPS always welcomes comments regarding visitor experience at Yosemite National Park, but comments received that were not specific to the TRP or the river corridor were considered out of scope.

The NPS considered the following concerns to be out-of-scope:

Concern ID: 521 The park concessioner should provide electrical outlets for visitors who rely on continuous partial airway pressure equipment.

On a personal level, I wish for the day DNC could install some electrical outlets designed for CPAP (continuous partial airway pressure) users such as myself. CPAP machines are very quiet and make sleeping at high altitudes much safer for those with breathing issues while sleeping. Without an outlet, I can use a battery, but that requires daily recharging.

A recharging station for batteries and electric vehicles may be a combined use possibility as we phase in more electric cars. The CPAPs are run off a 12 volt battery. If one could leave it recharging in a secure, ventilated cabinet during the day at an outdoor recharging station and then have it available for use at night, a motel stay at Lee Vining could be avoided.

[Individual, #153]

Concern ID: 522 If the Tuolumne Meadows grill is retained, the NPS should mitigate the negative impact of trash at the grill.

While I was hoping for the elimination of the grill, it is obvious from the draft comments that most people want it to remain. If the inherent trash issues caused by the grill are dealt with, the grill's negative impact can be mitigated.

[Individual, #175]

Response: Daily maintenance issues are handled as part of basic park operations and are outside the scope of the TRP.

Concern ID: 523 The NPS should disclose what would happen to the horses and mules that would no longer needed under Alternative 4.

What will happen to the horses and mules of the discontinued stable highlighted in alternative plan no. 4? Will they be absorbed into the multi-day trail ride trips? Will they be cared for and kept alive? I would like to know how this will be handled. Thank you.

[Individual, #271]

Concern ID: 524 The NPS should notify the public when wastewater treatment spraying will occur in 2013.

I ask that the dates of spraying waste water in 2013 be announced so those interested could see how this activity looks, if there is runoff and visitors could be shown where Wilderness boundary is in that area.

[Individual, #304]

Concern ID: 525 The NPS should revise the system used to allot trips to the High Sierra Camps.

1. It seems that the time has come to make some changes re the High Sierra Camps to continue. Change does not have to be bad,

2. The lottery system for them is totally corrupt and abused ------- applicants know how to work the system. Please take the time to check the following website: Middle Fork of the Salmon (4 Rivers), ID -------- a great system for private permits!

3. I hope the High Sierra Camps will always remain, with the needed modifications, as they are such an historical California tradition.

[Individual, #454]

Response: The operation of reservation systems is part of basic park operations and is outside the scope of the TRP.

Concern ID: 526 Comments regarding previous environmental compliance in Yosemite Valley.

To make clear our concern, examples of two major projects in Yosemite Valley which were completed with practically no environmental review are:

--New (around 2006?) DNC employee housing complex west of Curry Village.

--Lower Fall Project.

Both of these projects had cursory mention in the subsequently rescinded Yosemite Valley Plan (YVP), but no analysis; yet it was asserted that the treatment in the YVP constituted adequate authorization to proceed with construction.

[Conservation/Preservation, #348]

Concern ID: 527 **The NPS should encourage catch-and-release to ensure fish remain in the Tuolumne River.**

I love to fish (catch and release) at the camps as it is a beautiful place to fish. I have been told by camp personnel quite a few years ago that the forest service has discontinued stocking due to a variety of reasons. That may be well and good but at least tell guests to practice catch and release whenever possible and use barbless hooks, etc so the remaining trout will be there for our enjoyment.

[Individual, #183]

Concern ID: 528 **The NPS should explain what the Sonoran Institute is (a group that authored a report referenced in Chapter 8 of the DEIS).**

Page 249. Who or what is the Sonoran Institute?

[Individual, #406]

Concern ID: 529 **The NPS should lower the speed limit on park roads.**

THE WHOLE PARK SHOULD BE 25 MPH. PEOPLE DRIVE TOO FAST FOR THEIR OWN GOOD AND ALL THE ANIMALS'. WHY IS THIS SO? SLOW DOWN!!! IT'S A PARK NOT A CUT THROUGH. AND IF THEY'RE USING IT AS A CUT THROUGH THEN THEY'LL HAVE TO DRIVE 25 TO CUT THROUGH. MAYBE THEN THEY WON'T USE IT FOR THAT. WHY ARE ANIMALS BEING KILLED IN THEIR HOMES TO ACCOMMODATE STUPID HUMANS WHO REFUSE TO DRIVE CAREFULLY? THIS IS THEIR SANCTUARY NOT THE HUMANS'. PLEASE FORCE PEOPLE TO DO THE RIGHT THING AND GO SLOW THROUGH NATURE'S SANCTUARY. PEOPLE DON'T HAVE THE RIGHT TO KILL ALL THE ANIMALS IN THE NATIONAL PARK IN THE NAME OF CONVENIENCE. "SLOW" AND "SPEEDING KILLS BEARS" SIGNS DON'T WORK. HOW MANY ANIMALS HAVE TO DIE BEFORE WE WAKE UP? ISN'T A NATIONAL PARKS JOB TO PRESERVE NATURE? HELP THE ANIMALS SURVIVE IN THEIR OWN HOMES.

[Individual, #392]

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Concern ID: 43 The good condition of most meadows in the river corridor and high water quality noted in the TRP DEIS is good news. A-27
Concern ID: 44 The NPS should consider that conifer encroachment at Tuolumne Meadows is a human-caused condition (in part due to construction of Tioga Road), and that NPS Management Policies 2006 would support continued removal of conifer seedlings and saplings at Tuolumne Meadows. A-27
Concern ID: 45 The NPS should include special status plant and wildlife species as ORVs and develop related management actions to restore special status species as well as their habitat. The NPS should also clarify the biological ORV condition assessment and management concerns sections to note if special status species occurrences have declined in the river corridor since the river's designation. A-28
Concern ID: 46 The NPS should evaluate Pate Valley to see if it would meet ORV criteria. A-29
Concern ID: 47 The NPS should evaluate and cite examples of successful meadow restoration elsewhere in the Sierra Nevada. A-29
Concern ID: 48 The NPS has correctly identified meadow fragmentation in the "Management Concerns" section of chapter 5. ..... A-30
Concern ID: 49 The NPS should clarify how informal trails were formed at Tuolumne Meadows. A-30

Biological Value: Proposed Management Actions A-30
Concern ID: 50 The NPS has correctly identified actions to protect and enhance the Tuolumne River and preserve and restore Tuolumne Meadows. A-30
Concern ID: 51 The NPS should incorporate conifer removal into proposed management actions to protect ORVs at Tuolumne Meadows, rather than conduct additional research on the topic. A-30
Concern ID: 52 The TRP DEIS should include actions to reintroduce special status species in the river corridor because other related planning efforts do not. A-31
Concern ID: 53 The NPS should include an action to delineate wetlands in Lyell Canyon in order to protect the biological ORVs. A-31
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Concern ID: 55 The NPS should monitor all meadows, including those with few visitor impacts, as a baseline for evaluating impacts occurring independent of visitor use (e.g., climate change). A-32
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Concern ID: 61 The NPS should evaluate the impact of Glen Aulin High Sierra Camp on scenic river values. A-35
Concern ID: 62 The NPS should consider that the wastewater treatment ponds impact river values, specifically water quality and scenic values. A-36
Concern ID: 63 The NPS should relocate roadside parking to well-designed parking lots to project the scenic ORV at Tuolumne Meadows. A-36
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Recreational Value: Tioga Road Access to the River through Tuolumne and Dana Meadows A-37
Concern ID: 65 The NPS should use the 2007 ORV descriptions for recreational river values. A-37
Concern ID: 66 The High Sierra Camps should not be considered outstandingly remarkable values (ORVs). A-38
Concern ID: 67 The NPS should include Glen Aulin High Sierra Camp and Tuolumne Meadows Lodge (also a High Sierra Camp) along with Parsons Memorial Lodge National Historic Landmark as ORVs. A-38
Recreational Value: Wilderness Experience along the River A-38
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Concern ID: 69 The NPS should manage for greater solitude on selected trails in Wilderness. A-39
Concern ID: 70 The NPS should not use day use wilderness trailhead quotas or encounter rate standards to protect opportunities for solitude in Wilderness. A-40
Concern ID: 71 The NPS should clarify under what circumstances a day use wilderness permit system would be implemented, and should conduct additional environmental and public review prior to implementing the option. A-41
Concern ID: 72 The NPS should reconsider the approach of using social encounters to manage for opportunities for solitude. A-41
Concern ID: 73 The NPS should consider that the Yosemite Wilderness is relatively uncrowded, compared with neighboring USFS land. A-42

Concern ID: 74 The NPS should clarify how encounters rates would be monitored and if automatic trail monitoring data would be distorted by wildlife. ... A-42
Concern ID: 75 The NPS should clarify how opportunities for solitude would be managed in areas close to Tioga Road; the NPS should not necessarily manage for opportunities for solitude in such areas. ... A-42
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Concern ID: 81 The TRP should evaluate water quality in the context of public health. ... A-45
Concern ID: 82 The NPS should assess the risk of, and response to, potential leaks from the force main crossing Tioga Bridge on Tioga Road and the force main between the wastewater treatment plants and wastewater treatment ponds. ... A-45
Concern ID: 83 The NPS should clarify if the adequacy of the Tuolumne Meadows campground wastewater treatment collection system has been studied. ... A-46
Concern ID: 84 The TRP should identify stock use as a major risk to water quality. ... A-46
Concern ID: 85 The NPS should minimize and/or eliminate discharge from the wastewater collection system during winterization and upgrade the winter ranger septic system. ... A-46
Concern ID: 86 The NPS should continue to work with the San Francisco Public Utilities Commission on minimizing water quality impacts from trails and the NPS stable. ... A-47
Concern ID: 87 The NPS should replace the Tuolumne Meadows skier toilet with a vault toilet, connect the Lembert Dome toilet to the existing wastewater treatment system, and clarify proposals for the Mammoth View parking area toilet. ... A-47
Concern ID: 88 The NPS should clarify if the TRP will address water quality impacts from stormwater runoff in new parking areas or roads, particularly with regard to total petroleum hydrocarbons. ... A-47
Concern ID: 89 The NPS should consider that a motor vehicle accident along Tioga Road could be a risk to water quality. ... A-48

River Value: Free-Flowing Condition ... A-48
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Concern ID: 91 The NPS should consider that water supply is a limiting factor in determining user capacity. ... A-48
Concern ID: 92 The NPS should adopt the Glen Aulin High Sierra Camp water conservation measures in other areas of the park ... A-49
Concern ID: 93 The NPS should remove all permanent structures from the 100-year floodplain at Glen Aulin High Sierra Camp. ... A-49
Concern ID: 94 The NPS should clarify if the impact of the Tioga Road bridge is considered transitory. ... A-49

No Action Alternative ... A-50
Concern ID: 95 The NPS should select the No Action Alternative ... A-50
Concern ID: 96 The NPS should not select the no-action alternative. ... A-50
Concern ID: 97 The NPS should clarify why the no-action alternative does not include ongoing actions or actions proposed in other park planning documents. ... A-51
Concern ID: 98 The no-action alternative should describe conditions in the river corridor when the Tuolumne River was designated a wild and scenic river (1984). ... A-51

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Actions Common to All Action Alternatives ... A-52
Concern ID: 99 The NPS should implement the proposed actions common to alternatives 1-4 because they would protect and enhance river values. ... A-52
Concern ID: 100 The NPS should implement ecosystem restoration projects that tie restoration goals to sensitive species. ... A-52
Concern ID: 101 The NPS should clarify proposals for restoration of amphibian habitat. ... A-53
Concern ID: 102 Ecological restoration should take priority at Tuolumne Meadows. ... A-53

Concern ID: 103 The NPS has correctly identified actions to correct hydrologic issues at Tuolumne Meadows, and should include more details regarding impacts of bridges and Tioga Road. A-53
Concern ID: 104 The NPS should consider introducing prescribed fire at Tuolumne Meadows to improve meadow health. A-54
Concern ID: 105 The NPS should use check dams and willow plantings as part of the ecological restoration plan and should consider studying flow in Ackerson Meadow to help inform this restoration. A-54
Concern ID: 106 The NPS should clarify if willows were impacted by the 1997 flood. A-55
Concern ID: 107 The NPS should define the terms 'disturbance', specify where new construction would occur and be specific regarding where facilities would be relocated. A-55
Concern ID: 108 The NPS should clarify if "eco-friendly" upgrades or renovations were considered for existing public facilities. A-55

Alternative 1 A-56
Concern ID: 109 The NPS should select alternative 1 as the preferred alternative. A-56
Concern ID: 110 The NPS should not select alternative 1 as the preferred alternative. A-56
Concern ID: 111 The NPS should adopt some actions proposed in alternative 1 into the preferred alternative, including removing overnight lodging and reducing use. A-57
Concern ID: 112 Alternative 1 would not provide a completely self-reliant experience, and the overview description of the alternative should note Glen Aulin High Sierra Camp as a lost recreational opportunity. A-58

Alternative 2 A-58
Concern ID: 113 The NPS should select alternative 2 as the preferred alternative. A-58
Concern ID: 114 The NPS should not select alternative 2 as the preferred alternative. A-58
Concern ID: 115 The title of alternative 2, "Expanding Recreational Opportunities," is misleading because it does not increase the opportunities for some experiences (e.g., camping) to historic levels. A-59

Alternative 3 A-59
Concern ID: 116 The NPS should select alternative 3 as the preferred alternative. A-59
Concern ID: 117 The NPS should more clearly tie proposed actions to a long-term vision for Alternatives 3 and 4. A-60

Alternative 4 (NPS Preferred Alternative) A-61
Concern ID: 118 The NPS should implement Alternative 4. A-61
Concern ID: 119 The NPS should not select Alternative 4 as the preferred alternative because it is too similar to the no-action alternative, does not reduce use, and/or does not encourage visitors to get out of their vehicles to experience the park. A-61
Concern ID: 120 Some actions proposed in Alternative 4 appear to conflict with the description of the Alternative 4 concept. A-62
Concern ID: 121 The name of Alternative 4, "Enhance the Traditional Tuolumne Experience", might be misleading because some visitor services would be reduced or eliminated. A-62
Concern ID: 122 Alternative 4 summaries provided in planning documents understate the proposed restrictions on visitor use. A-63
Concern ID: 123 The NPS preferred alternative should be the one that includes the most ecological restoration. A-63
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Shuttle Buses and Public Transit A-64
Concern ID: 125 The NPS should develop, implement and possibly increase the number of shuttles by adding satellite parking areas to mitigate any loss of parking in the preferred alternative. A-64
Concern ID: 126 The NPS should increase shuttle frequency and reliability to encourage use and improve traffic congestion and circulation. A-64
Concern ID: 127 The NPS correctly proposes increases in public transit capacity and should consider further increasing public transit capacity through cooperative efforts with the U.S. Forest Service in Lee Vining. A-65
Concern ID: 128 The NPS should encourage public transit use for overnight visitors by reserving campsites for people arriving by transit. A-65
Concern ID: 129 The NPS should increase public transit options to the park and within the river corridor. A-66
Concern ID: 130 The NPS should not equate an increase in public transit use with a decrease in private vehicle use and traffic congestion. A-66

Concern ID: 131 Increasing public transit would degrade the visitor experience by adding more visitors. A-67
Concern ID: 132 The NPS should clarify existing and proposed public transit bus numbers, bus capacity and monitoring, the impacts of infrastructure needed to support buses, and when public transportation and shuttle services began in the river corridor. A-68
Concern ID: 133 The NPS should clarify its authority to manage YARTs and other transit service, and evaluate the impacts of increasing public transit in alternative 4. ..... A-68

Tuolumne Meadows Parking A-69

Concern ID: 134 The NPS should remove roadside parking and construct new formal parking, as proposed in alternative 4. ..... A-69
Concern ID: 135 The NPS should not remove parking along Tioga Road at Tuolumne Meadows as it would restrict visitor access. A-69
Concern ID: 136 The NPS should implement the proposed parking modifications in alternative 4 (i.e., replace undesignated parking with new formal parking spaces) only when alternative parking and transportation options are available. A-70
Concern ID: 137 The NPS should not decrease parking at Tuolumne Meadows; parking lot capacity should accommodate all visitors who would be displaced from parking along Tioga Road. A-70
Concern ID: 138 The NPS should revisit the way existing parking capacity numbers are presented in the TRP. A-71
Concern ID: 139 The TRP should clarify parking counts and shuttle capacity along Tioga Road from Tuolumne Meadows to Olmstead Point, clarify if day use parking is being limited on Tioga Road, and clarify how Tuolumne Meadows day use visitors would be distinguished from visitors passing through. A-72
Concern ID: 140 New, expanded and existing parking areas should be landscaped to screen them from view. A-72
Concern ID: 141 The NPS should retain some roadside parking for short-term viewing opportunities. A-73
Concern ID: 142 The NPS should not retain vehicle access to Parsons Memorial Lodge National Historic Landmark in alternative 4. ..... A-73
Concern ID: 143 The NPS should provide a new scenic turnout at the "little blue slide" area of Tioga Road to view the Cathedral Range. A-74
Concern ID: 144 The NPS should eliminate parking along the road to the current concessioner stable. ... A-74
Concern ID: 145 The NPS should clarify the proposal for parking along the road from Lembert Dome to the concessioner stable and from Lembert Dome to Parsons Memorial Lodge. A-74
Concern ID: 146 The NPS should consider using Gaylor Pit for additional parking. A-75
Concern ID: 147 The NPS should provide more detail regarding the types of parking spaces available at Tuolumne Meadows and add consider adding parking spaces for motorcycles. A-75
Concern ID: 148 The NPS should consider adding remote parking areas along Tioga Road in combination with additional bus service. A-75
Concern ID: 149 The NPS should consider the scenic impact of devices to prevent undesignated parking. A-76
Concern ID: 150 The NPS should consider the consequences of limiting parking at Tuolumne Meadows on other locations along the Highway 120/Tioga Road corridor. A-76
Concern ID: 151 The NPS should clarify if parking would be available for wilderness permit holders who stay an additional night at Tuolumne Meadows. A-76
Concern ID: 152 The NPS should clarify how the overnight parking numbers were calculated. A-77
Concern ID: 153 The NPS should clarify how parking limits would be enforced at Tuolumne Meadows to meet management standards for the recreational ORV. The NPS should use a 'friendly' approach to enforcing day use parking capacity, before using more strict enforcement measures. A-77
Concern ID: 154 The NPS should clarify if there are conflicts between visitor parking and employee parking. A-78
Concern ID: 155 The NPS should include more information on the proposed day use reservation system for day parking and clarify why it would require additional environmental review. A-78
Concern ID: 156 The NPS should clarify if the TRP would remove roadside parking along Tioga Road outside of Tuolumne Meadows. A-79
Concern ID: 157 The NPS should include management action to prevent potential impacts from displaced visitor parking along Tioga Road outside of Tuolumne Meadows. A-79
Concern ID: 158 The NPS should consider that limiting parking would not limit visitation. A-80
Concern ID: 159 The NPS should evaluate the impact of oversized vehicles and buses on parking capacity and consider a limit on the numbers and types of oversized vehicles. A-80

Tioga Road **A-80**
Concern ID: 160 The NPS should consider that curbing Tioga Road without widening it could introduce new safety concerns for pedestrians, bicyclists and motorcyclists. A-80
Concern ID: 161 The TRP should provide long-term guidance on opening/closing dates of Tioga Road. A-81
Concern ID: 162 The NPS should clarify if Tioga Road exceeds or is close to exceeding its level of service and what actions would be considered to accommodate increasing use in the future. A-81
Concern ID: 163 The TRP should provide management direction for through-traffic on the Tioga and the Hetch Hetchy roads, including vehicle sizes and volumes. A-82
Concern ID: 164 The NPS should clarify that Tioga Road is a historic resource that should be protected regardless of the river's designation. A-82
Concern ID: 165 The NPS should utilize modern technology to inform visitors of traffic conditions, while recognizing the lack of existing internet and phone service at Tuolumne Meadows. A-83

Bridges **A-83**
Concern ID: 166 The NPS should consider rebuilding the bridge over Register Creek in Pate Valley. A-83
Concern ID: 167 The NPS should clarify the number of bridges in the river corridor. A-83
Concern ID: 168 The NPS should make sure bridges do not alter hydrology. A-84
Concern ID: 169 The NPS should consider adding a pedestrian bridge over the Tuolumne River for better visitor circulation. A-84

User Capacity **A-84**
Concern ID: 170 The NPS should clarify why the TRP definition of user capacity is different than the user capacity definition in the 1982 Federal Register, and note that the 1982 Federal Register definition also emphasizes recreation, public health, and safety. A-84
Concern ID: 171 The TRP DEIS correctly retains the existing wilderness trailhead overnight quotas. A-85
Concern ID: 172 The NPS should clarify how the existing wilderness permit quotas were established and how the TRP impacts wilderness permit quotas. A-85
Concern ID: 173 The NPS should increase the day use estimate and/or wilderness permit quota in the wild Poopenaut Valley segment. A-86
Concern ID: 174 The NPS should add 12 permits to the Glen Aulin wilderness quota, since the reasons given for reducing the size of Glen Aulin High Sierra Camp are specific to resources, not general corridor user capacity. A-86
Concern ID: 175 The NPS should clarify why the TRP and MRP have different approaches to administrative use capacity. A-87
Concern ID: 176 The NPS should include infrastructure and use outside the river corridor, specifically at O'Shaughnessy Dam, when evaluating visitor use downstream of the dam and clarify overnight parking availability for overnight users at Poopenaut Valley. A-87

Management of User Capacity **A-88**
Concern ID: 177 The current use levels and the amount of facilities at Tuolumne Meadows are too high. A-88
Concern ID: 178 The NPS should adopt the alternative 3 user capacity to reduce water demand at Tuolumne Meadows. A-88
Concern ID: 179 Alternative 4 provides the most balanced option for visitor use capacity A-89
Concern ID: 180 The Alternative 4 visitor day use capacities and corresponding administrative use capacities should be at or lower than existing conditions. A-89
Concern ID: 181 The NPS should maintain existing day use capacity, or reduce it, to reduce the need for additional employee housing and increase sustainability. A-90
Concern ID: 182 The NPS should clarify the justification for increasing visitor day use capacity along the Tuolumne River in Alternative 4. ..... A-90
Concern ID: 183 The NPS should clarify to what extent the constraints on kinds and amounts of visitor use are driven by day use and overnight use. A-90
Concern ID: 184 The NPS should clarify how visitor use capacity, particularly day use capacity, would be managed at Tuolumne Meadows. A-90
Concern ID: 185 The NPS should adopt a visitor use capacity that caps the number of visitors who arrive in the river corridor by any mode of transport. A-91
Concern ID: 186 The NPS should include administrative use in user capacity and issue permits for administrative and visitor camping. A-92
Concern ID: 187 The NPS should clarify the relationship between parking, transit, and user capacity. A-92
Concern ID: 188 The NPS should clarify why the TRP does not address visitor day use from the White Wolf trailhead. A-93

Concern ID: 189 The NPS should consider market-based mechanisms (like a parking fee) and/or a lottery system to manage user capacity in the river corridor, generate income, and encourage public transportation. A-93
Concern ID: 190 The NPS should prioritize accommodating overnight use based on a hierarchy, with backcountry camping and campgrounds as the first priorities. A-94
Concern ID: 191 The NPS should disperse visitors away from Tuolumne Meadows to other locations on Tioga Road or in the park. A-94
Concern ID: 192 The NPS should clarify if references to permits "above" and "below" O'Shaughnessy Dam refer to elevation. A-95

Climate Change and Sustainability A-95

General A-95
Concern ID: 193 The TRP EIS should include a discussion on methods to address the park's carbon footprint, including changes to transportation and new technology. A-95
Concern ID: 194 The NPS should more explicitly tie preferred alternative actions to sustainability goals, where applicable. A-96
Concern ID: 195 The TRP should include discussion on public safety and the increased risk for catastrophic fire at Tuolumne Meadows due to climate change. A-96

Water Demand and Water Conservation at Tuolumne Meadows A-96
Concern ID: 196 The NPS should provide more detail on and clarify descriptions of water conservation measures proposed in the TRP (including whether adjustments are included for installing low-flow plumbing fixtures). A-96
Concern ID: 197 The NPS should reduce water consumption at Tuolumne Meadows, in light of climate change and for protection of downstream aquatic habitat. A-97
Concern ID: 198 The NPS should seek alternate options for domestic water supply at Tuolumne Meadows, particularly during low-flow periods. A-98
Concern ID: 199 The NPS should clarify how existing water use calculations were estimated at visitor facilities in Tuolumne Meadows. A-98
Concern ID: 200 The NPS should install water meters at facilities in Tuolumne Meadows to provide a more accurate measure of water consumption before increasing water withdrawals from the river. A-99
Concern ID: 201 The NPS should reduce water demand at Tuolumne Meadows by eliminating the Tuolumne Meadows grill and reducing the number of campsites. A-100
Concern ID: 202 The NPS should conserve water at Tuolumne Meadows by removing the recreational vehicle dump station or monitoring its water use. A-101
Concern ID: 203 The NPS should consider using a rainwater catchment/gray water system to conserve water at Tuolumne Meadows. A-101
Concern ID: 204 The NPS should add walk-in campsites with water conservation measures for periods of low-flow. A-101
Concern ID: 205 The NPS should consider having campers supply their own water to conserve water at Tuolumne Meadows. A-102
Concern ID: 206 Visitors would accept additional water conservation measures in dry years, including limited camping and services. A-102

Recreational Opportunities/Visitor Access A-102

Commercial Services - General A-102
Concern ID: 207 The NPS should select an alternative that reduces unnecessary commercial services. A-102
Concern ID: 208 The NPS should consider that some commercial services are necessary for realizing the public purposes of wilderness. A-103
Concern ID: 209 The TRP DEIS violates the Wild and Scenic Rivers Act by not adequately addressing commercial use related to High Sierra Camps. A-103
Concern ID: 210 The NPS should not reduce or eliminate any existing commercial services in the park, particularly stock use. A-104

Visitor Services - General A-104
Concern ID: 211 The NPS should not encourage visitation to Tuolumne Meadows. A-104
Concern ID: 212 The NPS should select an alternative that retains visitor services at Tuolumne Meadows. A-105
Concern ID: 213 The TRP does not adequately address traditional visitor activities. A-105
Concern ID: 214 The NPS should not restrict traditional visitor uses. A-105
Concern ID: 215 The NPS should clarify how access to the river would be managed at Tuolumne Meadows and Glen Aulin High Sierra Camp (e.g., fencing, formal trail access, etc.) A-106
Concern ID: 216 The NPS should utilize designated parking to manage visitor numbers at Tuolumne Meadows, otherwise allowing visitors to do as they please. A-106

Concern ID: 217 The NPS should not limit recreational opportunities at Tuolumne Meadows for visitors with special needs. ... A-107
Concern ID: 218 The NPS should provide bike rentals at Tuolumne Meadows. ... A-107
Concern ID: 219 The NPS should provide more parking and camping facilities at Tuolumne Meadows. A-107
Concern ID: 220 The NPS should require appropriate professional credentials for mountain guiding in the park. ... A-107

Stock Use ... A-108

Stock Use at High Sierra Camps ... A-108

Concern ID: 221 The NPS should continue to use pack stock to supply the High Sierra Camps. ... A-108
Concern ID: 222 The NPS should find a way to lessen the impacts of pack stock on trails to the High Sierra Camps. ... A-108
Concern ID: 223 The NPS should specify how many stock trips would be needed to support Glen Aulin High Sierra Camp at a reduced capacity or as a seasonal outfitter camp. ... A-109
Concern ID: 224 Pack stock trips to supply the Glen Aulin HSC increase crowding and congestion on trails. ... A-109
Concern ID: 225 The NPS should discontinue guided and pack trips to Glen Aulin HSC. ... A-109

Stock Use Corridorwide ... A-110

Concern ID: 226 The NPS should recognize that stock users should have the same rights to use the Tuolumne River corridor as other types of visitors. ... A-110
Concern ID: 227 The NPS should more accurately describe the history of stock use in the park. ... A-110
Concern ID: 228 The NPS should not reduce the use of stock as it provides a traditional positive visitor experience. ... A-110
Concern ID: 229 The NPS should consider alternative options to reduce stock/hiker interactions including separate stock trails. ... A-111
Concern ID: 230 The NPS should not limit stock use in wilderness based on the perception of stock/hiker conflicts. ... A-111
Concern ID: 231 The NPS should use horse manure bags or have employees shovel manure behind packtrains. ... A-112
Concern ID: 232 The NPS should consider the negative impacts on the visitor experience from stock use throughout the Tuolumne River corridor. ... A-112
Concern ID: 233 The NPS should discontinue stock use in the Tuolumne River corridor, or limit stock use to only what is necessary for administrative use or disabled visitor access, due to adverse impacts on trails. ... A-113
Concern ID: 234 The NPS should consider additional studies, including Derlet and Carlson (2006), when evaluating the impacts of stock use on water quality. ... A-114
Concern ID: 235 The NPS should eliminate overnight stock use in Lyell Canyon. ... A-115
Concern ID: 236 The NPS should clarify the EIS to note that allowing some stock use in Lyell Canyon is not predicated on potential adverse impacts of diverting use elsewhere in the park. ... A-115

Stock Use Capacities ... A-116

Concern ID: 237 The NPS should set opening dates for stock use in Lyell Canyon based on trail conditions, hydrologic conditions, and "range-readiness" to protect trails and biological ORVs. ... A-116
Concern ID: 238 The NPS should clarify the relationship between stock capacity and visitor capacity in Lyell Canyon. ... A-116
Concern ID: 239 The NPS should consider additional studies when determining grazing night capacities in Lyell Canyon and allow the public to review the studies that were used to determine grazing night capacities. ... A-117
Concern ID: 240 The NPS should reduce the maximum number of stock per party. ... A-118
Concern ID: 241 The NPS should recognize that a reduction in stock use would not result in a reduction in overnight use; it would shift utilization to more backpacking. ... A-118
Concern ID: 242 The NPS should weight wilderness encounters with stock use parties more heavily in determining encounter limits. ... A-118

Concessioner Stock Day Rides ... A-119

Concern ID: 243 The NPS should retain concessioner stock day rides at Tuolumne Meadows. ... A-119
Concern ID: 244 The NPS should eliminate concessioner stock day rides in wilderness and nonwilderness. ... A-120
Concern ID: 245 The NPS should clarify the reasons for elimination of concessioner day stock rides. ... A-120
Concern ID: 246 The NPS should clarify why, if the impacts of stock use are consistent for all types of stock users, the concessioner stock day rides would be removed but private stock use, outfitter stock use, and park operations stock use would be retained. ... A-120
Concern ID: 247 The NPS should consider that concessioner stock day rides as well as commercial packstock operations, are needed for less able or disabled (i.e. ADA) visitors to experience the park. ... A-121

Concern ID: 248 The NPS should not provide concessioner stock day rides for disabled visitors. A-122
Concern ID: 249 The NPS should consider retaining the 4-6 day concessioner stock trips. A-122
Concern ID: 250 The TRP EIS should be updated to clarify how many concessioner stock day rides are currently occurring and why the NPS and concessioner stables would be combined in alternative 4. ..... A-122
Concern ID: 251 The NPS should clarify why concessioner stock day rides would be eliminated in Yosemite Valley and Tuolumne Meadows, but not Wawona. If day rides are eliminated in Yosemite Valley, they should be retained at Tuolumne Meadows. A-123
Concern ID: 252 The NPS should consider a reduction and not complete elimination of concessioner day rides. A-123
Concern ID: 253 The NPS should evaluate the socioeconomic impact of eliminating concessioner stock day rides as most visitors do not own and/or bring their own stock to the park. A-124
Concern ID: 254 The NPS should consider the potential impact of invasive plants from an increase in private stock use that could occur as a result of the elimination of concessioner stock day rides. A-124
Commercial Outfitter Stock Use A-124
Concern ID: 255 The NPS should implement proposals to eliminate or reduce commercial stock use in the Tuolumne River watershed. A-124
Concern ID: 256 The NPS should not implement the proposed reductions in overnight commercial stock use and should continue to allow hikers to travel the Pacific Crest Trail and John Muir Trail with commercial pack stock. A-125
Whitewater Boating A-125
Concern ID: 257 The NPS should prohibit whitewater boating on the Tuolumne River to protect meadow ecosystems and preserve opportunities for solitude. A-125
Concern ID: 258 The NPS should allow whitewater boating, a suitable, low impact recreational use, on the Tuolumne Wild and Scenic River (as provided in part in alternative 2), and even all rivers in Yosemite National Park, to be consistent with the NPS mission and the Wild and Scenic Rivers Act. A-126
Concern ID: 259 The NPS should consider the consistency between the TRP and MRP in management planning decisions regarding whitewater boating. A-127
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Concern ID: 382 The NPS should formalize the informal trail near Pothole Dome to provide the opportunity to see stairstep river morphology features. ... A-185
Concern ID: 383 The NPS should clarify the location of the proposed new picnic area at Pothole Dome. ... A-185
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Concern ID: 397 The NPS should remove the visitor center function from Tuolumne Meadows and redirect visitors to Lee Vining or NPS interpretive staff. ... A-191
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Concern ID: 399 The NPS should consider that replacing the visitor center with a visitor contact station could result in reduced funding for restoration projects and fewer volunteers at Tuolumne Meadows. ... A-192
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Concern ID: 430 The TRP should reconsider dismissing the option of locating a wastewater treatment facility north of Tioga Road and provide adequate latitude for co-location of all wastewater treatment facilities on either side of the Tuolumne River, with the final decision to be determined in a site-specific environmental assessment after the TRP Record of Decision is signed. ... A-204
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Concern ID: 462 The NPS should discuss and implement limitations, management, and mitigation measures for pack stock use in the Tuolumne Meadows segment in order to protect meadow vegetation and water quality. A-216
Concern ID: 463 The NPS should conduct comprehensive biological and botanical protocol-level surveys for sensitive species during appropriate survey times prior to removal or construction of culverts or other surface water conveyance structures sited near the riverbank or in wet areas. A-217
Concern ID: 464 The NPS should discuss avoidance minimization and mitigation of potential impacts to sensitive species listed as potentially occurring in the Grand Canyon segment. A-217

Concern ID: 465 Qualified biologists should conduct surveys at Tuolumne Meadows for Sierra Nevada yellow-legged frog (proposed for federal listing in April 2013), the Sierra Nevada red fox (state-listed rare species), Pacific fisher (candidate for federal listing), and the Yosemite toad (proposed for federal listing in April 2013) prior to approval that would authorize project implementation, and the TRP or other environmental documents prepared for implementation should include enforceable avoidance, minimization, and mitigation measures in the event these species are found. If any federally listed or candidate species are found, the survey results should be forwarded to the U.S. Fish and Wildlife Service. A-217
Concern ID: 466 The NPS should complete a two-year Great Grey Owl protocol survey using methodology provided by Bed and Winter (2000) prior to implementing project-related activities on the western end of Tuolumne Meadows. A-219
Concern ID: 467 The NPS should conduct pre-project botanical surveys using established protocols to avoid, minimize, and mitigate impacts on the green slender lupine and Davy's sedge. A-219
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Concern ID: 469 The NPS should continue to collaborate with the San Francisco Public Utilities Commission on the Upper Tuolumne River Ecosystem Project in order to protect special status species habitat and populations, including the Western pond turtle, in the river segments below O'Shaughnessy Dam. A-220

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Soundscapes A-221
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Concern ID: 474 The TRP EIS should discuss the relative impact of vehicle emissions from day users versus overnight users, as well as hybrid vehicles. A-222
Concern ID: 475 The TRP should restrict the operating hours of stationary emissions sources, such as generators, and consider using portable biomass burners. A-223
Concern ID: 476 The NPS should coordinate with air pollution control districts and the California Air Resources Board (CARB) to minimize local and regional smoke and air quality impacts. A-223
Concern ID: 477 The NPS should clarify why wildfire would be a short-term impact on air quality. A-224
Concern ID: 478 The NPS should provide an option for smoke-free accommodations for visitors with health issues that are aggravated by campground smoke. A-224
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Concern ID: 481 The TRP should analyze the impact of removing the mountain shop and mountaineering school on visitor services, recreation, and visitor experience. A-225
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Concern ID: 491 The NPS should expand the TRP socioeconomic analysis to include an assessment of all of the communities within the "affected region" identified, specifically the City of Sonora. ... A-229
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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 be 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 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 specifies the amount of water that San Francisco must bypass to the Districts through Hetch Hetchy Project facilities. 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 ¼ 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

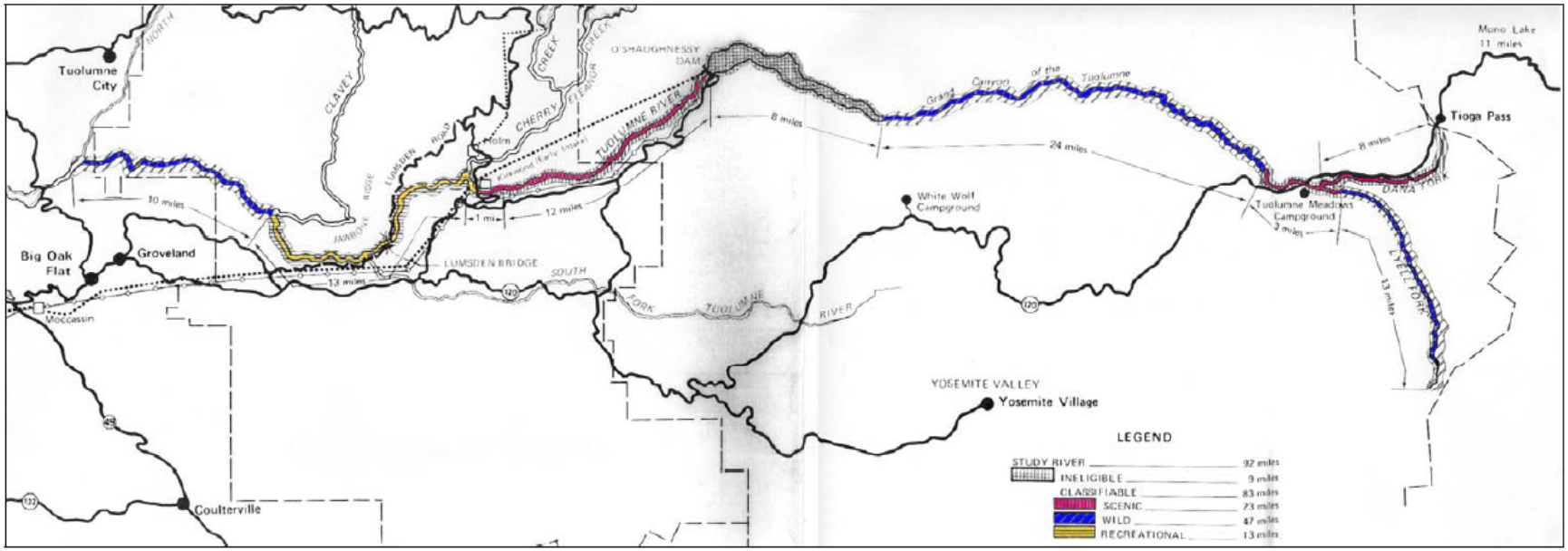
A congressionally authorized study was undertaken to evaluate the eligibility and suitability of 92 miles of the Tuolumne River for inclusion in the wild and scenic rivers system. The evaluated portion of the river extended from its headwaters in Yosemite National Park, through Stanislaus National Forest 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 ½-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).

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).



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).

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 360 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 designated 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 Plan[1] 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).

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,

[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).

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 (94%) 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 service 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 throughout all of Yosemite's designated wilderness. There will be many opportunities for public involvement in

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

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), the Ninth Circuit concluded that the exceptions found in Section 4(d) are most properly read as a series of

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).

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 to 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 the 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 commercial services provisions for each Alternative are detailed in Chapter 8, Alternatives, and summarized in Table C-1, below.

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.

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

Alternative 1	Alternatives 2 and 4	Alternative 3
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.	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: ▪ *Restrictions on types of use, Glen Aulin zone, peak months only*: 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. ▪ *Restrictions on types of use, Lyell Canyon zone, peak months only*: 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.	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.

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 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.

8 NPS *Management Policies* 2006 6.4.4.

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

10 van Wagtendonk, 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.

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. The zone capacities adopted for the river corridor guided the Extent Necessary Determination process. For most of the zones that include the Tuolumne River corridor, the zone is much larger than the corridor. This extent necessary determination is for the full geographic extent of all zones rather than just the corridor. 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 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.

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11 van Wagtendonk, J.W., and J. M. Benedict. 1980. Wilderness permit compliance and validity. *J. Forestry* 78(1): 399-401; van Wagtendonk, 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.

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 provided 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 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.

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

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).

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 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.

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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. §460l-6d.

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
- Backpacking

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

[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).

- 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, 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.

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.

[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.

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 that 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 is sought to be preserved for future generations to enjoy, a place "where the earth and its community of life are untrammeled 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 untrammeled 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

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

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

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).

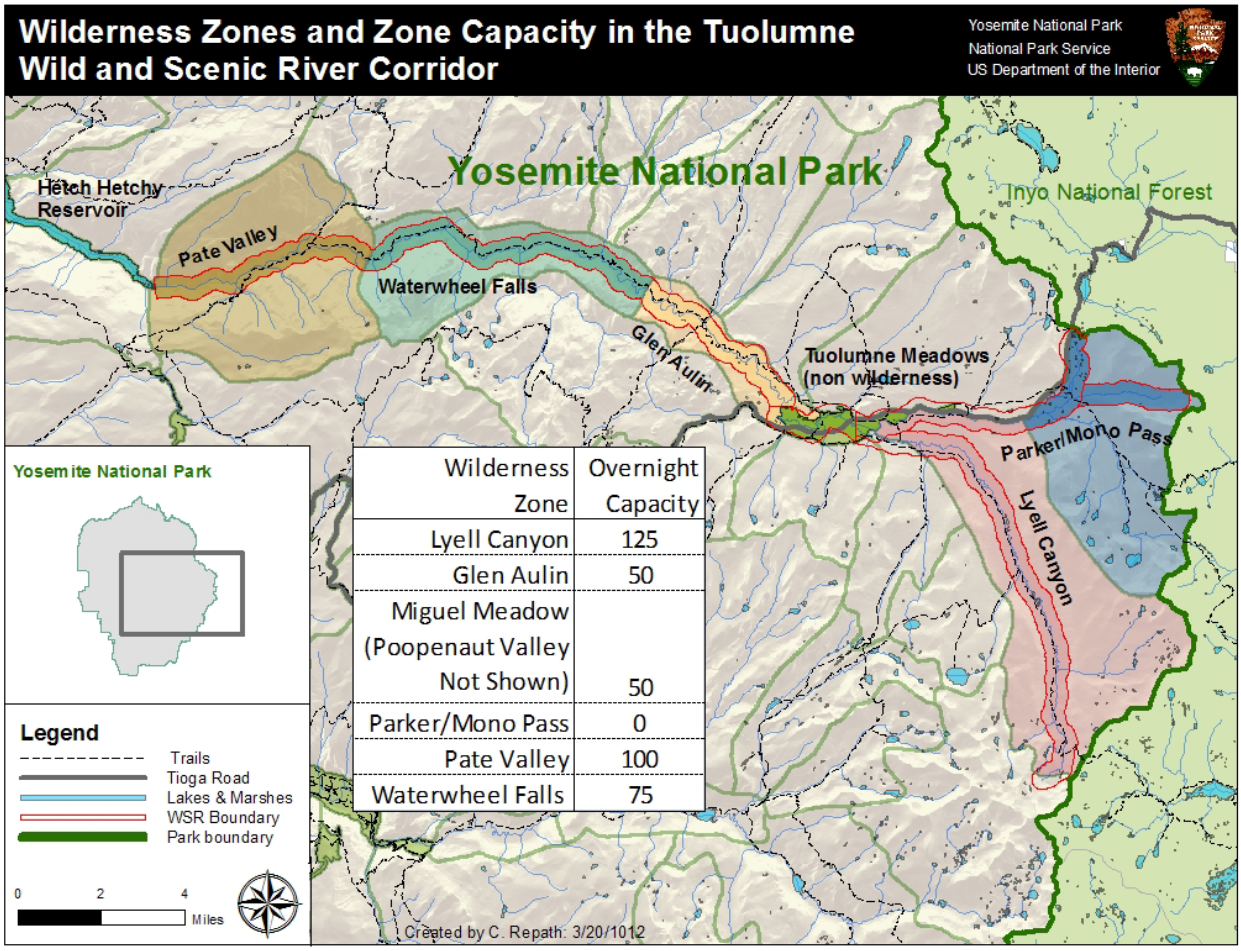
A. Overnight Use

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:

[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.



Wilderness Zone	Overnight Capacity
Lyell Canyon	125
Glen Aulin	50
Miguel Meadow (Poopenaut Valley Not Shown)	50
Parker/Mono Pass	0
Pate Valley	100
Waterwheel Falls	75

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 on 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.

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 15% 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 15% of capacity. The remaining allocation, if any, will be available for commercial formal education 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 10% 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, the Grand Canyon of the Tuolumne, and Poopenaut trails receive negligible amounts of day use. The Lembert 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 twelve groups per hour on the Lyell Canyon trail from Rafferty Creek to the Ireland Lake junction ("lower Lyell Canyon"), eight per hour on the Lyell Canyon trail from the Ireland Lake junction to Kuna Creek ("upper Lyell Canyon"), twelve per hour on the Glen Aulin trail, or two per hour in the Grand Canyon of the Tuolumne ("Pate Valley"), management actions will be implemented to reduce use. These encounter rate standards will be used to establish limits for commercial day use.

Determining when the recreational purpose is "realized" for day use, like that for overnight use, requires the application of professional judgment. A 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 commercial recreational groups against the overall preference expressed in the Wilderness Act for noncommercial recreational visitation. Using such logic, at 66% of the trail capacity (8 encounters per hour in lower Lyell Canyon and on the trail to Glen Aulin, 5.33 in upper Lyell Canyon, and 1.33 in Pate Valley) the recreational purpose will be considered realized, and that trail will be considered substantially full and a "restricted" trail. At 33% to 65% of that rate (4 to 8 in lower Lyell Canyon and on the Glen Aulin trails, 2.67 to 5.33 in upper Lyell Canyon, and 0.66 to 1.33 in Pate Valley) these trails will be considered "weekend restricted."

[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.

Using these figures, the "realization" determinations are as follows:

- Glen Aulin: current use averages 9.05 parties per hour, exceeding the threshold of 8 to be considered a **restricted** trail. The Glen Aulin High Sierra Camp in this section is a substantial commercial presence, reinforcing the restricted designation.
- Lyell Canyon: current use averages 7.55 parties per hour on the lower stretch, falling into the weekend restricted range of 4 to 8. The upper stretch averaged 5.7 parties per hour in 2013, exceeding the threshold of 5.33 to be considered restricted. Because almost all commercial use in the canyon utilizes both stretches of trail, the entire Lyell Canyon trail (both stretches) will be designated as **restricted**. However, if continued monitoring reveals that the upper Lyell stretch does not regularly exceed the restricted threshold, the park will reassess the restricted designation for the entire canyon; it could become weekend restricted.
- Pate Valley: current use averages 0.60 parties per hour, just below the 0.66 to 1.33 parties per hour range for being weekend restricted. Consequently, this stretch of trail will be **unrestricted**, though (like Lyell Canyon) continued monitoring could change this designation.
- Mono/Parker Pass: current use averages 3.34 parties per hour, falling within the 2.67 to 5.33 range for being designated as **weekend restricted**.
- All other trails in the Tuolumne River corridor: on these trails day use is negligible, so 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.

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

When Congress designated the Yosemite Wilderness in 1984, 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 up to 28 guest beds and offer full meal service to guests and employees, as long as water consumption and wastewater production remain under 500 gallons per day and no more than 2 packstrings per week are necessary for camp resupply (otherwise, the camp's capacity will be reduced until these restrictions are met). The camp is typically open from late June to mid-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 clearly shows a congressional intent to 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, and to meet the Act's mandate to preserve Wilderness character, 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.

[27] NPS *Management Policies* 6.4.10.

- 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.
- 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.

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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.

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.

- 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.

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 15% 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 x 8.7 (average number of weekend nights/month) = use nights. 15% of 1088 = 163 use nights. Average noncommercial educational use nights (college classes, etc.), from 2009-2010 is 25 use nights. 163 - 25 = 138 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 156 use nights per month, calculated as follows: Capacity for Glen Aulin = 50 people per night. 50 x 31 (number of nights/month) = 1550 use nights. 10% of 1550 = 156 use nights. Average noncommercial scenic use nights (NPS workshops, etc.) from 2009-2010 = 0 use nights. 156 - 0 = 156 use nights available for commercial scenic appreciation.
- Weekend restricted zones (Lyell Canyon, July and August): Commercial use allowed on weekdays. Use limited to 109 weekend and holiday (as defined above) use nights per month, calculated as follows: Capacity for Lyell Canyon = 125 people per night. 125 x 8.7 (average number of weekend nights/month) = 1088 use nights. 10% of 1088 = 109 use nights. Average noncommercial scenic use nights (NPS workshops, etc.) from 2009-2010 = 0 use nights. 109 - 0 = 109 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 163 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 109 weekend use nights per month	No off-trail travel Two commercial groups per zone per night Limited to 156 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											
	Overnight Use Zone						Day Use Trail				
Month	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	Weekend Restrict.	No camping			Restricted	Restricted	Weekend Restrict.
Aug				Restricted	Weekend Restrict.	No camping			Restricted	Restricted	Weekend 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. The NPS will develop a similar system and protocols for walk-in or last minute requests for commercial services upon implementation of this plan.

(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]

32 NPS *Management Policies* 2006 6.4.4.

33 NPS *Management Policies* 2006 6.3.5.

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 better realize the goals of the Act 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.

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, 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.

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. The application process will be reassessed and adjusted as operational issues emerge.

[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.

Appendix D:
Programmatic Agreements for Complying with Section 106 of the National Historic Preservation Act

PROGRAMMATIC AGREEMENT AMONG THE NATIONAL PARK SERVICE (U.S. DEPARTMENT OF THE INTERIOR), THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND THE NATIONAL CONFERENCE OF STATE HISTORIC PRESERVATION OFFICERS FOR COMPLIANCE WITH SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT

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PROGRAMMATIC AGREEMENT AMONG THE NATIONAL PARK SERVICE (U.S. DEPARTMENT OF THE INTERIOR), THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND THE NATIONAL CONFERENCE OF STATE HISTORIC PRESERVATION OFFICERS FOR COMPLIANCE WITH SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT

WHEREAS, the National Park Service (NPS) plans for, operates, manages, and administers the National Park System (System) and is responsible for identifying, preserving, maintaining, and interpreting the historic properties of the System unimpaired for the enjoyment of future generations in accordance with the 1916 National Park Service Organic Act, the NPS Management Policies (2006), and applicable NPS Directors Orders; and

WHEREAS, the operation, management, and administration of the System entail undertakings that may affect historic properties (as defined in 36 CFR Part 800), which are therefore subject to review under Sections 106, 110(f) and 111(a) of the National Historic Preservation Act as amended (NHPA) (16 USC 470 *et seq.*) and the regulations of the Advisory Council on Historic Preservation (ACHP) (36 CFR Part 800); and

WHEREAS, the NPS has established management policies, director's orders, standards, and technical information designed for the identification, evaluation, documentation, and treatment of historic properties consistent with the spirit and intent of the NHPA; and

WHEREAS, the NPS has a qualified staff of cultural resource specialists to carry out programs for historic properties; and

WHEREAS, the purpose of this Programmatic Agreement (PA) is to establish a program for compliance with Section 106 of the NHPA and set forth a streamlined process when agreed upon criteria are met and procedures are followed; and

WHEREAS, signature and implementation of this PA does not invalidate park-, Region-, or project-specific memoranda of agreement (MOA) or programmatic agreements negotiated for Section 106 purposes prior to the effective date of this PA; and

WHEREAS, Federally recognized Indian Tribes are recognized by the U.S. government as sovereign nations in treaties and as unique political entities in a government-to-government relationship with the United States; and

WHEREAS, the NPS has conducted a series of "listening" meetings with Indian Tribes, has requested the input of a number of Native Advisors in the process of preparing this PA, and has held consultation meetings with Federally recognized Indian Tribes, Native Hawaiian organizations, and other parties on the content of the PA; and

WHEREAS, 36 CFR 800.2 (c)(2)(i)(A) and (B) provide for consultation with Indian Tribes on the same basis as the State Historic Preservation Officer (SHPO) when an undertaking will occur on or affect historic properties on tribal lands; and

WHEREAS, in accordance with 36 CFR 800.14(b)(2)(iii), a PA shall take effect on tribal lands only when the designated representative of the tribe is a signatory to the agreement; and

WHEREAS, for those parks located partly or wholly within tribal lands, the NPS has invited the applicable Tribal Historic Preservation Officer (THPO) or Indian Tribe to sign this PA as an Invited Signatory; and

WHEREAS, the NPS has consulted with the NCSHPO and the ACHP regarding ways to ensure that NPS operation, management, and administration of the Parks provide for management of the Parks' historic properties in accordance with the intent of NPS policies, director's orders and Sections 106, 110, 111, and 112 of the NHPA.

NOW, THEREFORE, the NPS, the NCSHPO, the ACHP, and the signatory tribes mutually agree that the NPS will carry out its Section 106 responsibilities with respect to operation, management, and administration of the Parks in accordance with the following stipulations.

PURPOSE AND NEED

NPS park operations, management, and administration require a large number of low-impact or repetitive activities on a daily basis that have the potential to affect properties listed in or determined eligible for the National Register of Historic Places and require consultation under Section 106. This PA provides an efficient process for compliance with Section 106 for daily NPS park operations, management, and administration activities. It establishes two processes for Section 106 review: a "streamlined" review process for designated undertakings that meet established criteria and a "standard" review process for all other undertakings. This PA also provides programmatic procedures and guidance for other activities related to the Section 106 compliance process, including identification of resources, consultation, and planning.

The NPS shall ensure the following measures are implemented.

I. RESPONSIBILITIES, QUALIFICATIONS, AND TRAINING

The following sections list the responsibilities and required qualifications for those individuals responsible for implementing this PA.

A. Responsibilities

1. Director, National Park Service

The Director has policy oversight responsibility for the agency's historic preservation program. The Director, through the Deputy Director for Operations, executes this PA for the NPS and provides policy level oversight within the NPS to ensure that stipulations of the PA are met.

2. Associate Director for Cultural Resources

The Associate Director for Cultural Resources (ADCR) provides national leadership for policy implementation through establishing standards and guidance for managing cultural resources within the Parks. The ADCR works with the NPS regions and parks to ensure and support compliance with the stipulations of this PA and provides accountability to the signatories of this PA with regard to its implementation. The ADCR is responsible for working with Regions and Parks to develop and fund training needs related to Section 106 and the implementation of the PA. The ADCR in cooperation with the regions and parks, is responsible for issuing a guidance document for this agreement within 12 months of its execution. At the time of execution of this PA, the ADCR also holds the title of Federal Preservation Officer (FPO).

3. Regional Directors

The Regional Director is the line manager for all Superintendents within his/her region. The Regional Director is responsible for policy oversight, strategic planning, and direction for parks and programs within the region and reports to the Director through the NPS Deputy Director for Operations. Review and support of Park and Superintendent implementation of this PA and training to achieve Section 106 compliance is the responsibility of the Regional Director.

4. Regional Section 106 Coordinators

The Regional Section 106 Coordinators work with parks and other NPS offices to provide support for Section 106 compliance and implementation of this PA. The Regional Section 106 Coordinators provide guidance materials and technical assistance for implementing the PA and assist the parks to meet the training, reporting, and consultation requirements of the PA.

5. Superintendents

Superintendents are the responsible agency officials as defined in 36 CFR 800.2(a) for purposes of Section 106 compliance and the implementation of this PA.

Each Superintendent shall do the following within his/her park:

a. Designate a Park Section 106 Coordinator and a Cultural Resource Management (CRM) Team meeting the necessary qualifications;
b. Develop and maintain relationships with Federally recognized Indian Tribal governments and Native Hawaiian organizations (if applicable);
c. Develop and maintain relationships with SHPOs/THPOs;
d. Ensure early coordination among the Section 106 Coordinator, the CRM Team, and other park and regional staff, concessioners, park partners, neighboring communities, groups affiliated with park resources, and others in the planning of projects and activities that may affect historic properties;
e. Ensure that Section 106 consultation with the SHPO/THPO and other consulting parties is initiated early in the planning stages of any given undertaking, when the widest feasible range of alternatives is available for consideration;
f. Ensure that the Park Section 106 Coordinator, CRM Team Members and the park cultural resources staff receives the NHPA training needed to carry out their responsibilities. Provide opportunities for other involved staff to receive NHPA training as funding and opportunities permit.

6. Park Section 106 Coordinator

The Park Section 106 coordinator provides day-to-day staff support for Section 106 activities and serves as liaison among park personnel, the NPS Regional Office, NPS Centers, and others involved in undertakings. The coordinator makes recommendations to the Superintendent regarding the appropriate course of action under this PA, including whether a project constitutes a Section 106 undertaking.

7. Cultural Resource Management (CRM) Team

The CRM Team shall provide expertise and technical advice to the Superintendent and the Park Section 106 Coordinator for purposes of Section 106 compliance and implementation of this PA.

B. Qualifications

1. Park Section 106 Coordinator

The Superintendent shall designate at least one (1) person to act as the park's Section 106 Coordinator, whose Section 106 responsibilities are specified, as appropriate. The designee may be chosen from the park staff, other NPS parks, NPS archeological and preservation centers, and the NPS Regional Office. The Park Section 106 Coordinator shall have an appropriate combination of professional training and/or experience to effectively carry out the responsibilities of the position.

2. Cultural Resource Management (CRM) Team

The Superintendent shall designate a CRM Team with expertise to fulfill and implement the requirements of this PA, whose Section 106 responsibilities are specified, as appropriate.

a. Subject matter experts chosen must be appropriate to the resource types found in the park. Therefore, the number of individuals who comprise the CRM Team is not static and will be appropriate to include all necessary disciplines. Multi-disciplinary reviews of proposed undertakings are recommended.

b. CRM Team members may be on the park staff or in other parks, or from NPS Regional Offices, NPS Centers, Federally recognized Indian Tribes, Native Hawaiian organizations, or elsewhere in the public or private sector.

c. CRM Team members who are federal employees shall meet the qualifications for the applicable discipline as defined in Appendix E to NPS-28: Cultural Resource Management Guideline. CRM Team members who are representing Federally recognized Indian Tribes may be traditional cultural authorities, elders, and others experienced in the preservation of tribal culture. All other CRM team members, who are not federal employees or representing a Federally recognized Indian Tribe, must meet the Professional Qualification Standards in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation.

C. Training

Periodic training on Section 106 compliance issues and the provisions of this PA is needed to maintain an understanding of the requirements of each. Such training may be accessed through the NPS, the ACHP, SHPOs/THPOs, Indian Tribes, Native Hawaiian organizations, other Federal or state agencies or private industry. Training may be in a classroom setting, electronic media, meetings, or other formats that allow for the conveyance of information. The NPS Washington Office, in consultation with the NPS parks, regions, and training centers, will work with the ACHP and NCSHPO to establish options for training in accordance with this PA, within 12 months from the time of execution of this PA.

1. All Superintendents and Section 106 coordinators will be notified of the opportunity to receive training on the provisions of this programmatic agreement once it has been made available by the NPS Washington Office. The NPS ADCR will work with the Regional 106 coordinators to accomplish this training throughout the Regions and parks within 12 months of its availability.

2. Superintendents will report on Section 106 training received by Superintendents and park staff as part of the biennial report (Section VIII.B of this agreement).

II. CONSULTATION

A. Consultation with Federally Recognized Indian Tribes and, THPOs, and Native Hawaiian Organizations

Government-to-government consultation with Federally recognized Indian Tribes and consultation with Native Hawaiian organizations shall occur at the Superintendent level and be initiated during planning and prior to undertaking an activity, program or project that may affect historic properties of significance to Federally recognized Indian tribes or Native Hawaiian organizations. Maintaining an on-going consultative relationship with THPOs and/or staff of Federally recognized Indian Tribes and Native Hawaiian organizations is essential.

1. Consultation on Undertakings off Tribal Lands

   Superintendents shall identify, compile a list of, and consult with Federally recognized Indian Tribes, THPOs and Native Hawaiians that are known to have aboriginal lands within the park boundaries, assert an interest in historic properties within the park boundaries, or have lands or interest in lands adjacent to the park.

   a. Such consultation will be in accordance with 36 CFR 800.2(c)(2)(ii), NPS Director's Order 75A: Public Engagement and Public Involvement, and with Sections III and IV of this PA.
   b. Each Superintendent, with the assistance of park and Regional Office ethnographers, will be responsible for identifying aboriginal lands within the park boundary, working cooperatively with the appropriate Federally recognized Indian Tribes and Native Hawaiian organizations.
   c. Superintendents, in consultation with the Park Section 106 Coordinator and the CRM Team, shall establish a process and develop consultation agreements, where appropriate, that provide for early coordination between the park and Federally recognized Indian tribes, THPOs, and/or Native Hawaiian organizations in identification and evaluation of historic properties and the planning of projects and activities that may affect historic properties.
   d. Identification and evaluation of historic properties on aboriginal lands must be based upon consultation with the appropriate traditionally associated communities.

2. Consultation on Undertakings on Tribal Lands

   For those undertakings that either occur on tribal lands or will otherwise have the potential to affect historic properties on tribal lands, including cumulative impacts from collectively significant actions taking place over a period of time, the Superintendent shall consult with that tribe on the same basis as he or she consults with the SHPO.

a. Where the Tribe has assumed the SHPO's responsibility for Section 106 pursuant to Section 101(d)(2) of the NHPA, the Superintendent shall consult with the THPO in lieu of the SHPO, except as provided for in Section 101(d)(2)(D)(iii).

b. Where the Tribe has not assumed the SHPO's responsibility for Section 106, the Superintendent shall consult with the Tribe's designated representatives in addition to and on the same basis as the SHPO. The Tribe shall have the same rights of consultation and concurrence as the SHPO.

3. Applicability of this PA on Tribal Lands

When a park is located partly or wholly within the boundaries of tribal lands, and the tribe has not signed this PA as an Invited Signatory, any undertaking that may occur on those tribal lands shall require consultation with the Tribe and/or THPO in accordance with 36 CFR Part 800, and the provisions of this PA are not applicable.

A tribe may sign this PA by written notification to the Director of such intent, signed by the THPO, Indian tribe, or a designated representative of the tribe. Once such a written and signed notification is received by the Director, the provisions of this PA will be applicable to undertakings occurring on those lands where a park is located partly or wholly within the boundaries of that particular tribe's tribal lands.

4. Development of Agreements to Facilitate Government-to-Government Consultation with Federally recognized Indian Tribes and Consultation with Native Hawaiian Organizations

Development of consultation protocols, memoranda of agreement and programmatic agreements is encouraged. Such agreements may be negotiated between Superintendents and Federally recognized Indian Tribes, THPOs, or Native Hawaiian organizations and may be independent of or supplement this PA. For example, such agreements may be specific to a project, plan, or park activity, or may set forth specific consultation protocols between the park and a specific tribe or group of Native peoples. Superintendents will provide an informational copy of all agreements to the Regional Section 106 Coordinator and to the ACHP and appropriate SHPO/THPO in accordance with 36 CFR 800.2(c)(2)(ii)(E).

B. Consultation with SHPOs

Consultation with SHPOs on projects reviewed in accordance with the Standard Review Process will occur in accordance with the procedures set forth in Section IV of this PA. Consultation with SHPOs on implementation of this PA will occur biennially in accordance with Section VIII of this PA.

C. Consultation with Local Governments and Applicants for Federal Assistance, Licenses, Permits, and Other Approvals

Where appropriate, the Superintendent shall actively seek the views and comments of local governments and certified local governments. Those seeking Federal assistance, licenses, permits, or other approvals are entitled to participate as a consulting party as defined in 36 CFR 800.2(c)(4) and will be consulted, as applicable.

D. Consultation with the Public

Superintendents will consult with interested members of the public.

E. General Consultation Provisions

1. Section 110 Inventory of Historic Properties

   The parks implement a program to identify, evaluate, and, when appropriate, nominate historic properties to the National Register of Historic Places in accordance with Section 110(a)(2)(d) of the NHPA. Research and testing of all types of historic properties for purposes of identification and evaluation must be limited to the minimum necessary to obtain the required inventory and evaluative information. Early coordination on the identification and evaluation of historic properties should be undertaken with Federally recognized Indian Tribes or Native Hawaiian organizations, as appropriate, utilizing tribal knowledge and expertise wherever applicable. Knowledge and data from appropriate sources of expertise should be utilized, including SHPOs, local governments, Indian Tribes, Pacific Islanders, and national and local professional and scientific organizations. Inventory records should be periodically reviewed and updated, as necessary, to ensure data on historic properties, including condition information, is current, and any previous evaluations of significance remain accurate.

2. Information Sharing: Historic Property Inventories

   Parks, NPS Regional Offices, NPS Centers, and SHPOs will share information with each other regarding inventories of historic properties and historic contexts developed, as well as other reports and research results related to historic properties in the parks, whenever such studies become available. In addition, parks, NPS Regional Offices, and NPS Centers will make such information available to interested Federally recognized Indian Tribes, THPOs, and Native Hawaiian organizations. Federally recognized Indian Tribes who are signatories to this PA will, likewise, make such information available to NPS parks and Regional Offices, as appropriate. Information will be shared with the understanding that sensitive information will be withheld by the recipient of the information from public disclosure pursuant to Section 304 of NHPA and other applicable laws. Procedures for information sharing and format for information (i.e. electronic, hard copy, etc.) should be agreed upon between the parties.

3. Notification of Park Section 106 Coordinator

   The National Park Service will provide contact information on Section 106 coordinators to Indian Tribes, SHPOs/THPOs, and Native Hawaiian organizations for each park through the Regional Office from the Regional 106 Coordinator within six months of this PA and updated biennially.

4. Review and comment on guidance and training documents

   The ADCR will consult with the ACHP and NCSHPO in the development of training materials and guidance for this PA.

F. Development of Agreements to Facilitate Consultation

Development of consultation protocols, memoranda of agreement, and programmatic agreements is encouraged. Such agreements may be negotiated between Superintendents and organizations or governments and may be independent of or supplement this PA. For example, such agreements may be specific to a project, plan, or park activity, or may set forth specific consultation protocols between the park and a specific group, state, or local government. Superintendents will provide an informational copy of all agreements to the Regional Section 106 Coordinator and to the ACHP and appropriate SHPO/THPO in accordance with 36 CFR 800.2(c)(2)(ii)(E).

III. STREAMLINED REVIEW PROCESS

Where the Park Section 106 Coordinator determines the following criteria are met for a proposed undertaking, no further consultation is required unless otherwise specifically requested by the SHPO/THPO, Federally recognized Indian Tribe(s) or Native Hawaiian organization(s), or the ACHP.

A. Criteria for Using the Streamlined Review Process

All of the following criteria must be met in order to use the Streamlined Review Process:

1. The proposed undertaking must be an activity eligible for streamlined review, listed in Section III.C of this PA. These undertakings shall be known as "streamlined activities" for purposes of reference and replace the term "nationwide programmatic exclusions" set forth in the 1995 Programmatic Agreement between the NPS, the ACHP, and the NCSHPO; and

2. Identification and evaluation of all types of historic properties within the project area of potential effect (APE) must have been previously undertaken, sufficient to assess effects on those resources (with the exception of V.C (16)). Identification and evaluation of historic properties of religious and cultural significance to Indian tribes and Native Hawaiian organizations must be based upon consultation

with those entities. All properties within the APE must have previously been evaluated for eligibility to the National Register of Historic Places and the SHPO/THPO must have concurred with the eligibility determination. Inventory records should be periodically reviewed and updated, as necessary, to ensure data on historic properties, including condition information, is current, and any previous evaluations of significance remain accurate; and

3. The Section 106 Coordinator, in consultation with appropriate members of the CRM Team must have reviewed the project and certified that the effects of the proposed undertaking on historic properties on or eligible for the National Register will ***not be adverse*** based on criteria in 36 CFR 800.5, including consideration of direct, indirect, and cumulative effects. The Effect Finding must be "No Historic Properties Affected" or "No Adverse Effect".

B. Streamlined Review Process

1. *Evaluate Whether the Proposed Undertaking is Eligible for Streamlined Review:* The Park Section 106 Coordinator, in consultation with appropriate members of the CRM Team, determines whether the proposed undertaking is an activity listed as an undertaking eligible for streamlined review in Section III.C of this PA. If not, compliance for the undertaking must be accomplished through the Standard Review Process, outlined in Section IV of this PA.

2. *Identify the Undertaking's Area of Potential Effect (APE):* The Park Section 106 Coordinator, in consultation with members of the CRM Team with expertise in the appropriate discipline(s), determines the project's APE, taking into account direct, indirect, and cumulative effects.

3. *Identify Historic Properties within APE:* The Park Section 106 Coordinator, in consultation with members of the CRM Team with expertise in the appropriate discipline(s), identifies the location, number, and significance of historic properties within the APE. If properties are located within the APE that have not yet been documented or evaluated for eligibility for the National Register of Historic Places, or if the SHPO/THPO has not yet concurred with the eligibility determination, compliance for the undertaking must be accomplished through the Standard Review Process, outlined in Section IV of this PA.

4. *Evaluate Effect of Undertaking on Historic Properties in APE:* The Park Section 106 Coordinator, in consultation with members of the CRM Team with expertise in the appropriate discipline(s), evaluates the effect of the proposed undertaking and cumulative effects on historic properties, applying the Criteria of Adverse Effect set forth in 36 CFR 800.5(a)(1)

5. *Document Streamlined Review Process:* If, after following steps one through four (1-4) listed above, the Park Section 106 Coordinator determines no historic properties are within the APE, or the proposed undertaking would result in a

determination of "no historic properties affected" or "no adverse effect", no further consultation is required. The Park Section 106 Coordinator shall document the determination as follows:

a. The Streamlined Review process will be documented using the NPS "Assessment of Actions Having an Effect on Cultural Resources" form, or another appropriate format. Parks are encouraged to use Servicewide automated project planning and tracking systems, such as the NPS Planning, Environment and Public Comment (PEPC) system, to track and document Section 106 compliance activities.
b. Documentation will include the comments of each member of the CRM Team involved in the review process and the signature of the Superintendent. Electronic signatures are acceptable.
c. Documentation will be permanently retained by the Park Section 106 Coordinator for review by consulting parties and to facilitate the preparation of the Annual Report.
d. Annual Report: An annual report of all undertakings reviewed using the Streamlined Review process will be prepared by the Park Section 106 Coordinator, using existing and readily available data sources and reporting systems such as the NPS Planning, Environment and Public Comment (PEPC) system, for transmittal to the SHPO/THPO.

C. Undertakings Eligible for Streamlined Review

1. Preservation Maintenance and Repair of Historic Properties: The Streamlined Review Process is intended to be used for:

- Mitigation of wear and deterioration of a historic property to protect its condition without altering its historic character;
- Repairing when its condition warrants with the least degree of intervention including limited replacement in-kind;
- Replacing an entire feature in-kind when the level of deterioration or damage of materials precludes repair; and
- Stabilization to protect damaged materials or features from additional damage.

Use of the Streamlined Review Process is limited to actions for retaining and preserving, protecting and maintaining, and repairing and replacing in-kind, as necessary, materials and features, consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (Standards) and the accompanying guidelines.

Emergency stabilization, including limited replacement of irreparably damaged features or materials and temporary measures that prevent further loss of historic

material or that correct unsafe conditions until permanent repairs can be accomplished, may use the Streamlined Review Process. For archeological sites and cultural landscapes, the Streamlined Review Process may also be used for work to moderate, prevent, or arrest erosion.

If the project activities include ground disturbance, archeological monitoring may be appropriate throughout the ground disturbing activities, in accordance with any recommendation of the CRM Team. When monitoring is recommended, members of any appropriate Federally recognized Indian Tribes or Native Hawaiian organizations may be invited to participate in monitoring.

The Streamlined Review Process may be used for routine repairs necessary to continue use of a historic property, but it is not intended to apply to situations where there is a change in use or where a series of individual projects cumulatively results in the complete rehabilitation or restoration of a historic property. If an approved treatment plan exists for a given historic property (such as a historic structure report, cultural landscape report, or preservation maintenance plan), the proposed undertaking needs to be in accordance with that plan. This streamlined activity includes the following undertakings, as well as others that are comparable in scope, scale, and impact:

a. Removal of non-historic debris from an abandoned building.
b. Cleaning and stabilizing of historic structures, features, fences, stone walls, plaques, and cannons using treatment methods that do not alter or cause damage to historic materials.
c. Repainting in the same color as existing, or in similar colors or historic colors based upon an approved historic structure report, cultural landscape report, or a historic paint color analysis.
d. Removal of non-historic, exotic species according to Integrated Pest Management principles when the species threatens cultural landscapes, archeological sites, or historic or prehistoric structures.
e. Energy improvements limited to insulation in the attic or basement, and installation of weather stripping and caulking.
f. In-kind repair and replacement of deteriorated pavement, including, but not limited to, asphalt, concrete, masonry unit pavers, brick, and stone on historic roads, paths, trails, parking areas, pullouts, etc.
g. Repair or limited in-kind replacement of rotting floorboards, roof material, or siding. Limited in-kind replacement refers to the replacement of only those elements of the feature that are too deteriorated to enable repair, consistent with the Standards.
h. In-kind replacement of existing gutters, broken or missing glass panes, retaining walls, and fences.

2. Rehabilitation and/or Minor Relocation of Existing Trails, Walks, Paths, and Sidewalks: The Streamlined Review Process may be used for undertakings proposed on existing non-historic trails, walks, paths, and/or sidewalks that are

located within previously disturbed areas and do not exceed the depth of the previous disturbance. The Streamlined Review Process may also be used for undertakings proposed on existing historic trails, walks, paths, and/or sidewalks, provided that the proposed undertaking is conducted in accordance with an approved treatment plan (such as a historic structure report, cultural landscape report, or preservation maintenance plan).

If the project activities include ground disturbance, archeological monitoring may be appropriate throughout the ground disturbing activities, in accordance with any recommendation of the CRM Team. When monitoring is recommended, members of any appropriate Federally recognized Indian Tribes or Native Hawaiian organizations may be invited to participate in monitoring.

This streamlined activity includes the following undertakings, as well as others that are comparable in scope, scale, and impact:

a. In-kind regrading, graveling, repaving, or other maintenance treatments of all existing trails, walks and paths within existing disturbed alignments.
b. Minor realignment of trails, walks, and paths where the ground is previously disturbed as determined by a qualified archeologist.
c. Changing the material or color of existing surfaces using materials that are recommended in an approved treatment plan or in keeping with the cultural landscape.
d. Construction of water bars following the recommendations of an approved treatment plan or in keeping with the cultural landscape.

3. Repair/Resurfacing/Removal of Existing, Roads, Trails, and Parking Areas:

The Streamlined Review Process may be used as follows:

a. Existing roads, trails, parking areas, and associated features that have been determined not eligible for the National Register in consultation with the SHPO/THPO, may be repaired or resurfaced in-kind or in similar materials as long as the extent of the project, including staging areas, is contained within the existing surfaced areas. The repair or resurfacing cannot exceed the area of the existing road surface and cannot exceed the depth of existing disturbance.
b. Existing roads, trails, parking areas, and associated features, that have been determined eligible for the National Register in consultation with the SHPO/THPO, may be repaired or resurfaced in-kind. The project, including staging areas, cannot exceed the area of the existing surface and cannot exceed the depth of existing disturbance.
c. Existing surfaced areas may be expanded or new surfaces constructed if the extent of new surfacing can be demonstrated to occur on land that has been disturbed by prior excavation or construction and has been shown not to contain buried historic properties. New or expanded surface may not be

an addition to, or continuation of, existing surfaces that are listed in or eligible for the National Register and all project activities, including staging areas, must be located in non-historic areas to be eligible for streamlined review.

d. Existing surfaced areas may be removed if the surfaced area is not a historic property, it is not located within a historic property and all project activities, including staging areas, will occur on land that has been disturbed by prior excavation or construction and has been shown not to contain buried historic properties.

4. Health and Safety Activities: The Streamlined Review Process may be used for health and safety activities that do not require the removal of original historic elements or alteration of the visual character of the property or area.

If the project activities include ground disturbance, archeological monitoring may be appropriate throughout the ground disturbing activities, in accordance with any recommendation of the CRM Team. When monitoring is recommended, members of any appropriate Federally recognized Indian Tribes or Native Hawaiian organizations may be invited to participate in monitoring.

This streamlined activity includes the following undertakings, as well as others that are comparable in scope, scale, and impact:

a. Sampling/testing historic fabric to determine hazardous content, e.g. lead paint, asbestos, radon.
b. Limited activities to mitigate health and safety problems that can be handled without removal of historic fabric, surface treatments, or features that are character-defining elements, or features within previously disturbed areas or areas inventoried and found not to contain historic properties.
c. Testing of soil and removal of soil adjacent to buried tanks, provided the project does not exceed the area of existing disturbance and does not exceed the depth of existing disturbance, as determined by a qualified archeologist.
d. Removal of oil or septic tanks within previously disturbed areas or areas inventoried and found not to contain historic properties.
e. Removal of HAZMAT materials within previously disturbed areas or areas inventoried and found not to contain historic properties.
f. Safety activities related to black powder regulations.
g. Replacement of septic tanks and systems in previously disturbed areas, or areas inventoried and found not to contain historic properties.
h. Common pesticide treatments.
i. Removal of both natural and anthropogenic surface debris following volcanic activity, tropical storms, hurricanes, tornados, or similar major weather events, provided removal methods do not include ground disturbance or otherwise cause damage to historic properties.

5. Routine Grounds Maintenance: The Streamlined Review Process may be used for routine grounds maintenance activities. If an approved treatment plan exists for a given historic property (such as a historic structure report, cultural landscape report, or preservation maintenance plan), the proposed undertaking needs to be in accordance with that plan.

   If the project activities include ground disturbance, archeological monitoring may be appropriate throughout the ground disturbing activities, in accordance with any recommendation of the CRM Team. When monitoring is recommended, members of any appropriate Federally recognized Indian Tribes or Native Hawaiian organizations may be invited to participate in monitoring.

   This streamlined activity includes the following undertakings, as well as others that are comparable in scope, scale, and impact:

   a. Grass replanting in same locations with approved species.
   b. Woodland and woodlot management (including tree trimming, hazard tree removal, thinning, routine removal of exotic species that are not a significant component of a cultural landscape, stump grinding).
   c. Maintaining existing vegetation on earthworks, trimming trees adjacent to roadways and other historic roads and trails.
   d. Routine maintenance of gardens and vegetation within cultural landscapes with no changes in layout or design.
   e. Routine grass maintenance of cemeteries and tombstones with no tools that will damage the surfaces of stones (i.e. weed whips).
   f. Trimming of major specimen trees needed for tree health or to address critical health/safety conditions.
   g. Routine roadside and trail maintenance and cleanup with no ground disturbance.
   h. Planting of non-invasive plant species in non-historic areas.
   i. Removal of dead and downed vegetation using equipment and methods that do not introduce ground disturbance.
   j. Replacement of dead, downed, overgrown, or hazard trees, shrubs, or other vegetation with specimens of the same species.
   k. Replacement of invasive or exotic landscape plantings with similar non-invasive plants.
   l. Routine lawn mowing, leaf removal, watering, and fertilizing.
   m. Routine orchard maintenance and pruning.

6. Battlefield Preservation and Management: The Streamlined Review Process *may be used only if* the park has approved planning documents (General Management Plan, cultural landscape report, treatment plan) that specify preservation and management protocols for the subject battlefield.

If the project activities include ground disturbance, archeological monitoring may be appropriate throughout the ground disturbing activities, in accordance with any recommendation of the CRM Team. When monitoring is recommended, members of any appropriate Federally recognized Indian Tribes or Native Hawaiian organizations may be invited to participate in monitoring.

Consistent with that plan(s), activities include:

a. Maintenance and preservation work limited to retaining, protecting, repairing, and replacing in-kind materials and features that contribute to the National Register significance of the battlefield landscape.
b. Earthworks maintenance to prevent erosion and ensure preservation of existing profile, based on current and accepted practices identified in "Sustainable Military Earthworks Management" found on the NPS Cultural Landscape Currents website.
c. Removal of hazard trees with no ground disturbance and with use of stump grinding provided the grinding is limited to the diameter of the stump and a depth of no greater than 6 inches.
d. Repairing eroded or damaged sections of earthworks in-kind following archeological documentation and recordation in appropriate NPS inventory and management databases resulting in complete, accurate, and reliable records for those properties.
e. Maintaining a healthy and sustainable vegetative cover.

7. Hazardous Fuel and Fire Management: The Streamlined Review Process *may be used only if* the park has an approved fire management plan or forest management plan.

If the project activities include ground disturbance, archeological monitoring may be appropriate throughout the ground disturbing activities, in accordance with any recommendation of the CRM Team. When monitoring is recommended, members of any appropriate Federally recognized Indian Tribes or Native Hawaiian organizations may be invited to participate in monitoring.

Following completion of activities under this section, post-burn inspection and monitoring should be conducted by a qualified archeologist to ensure no archeological sites were impacted or previously unknown sites revealed.

Consistent with the approved fire management plan or forest management plan, this streamlined activity includes the following undertakings, as well as others that are comparable in scope, scale, and impact:

a. Removal of dead and downed vegetation, outside of historic districts, cultural landscapes, and archeological sites, using equipment and methods that do not introduce ground disturbance beyond documented natural or historic disturbance.

b. Removal of dead and downed vegetation, as well as trees and brush located within historic properties, if the vegetation does not contribute to the significance of the historic property and equipment and methods are used that do not introduce ground disturbance beyond documented natural or historic disturbance.
c. Forest management practices, including thinning of tree stands, outside of historic districts, cultural landscapes, and archeological sites, using equipment and methods that do not introduce ground disturbance beyond documented natural or historic disturbance.
d. Restoration of existing fire line disturbances, such as hand lines, bulldozer lines, safety areas, helispots, and other operational areas.
e. Slope stabilization, to include reseeding with native seeds, replanting with native plants and/or grasses, placement of straw bales, wattles, and felling of dead trees when the root ball is left intact and in situ.

8. Installation of Environmental Monitoring Units: The Streamlined Review Process may be used for the placement of small-scale, temporary or permanent monitoring units, such as weather stations, termite bait stations, water quality, air quality, or wildlife stations, in previously disturbed areas, as determined by a qualified archeologist, or areas inventoried and found not to contain historic properties. Borings must be limited to pipes less than 2 inches in diameter and surface samples to less than 12 inches in size and minimal in number.

9. Maintenance or Replacement of Non-Historic Utility Lines, Transmission Lines, and Fences: If the project activities include ground disturbance, archeological monitoring may be appropriate throughout the ground disturbing activities, in accordance with any recommendation of the CRM Team. When monitoring is recommended, members of any appropriate Federally recognized Indian Tribes or Native Hawaiian organizations may be invited to participate in monitoring.

This streamlined activity includes the following undertakings, as well as others that are comparable in scope, scale, and impact:

a. Maintenance or replacement of buried linear infrastructure in previously disturbed areas. The area of previous disturbance must be documented by a qualified archeologist and must coincide with the route of the infrastructure in its entirety.
b. Replacement of non-historic materials, provided the undertaking will not impact adjacent or nearby historic properties and is not located in a historic property, or visible from an above-ground historic property.
c. Maintenance or replacement of infrastructure, such as old water distribution systems, that has been determined to be not eligible for the National Register, in consultation with the SHPO/THPO.
d. Maintenance of above-ground infrastructure.

e. Replacement of above-ground infrastructure provided the undertaking is not located in a historic property or visible from an above-ground historic property.
f. Enhancement of a wireless telecommunications facility, including the updating of mechanical equipment, provided the activities do not involve excavation nor any increase to the size of the existing facility.

10. Erection of Signs, Wayside Exhibits, and Memorial Plaques: If an approved treatment plan exists for a given historic property (such as a historic structure report, cultural landscape report, or preservation maintenance plan), the proposed undertaking needs to be in accordance with that plan. If the project activities include ground disturbance, archeological monitoring may be appropriate throughout the ground disturbing activities, in accordance with any recommendation of the CRM Team. When monitoring is recommended, members of any appropriate Federally recognized Indian Tribes or Native Hawaiian organizations may be invited to participate in monitoring.

This streamlined activity includes the following undertakings, as well as others that are comparable in scope, scale, and impact:

a. Replacement of existing signage in the same location with similar style, scale and materials.
b. New signs that meet NPS standards, e.g. at entrance to the park or related to the park's interpretive mission, provided the sign is not physically attached to a historic building, structure, or object (including trees) and the sign is to be located in previously disturbed areas or areas inventoried and found not to contain historic properties.
c. Replacement of interpretive messages on existing signs, wayside exhibits, or memorial plaques.
d. Small developments such as paved pads, benches, and other features for universal access to signs, wayside exhibits, and memorial plaques in previously disturbed areas or areas inventoried and found not to contain historic properties.
e. Temporary signage for closures, repairs, detours, safety, hazards, etc. in previously disturbed areas or areas inventoried and found not to contain historic properties.
f. Memorial plaques placed within established zones that allow for such placement.

11. Culvert Replacement: The Streamlined Review Process may be used when culvert replacement will occur within existing cut and fill profiles, and:

a. The existing culvert and/or associated road, rail bed, or cultural landscape has been determined not eligible for the National Register, either individually or as a contributing element to a historic district or cultural landscape, in consultation with the SHPO/THPO; or

b. The existing culvert is less than 50 years old.

12. Reburial of Human Remains and Other Cultural Items Subject to the Native American Graves Protection and Repatriation Act (NAGPRA): The Streamlined Review Process may be used for the reburial of human remains and other cultural items subject to NAGPRA. The Streamlined Review Process may only be used when:

a. The reburial is in previously disturbed areas and does not introduce ground disturbance beyond documented disturbance; or
b. The reburial is in previously inventoried areas found to not contain historic properties.

Any reburial in NPS-administered areas must be in conformance with NPS policies on cemeteries and burials including cultural resource policies.

13. Meeting Accessibility Standards in Historic Structures and Cultural Landscapes: The Streamlined Review Process may only be used for the following undertakings intended to meet accessibility standards:

a. Reconstruction or repair of existing wheel chair ramps and sloped walkways provided the undertaking does not exceed the width or depth of the area of previous disturbance.
b. Upgrading restroom interiors in historic structures within existing room floor area to achieve accessibility, unless the historic features and/or fabric of the restroom contribute to the historic significance of the structure.

14. Mechanical, Electrical and Plumbing Systems: The Streamlined Review Process may be used as follows for activities related to mechanical, electrical, and plumbing systems. Such systems may include HVAC systems, fire detection and suppression systems, surveillance systems, and other required system upgrades to keep park lands and properties functional and protected.

a. Park areas, landscapes, buildings, and structures that have been determined not eligible for the National Register in consultation with the SHPO/THPO, may undergo installation of new systems or repair/ upgrading of existing systems in accordance with the Streamlined Review Process.
b. Properties that have been determined eligible for the National Register in consultation with the SHPO/THPO may undergo limited upgrading of mechanical, electrical, and plumbing systems. However, the Streamlined Review Process may not be used for the installation of new systems or complete replacement of these systems. If proposed activities include the removal of original historic elements or alter the visual character or the property's character-defining materials, features, and spaces, then the Streamlined Review Process may not be used.

c. If the project activities include ground disturbance, archeological monitoring may be appropriate throughout the ground disturbing activities, in accordance with any recommendation of the CRM Team. When monitoring is recommended, members of any appropriate Federally recognized Indian Tribes or Native Hawaiian organizations may be invited to participate in monitoring.

15. Acquisition of Lands for Park Purposes: The Streamlined Review Process may be used for the acquisition of land for park purposes, including additions to existing parks. The second criterion for use of the Streamlined Review Process (identification and evaluation of all types of historic properties within the project APE; see Section III.A.2) does not apply to this activity, provided the acquisition does not include any further treatment or alteration of properties, since access to land for inventory and evaluation prior to NPS acquisition may be limited. Any known or potential historic properties on the land acquired should be protected from demolition by neglect. Pursuant to 36 CFR 800.5(a)(2)(vi), demolition by neglect constitutes an adverse effect. If any undertakings are proposed in conjunction with the acquisition that have the potential to affect historic properties, the Streamlined Review Process may not be used.

16. Leasing of Historic Properties: The Streamlined Review Process may be used provided all treatment of historic properties proposed in relation to the leasing action is consistent with undertakings eligible for Streamlined Review, set forth in Section III.C of this PA. The Streamlined Review Process may not be used where there is a change of use or where a series of individual projects cumulatively results in the complete rehabilitation or restoration of a historic property.

D. Adding to List of Undertakings Eligible for Streamlined Review

Any proposed additions or revisions to the list of undertakings eligible for streamlined review must be developed through a region-, state- or park-specific Programmatic Agreement and pursuant to 36 CFR 800.14(b). The Regional Director or Superintendent, as appropriate, will develop such agreements with SHPOs/THPOs, in consultation with Federally recognized Indian Tribes and the ACHP or others, as appropriate. If such an agreement is developed by the Superintendent, s/he will notify the Regional Director. Regional Directors will report the development of supplemental, region-, state-, or park-specific programmatic agreements to the Director on an annual basis. The NPS FPO will maintain records on supplemental agreements and provide annual notification of any such agreements to all signatories to this agreement.

IV. STANDARD REVIEW PROCESS

All undertakings that do not qualify for streamlined review as described in Section III above, will be reviewed in accordance with 36 CFR Part 800. Superintendents are responsible for compliance with these regulations. Compliance may also be accomplished through park- and/or project-specific programmatic agreements. Specific activities required will be undertaken by the

Park Section 106 Coordinator, in consultation with appropriate members of the CRM Team. Parks are encouraged to use Servicewide automated project planning and tracking systems, such as the NPS Planning, Environment and Public Comment (PEPC) system, to track and document Section 106 compliance activities and to make such automated systems accessible to compliance partners, including SHPOs/THPOs, Federally recognized Indian Tribes, Native Hawaiian organizations, and/or the ACHP. If a park executes a MOA or PA with consulting parties to resolve adverse effects, the Superintendent will provide an informational copy of the agreement to the Regional Section 106 Coordinator.

V. NATIONAL HISTORIC LANDMARKS

The NHPA provides heightened protection for designated National Historic Landmarks (NHLs) through Section 110(f) and the NHPA's implementing regulations (36 CFR 800.10). Specifically, the NHPA requires that Federal agencies shall, to the maximum extent possible, undertake planning and actions necessary to minimize harm to any NHL that may be directly and adversely affected by an undertaking.

Where the other criteria as listed in Section III.A are met, proposed undertakings that may affect a designated NHL may follow the Streamlined Review Process. Where preliminary planning activities indicate that a proposed undertaking has the potential to have an adverse effect on an NHL, prior to initiating a formal consultation process, the Superintendent will initiate an internal review process in accordance with NPS Management Policies to determine alternatives to avoid or minimize the adverse effects and to assess the possibility of impairment.

VI. INADVERTENT DISCOVERIES

In the event that historic properties are inadvertently encountered during an undertaking for which review has been previously conducted and completed under Section III or Section IV of this PA, or through other events such as erosion or animal activity, the Superintendent will notify the SHPO/THPO, Federally Recognized Indian Tribe(s), and or Native Hawaiian organization, as appropriate, within 48 hours, or as soon as reasonably possible. The Superintendent in consultation with the Section 106 Coordinator and the appropriate members of the CRM Team, will make reasonable efforts to avoid, minimize, or mitigate adverse effects on those historic properties in consultation with the SHPO/THPO, Federally recognized Indian Tribe (s), and/or Native Hawaiian organization (s), as appropriate. If human remains or other cultural material that may fall under the provisions of NAGPRA are present, the Superintendent will comply with NAGPRA and ARPA. The Superintendent will ensure that any human remains are left in situ, are not exposed, and remain protected while compliance with NAGPRA, ARPA, or other applicable federal, state, and/or local laws and procedures is undertaken.

VII. EMERGENCY ACTIONS

Emergencies are those actions deemed necessary by the Superintendent as an essential and immediate response to a disaster or emergency declared by the President, a tribal government, or the Governor of a State, or another immediate threat to life or property. Emergency actions are only those actions required to resolve the emergency at that time and they are limited to undertakings that will be started within thirty (30) days after the emergency has been declared. Such emergency actions will be consistent with the NPS Environmental Safeguards Plan for All-Hazards Emergencies and any other approved servicewide emergency response plans. The Superintendent will notify the SHPO/THPO within 24 hours of the declared emergency or as soon as conditions permit.

VIII. REVIEW AND MONITORING OF PA IMPLEMENTATION

The purpose of the PA review and monitoring process is to ensure NPS protection of historic properties in its stewardship. This is accomplished through the review of undertakings that were completed during the reporting period, review of programmed undertakings, review of implementation of the PA, and review of completion of training requirements.

A. Superintendents Biennial Review and Monitoring Meeting

In order to foster cooperative relations, each Superintendent will, at a minimum, invite consulting parties to a review meeting every two years (biennial), with the first meeting initiated within six months of the signing of this PA by all parties. If all parties agree that such a meeting is not necessary at that time, the meeting may be waived. However, Superintendents shall remain responsible for initiating biennial meetings in subsequent years. More frequent meetings may be appropriate based on specific park circumstances and therefore an alternative meeting schedule may be established, if mutually agreed upon by the parties.

1. Meetings may be conducted in any mutually agreeable location and/or format, including in- person, video conferencing or teleconferencing.

2. The primary invitees to each park's biennial review and monitoring meeting will include the applicable SHPO/THPO, Federally recognized Indian Tribes, and Native Hawaiian organizations with an interest in that park's properties. Superintendents may also consider inviting other interested parties, including Pacific Islanders, concessioners, lessees, friends groups, historic societies, or gateway communities, as appropriate.

3. Superintendents may instead choose to meet individually with some parties, particularly those that have strong interest in specific historic properties.

4. Attendance and meeting minutes will be recorded and distributed to all invited parties after the conclusion of the meeting.

5. Specific discussion items may include the following:

   a. Any documentation pursuant to this PA.
   b. Any inventories of historic properties developed in the previous two years, or opportunities for future inventory and research, as well as other reports and research results related to historic properties.
   c. Programmed undertakings that are scheduled, or are likely to be scheduled, for the next two fiscal years.
   d. Provisions of this PA as well as any project- or program-specific Memoranda of Agreement or Programmatic Agreements.
   e. Training received by park staff during the reporting period and opportunities for cooperative training arrangements.
   f. Names of and contact information for the Park Section 106 Coordinator and the CRM Team Members.

B. Superintendents Reporting to NPS Regional Directors

In order to inform park program review and potential ACHP evaluation of PA implementation, Superintendents will report biennially to Regional Directors on implementation of the PA. The Biennial Report shall include the streamlined review data prescribed in Section III B of this PA, training completed and basic data demonstrating compliance with the provisions of this PA as outlined in the guidance document for this agreement (Section I.A.2). ACHP, SHPOs, or THPOs may request hard copies of biennial reports.

C. Park Section 106 Program Review by NPS Regional Directors, SHPOs, THPOs, and the ACHP

1. The Regional Director may, at his/her discretion, initiate a review of a park's implementation of this PA. The ACHP, either at its own discretion, or upon request of a Federally recognized Indian Tribe, SHPO/THPO, or Native Hawaiian organization, may at any time raise with the appropriate Regional Director any programmatic or project matters where they wish the Regional Director to review a Park Superintendent's Section106 decisions. The Regional Director will consult with the ACHP, and the Regional Director shall provide a written response to the ACHP, and where applicable, the SHPO or THPO, that documents the outcome of the consultation and the resolution. The Regional Director has the option to suspend a park's use of this PA, and subsequently reinstate it as appropriate.

2. Documentation of NPS Section106 reviews not already provided to SHPOs, THPOs, and the ACHP will be available for review by the ACHP and the appropriate SHPO/THPO upon request. Individual SHPOs/THPOs who wish to review this documentation are responsible for specifying scheduling, frequency, and types of undertakings of concern to them.

D. NPS Regional Directors Reporting to the Director of the NPS

Regional Directors will report biennially to the Director on implementation of this PA within his/her region. Each Regional Biennial Report will be submitted within six (6) months following receipt of Park Biennial Reports by the Regional Director as required in Section VIII.B of this PA. A hardcopy of the biennial reports will be sent to the ACHP and upon request from a SHPO or THPO.

IX. SUBSEQUENT AGREEMENTS

A. Upon execution of this PA, Superintendents are encouraged to evaluate their park's programs and discuss with SHPOs/THPOs, Federally recognized Indian Tribes, Native Hawaiian organizations, and/or the ACHP ways to develop supplemental programmatic agreements for park undertakings that would otherwise require numerous individual requests for comments.

B. Development of programmatic agreements specific to a project, plan, or park may be negotiated between Superintendents and SHPOs/THPOs, Federally recognized Indian Tribes, Native Hawaiian organizations, the ACHP, and/or other consulting parties where appropriate, pursuant to 36 CFR 800.14(b), and may be independent of or supplement this PA. Superintendents will provide an informational copy of all agreements to the Regional Section 106 Coordinator.

C. Memoranda of agreement developed to resolve adverse effects for specific projects shall be negotiated between Superintendents and SHPOs/THPOs, Federally recognized Indian Tribes, Native Hawaiian organizations, and/or the ACHP, pursuant to 36 CFR 800.6(c), and shall be independent of this PA Superintendents will provide an informational copy of all agreements to the Regional Section 106 Coordinator.

X. DISPUTE RESOLUTION

A. Should disputes arise, the Superintendent, SHPO/THPO, and/or the ACHP will consult with the objecting parties to resolve the objection. All work that is the subject of the dispute will stop until the dispute is resolved in accordance with the procedures in this section. If the dispute cannot be resolved, all documentation relevant to the dispute will be forwarded to the parties named above. If the SHPO/THPO objects to a Park Superintendent's decision, the information will be forwarded to the Regional Director. If the National Park Service objects to the SHPO/THPO's opinion, the information will be forwarded to the ACHP. If the Regional Director cannot resolve a SHPO/THPO objection, the Regional Director will forward to the ACHP relevant documentation not previously furnished to the ACHP and notify the Director of the dispute. Within thirty (30) days after receipt of all pertinent documentation, the ACHP will either:

1. Provide the Regional Director with a recommendation, with an information copy provided to the Director, which the Regional Director will take into account in reaching a final decision regarding the dispute; or

2. Notify the Regional Director that it will comment to the Director pursuant to the provisions of 36 CFR 800.7 and proceed to comment. Any ACHP comment provided in response to such a request will be taken into account by the NPS with reference to the subject of the dispute.

B. In the event the ACHP does not respond within thirty (30) days of receipt of all pertinent documentation, the Regional Director may proceed with his or her recommended resolution.

C. At the request of any individual, agency, or organization, the ACHP may provide the NPS with an advisory opinion regarding the substance of any finding, determination, or decision made in accordance with this PA or regarding the adequacy of the NPS' compliance with Section 106 and this PA.

XI. MONITORING AND TERMINATION

A. The NPS will convene a meeting of the signatories to this PA within two (2) years of execution of the PA and as needed thereafter, to review implementation of the terms of this PA and determine whether revisions or amendments are needed. Meetings may be conducted in any mutually agreeable location and/or format, including in-person, video conferencing, or teleconferencing. If revisions or amendments are needed, the parties will consult in accordance with 36 CFR 800.14.

B. This PA may be amended when such an amendment is agreed to in writing by all signatories. When major revisions are proposed to NPS policies that will affect the manner in which the NPS carries out its Section 106 responsibilities, the signatories shall consult to determine whether an amendment to this PA is needed. Any amendments will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

C. Any party to this PA may terminate it by providing ninety (90) days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. Termination by any Federally recognized Indian Tribe signatory will be limited to termination of this PA on the tribal lands of the subject tribe. In the event of termination, the NPS will comply with 36 CFR Part 800 with regard to individual undertakings otherwise covered by this PA.

XII. SEVERABILITY

A. If any section, subsection, paragraph, sentence, clause, or phrase in this PA is, for any reason, held to be unconstitutional or invalid or ineffective, such decision shall not affect the validity or effectiveness of the remaining portions of this PA.

B. If any section, subsection, paragraph, sentence, clause, or phrase in this PA is, for any reason, held to be unconstitutional or invalid or ineffective, the signatories shall consult to determine whether an amendment to this PA is needed.

XIII. ANTI-DEFICIENCY ACT STATEMENT

The stipulations of this Agreement are subject to the provisions of the Anti-Deficiency Act (31 U.S.C. 1341 (1998). If compliance with the Anti-Deficiency Act alters or impairs NPS ability to implement the stipulations of this Agreement, NPS will consult in accordance with the dispute resolution, amendment or termination stipulations as specified in Sections X and XI of this PA.

ADVISORY COUNCIL ON HISTORIC PRESERVATION

BY:_____ DATE: 11/14/08
CHAIRMAN

NATIONAL PARK SERVICE

BY: Mary A. Bomar DATE: 11/14/08
DIRECTOR

NATIONAL CONFERENCE OF STATE HISTORIC PRESERVATION OFFICERS

BY: Jay D. Vogt DATE: 11-14-2008
PRESIDENT

PROGRAMMATIC AGREEMENT AMONG THE NATIONAL PARK SERVICE AT YOSEMITE, THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION REGARDING PLANNING, DESIGN, CONSTRUCTION, OPERATIONS AND MAINTENANCE, YOSEMITE NATIONAL PARK, CALIFORNIA.

WHEREAS, the National Park Service (NPS) at Yosemite National Park (YOSE) has determined that planning, design, construction, operations and maintenance may have an effect on properties included in, or eligible for inclusion in, the National Register of Historic Places, and has consulted with the California State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (Council) pursuant to Section 800.13 of the regulations (36 CFR Part 800), implementing Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470f; hereinafter NHPA); and

WHEREAS, the NPS, the Council, and National Conference of State Historic Preservation Officers (NCSHPO) executed a Nationwide Programmatic Agreement on July 17, 1995 that establishes a framework for taking historic properties into account and is supplemented by this agreement; and

WHEREAS, the NPS completed a 1980 General Management Plan (GMP) that provides the management direction for YOSE; and

WHEREAS, the NPS, SHPO and Council executed a November 1, 1979, Memorandum of Agreement that is still in effect to cover actions specified in the 1980 GMP; and

WHEREAS, a Concessions Services Plan and a Yosemite Valley Plan exist or are underway to implement proposals of and amend the 1980 General Management Plan; and

WHEREAS, the NPS has on staff or has access to qualified cultural resource specialists who meet, at a minimum, the appropriate qualifications set forth in the Department of the Interior's "Professional Qualifications Standards" (36 CFR Part 61, Appendix A) to carry out programs for cultural resource management. These include cultural resource management advisors described in Stipulation III (C)(3) of the nationwide programmatic agreement; and

WHEREAS, the terms in 36 CFR Section 800.2 "Definitions" are applicable throughout this Programmatic Agreement, including "Historic Property" to mean any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion in, the National Register of Historic Places. Historic Properties include artifacts and

remains that are related to and located within such properties, cultural landscapes, as defined in National Register Bulletins 18 and 30, and traditional cultural properties, as defined in National Register Bulletin 38. "Indian Tribes" refers to American Indian tribes, bands, organized groups, or communities recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians, and who are culturally affiliated with YOSE lands and resources; and

WHEREAS, YOSE has consulted with Indian Tribes (American Indian Council of Mariposa County, Inc., the Tuolumne Me-Wuk Tribal Council, the Mono Lake Indian Community, the Bridgeport Paiute Tribe, the Chukchansi Nation, the Northfork Mono Rancheria and the Northfork Mono Indian Museum) and has provided these parties the opportunity to participate in the development of, and to concur in the terms of, this Agreement; and

WHEREAS, YOSE has consulted with the National Trust for Historic Preservation (National Trust) and has invited the National Trust to concur in this agreement; and

WHEREAS, YOSE has notified the public of the formulation of this agreement and provided them an opportunity to comment;

NOW, THEREFORE, the NPS, SHPO, and Council agree that YOSE shall carry out its responsibilities under the NHPA, as amended, for those undertakings/actions specified in Stipulation II below.

STIPULATIONS

YOSE shall ensure that the following measures are carried out:

I. POLICY

YOSE shall manage and preserve the historic properties of the park through undertakings and research, consistent with good management and stewardship. These efforts are, and will remain, in keeping with the NHPA, the National Environmental Policy Act of 1969 (NEPA), and other applicable laws, executive orders, regulations and policies. YOSE shall implement its programs with public review and in consultation with other federal agencies, the SHPO, Indian Tribes, city and county governments and their respective authorities, as appropriate.

A. Guidelines, standards, and regulations that are relevant to this Agreement and that shall provide guidance and performance standards for management of historic properties include:

NPS/ACHP	The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act [Section 110 Guidelines]
ACHP	Treatment of Archeological Properties: A Handbook
FHWA	Manual for Uniform Traffic Control Services
NPS	Maintenance Management Program, Operations Manual, Parts 1&2
NPS	Museum Handbook, Parts 1&2
NPS	Director's Order 2: Park Planning
NPS-6	Interpretive and Visitor Services Guidelines
NPS-12	NEPA Compliance Guidelines
NPS-28	Cultural Resource Management Guideline
NPS-38	Historic Property Leasing Guidelines
NPS-76	Housing Design and Rehabilitation Guidelines
USDI	Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines
USDI	The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings
USDI	The Secretary of the Interior's Standards for Historic Preservation Projects with Guidelines for Applying the Standards
USDI	The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes
US	Uniform Federal Accessibility Standards (49 FR 31528-31617)
US	Americans with Disabilities Act Accessibility Guidelines (56 FR 45731-45778)
US	Native American Graves Protection and Repatriation Act Regulations: Final Rule (43 CFR Part 10)

As needed, additional guidelines may be developed for the built or designed landscapes of YOSE. Proposed new guidelines developed by YOSE shall be submitted to the SHPO for review and comment. The SHPO shall have 30 days after receiving the proposed guidelines to respond to specific treatments described in the guidelines.

B. YOSE shall use the following Cultural Resource Identification and Professional or Technical Plans and Studies in management:

NPS	YOSE Hazard Tree Plan
NPS	YOSE Fire Management Plan
NPS	YOSE Wilderness Management Plan
NPS	YOSE Resource Management Plan
NPS	YOSE Archeological Synthesis and Research Design
NPS	Cultural Landscape Report, Yosemite Valley
NPS	Ethnographic Evaluation of Yosemite Valley, the Native American Cultural Landscape

NPS	Historic Resource Study, Yosemite National Park
NPS	List of Classified Structures, YOSE
NPS	Wilderness Historic Resource Study
NPS	Archeological Inventory, Testing, Data Recovery and Monitoring Reports
NPS	Ethnographic Studies
NPS	YOSE Interpretive Prospectus

II. APPLICABILITY

This agreement is applicable to all individual actions relating to:

A. Routine maintenance and park operations

B. Individual actions proposed in the 1980 General Management Plan, that will be attached in Appendix C, and individual actions proposed in implementing plans including, but not limited to:

- 1992 Concessions Services Plan
- Yosemite Valley Plan (in preparation)

C. Design projects

D. Specific management plans

III. SCOPE OF AGREEMENT

A. This Agreement applies to undertakings at YOSE that have not been covered by previous agreements, and that are under the direct or indirect supervision of the NPS including undertakings performed by NPS lessees, permittees, concessionaires, cooperators and park partners.

B. The NPS shall ensure that the lessees, permittees, concessionaires, cooperators and park partners are notified that they are subject to the terms of this Agreement.

IV. RELATIONSHIP TO OTHER PLANS

A. This Agreement incorporates provisions of, but does not supersede, the 1979 MOA executed for the 1980 GMP. Provisions of that agreement will continue to be implemented as written.

B. This Agreement supplements the 1995 Nationwide Programmatic Agreement among the NPS, the Council, and the National Conference of State Historic Preservation Officers.

V. PARTICIPATION OF INDIAN TRIBES

A. YOSE shall consult with Indian Tribes in such a manner as to meaningfully involve them in decisions affecting resources of concern.

B. Within one year of the execution of this Agreement, YOSE shall develop an agreement that sets forth the process by which Indian Tribes will be involved in considering the impacts of undertakings on Historic Properties at YOSE that are of interest to them. This protocol will:

1. Define when consultation between the YOSE and tribes is necessary
2. Identify individuals or offices directly involved in the consultation process
3. Outline key elements of the consultation process
4. Outline the process to be followed in case of inadvertent discovery of human remains or other items subject to the NAGPRA

C. Until this agreement is in place, YOSE shall continue to consult with Indian Tribes according to 36 CFR Part 800 and, when appropriate, the provisions of NAGPRA.

VI. PUBLIC PARTICIPATION

A. YOSE shall consult with the signatories to this Agreement and with other Interested Parties or Persons to determine if there are organizations or individuals that may be concerned with actions described in Stipulation VIII below, and shall provide notice to the public of the undertakings subject to the stipulations of this Agreement through the public participation process of the National Environmental Policy Act (NEPA) and its implementing regulations set forth in 40 CFR Parts 1500-1508. Any member of the public may participate as an Interested Person in the consultation for a particular action upon notifying YOSE of their interest. YOSE, SHPO and Council, if participating, shall jointly determine when such Interested Persons shall be invited to participate as a consulting party for individual undertakings in accordance with 36 CFR Section 800.5(e)(1)(iv). YOSE shall take into account the views of such parties regarding any adverse effect of an undertaking described in Stipulation VIII below.

B. Documentation regarding identification and National Register evaluation of historic properties, when not subject to confidentiality concerns, will be available for inspection at YOSE, SHPO, or NPS Pacific West Regional Office.

VII. CONSIDERATION OF HISTORIC PROPERTIES

Pursuant to the NHPA and in the earliest stages of the planning process, YOSE shall identify, evaluate, determine effects to, and treat historic properties in conformance with all applicable regulations, policies and guidelines listed in Stipulation I above.

A. Identification

1. YOSE shall consult with Indian Tribes and Interested Persons, as appropriate, on activities to locate and inventory Historic Properties, in accordance with Section 110 of the NHPA, and 36 CFR Section 800.4 .

2. If no Historic Properties are identified, YOSE shall maintain documentation of the inventory for purposes of review under Stipulation XVIII and no further action will be necessary.

3. If Historic Properties are identified, and consistent with any confidentiality protocols provided by the Tribe(s) and/or described in Section 304, NHPA, all final reports resulting from the Historic Properties surveys stipulated above shall be submitted to SHPO.

B. National Register Evaluation

1. YOSE, in consultation with SHPO, shall follow the procedures in 36 CFR Section 800. 4 (c) (1 through 3) to evaluate the historical significance of all properties that may be affected by an undertaking. If YOSE and SHPO do not agree on the National Register eligibility of any property, or if the Council so requests, YOSE shall obtain a formal determination of eligibility from the Keeper of the National Register pursuant to 36 CFR Section 800.4 (c) (4). If SHPO does not respond within the review period described in Stipulation IX below, YOSE may assume SHPO concurrence with YOSE determinations.

2. As part of the 1980 GMP planning process, NPS evaluated and SHPO concurred in National Register eligibility determinations of certain properties in Yosemite. These determinations are itemized in the Case Report accompanying the 1979 MOA (summary list to be appended within six months). In addition, subsequent studies have evaluated properties under National Register criteria. These determinations will be reviewed, on a case by case basis by YOSE cultural resource staff or advisors, for new information or changed circumstances. Previous National Register determinations will be revisited by YOSE staff or cultural resources advisors if new information, such as recognition of new property types (e.g. cultural landscapes and traditional cultural properties) or change in historic context(s), is forthcoming or if SHPO so requests.

3. If traditional cultural properties are identified through the process outlined in Stipulation VII (A), YOSE shall seek the participation of all Indian Tribes (or other groups as appropriate) who ascribe traditional cultural values to those properties

in applying the National Register criteria. Except as provided by any confidentiality protocols developed by Indian Tribes, and/or those described in Section 304, NHPA, YOSE shall ensure that documentation of determinations, including the SHPO's comments, are made available for inspection according to provisions stated in Stipulation VI.

C. Assessment of Effect

YOSE shall determine the effect of any undertaking subject to this Agreement using the Criteria of Effect and Adverse Effect (36 CFR Part 800). At its discretion, YOSE may consult with the signatories to this Agreement or with other Interested Persons regarding effect determinations for individual undertakings.

1. Repetitive, Low Impact Activities

Repetitive, low impact activities defined in Appendix B will be undertaken with no additional review by YOSE cultural resource staff. The project proponent shall maintain records of actions for inspection according to Stipulation XVII below.

2. Actions Having No Effect or No Adverse Effect

Activities determined by YOSE to have "No Effect" or "No Adverse Effect" to Historic Properties, as defined in 36 CFR Part 800, may be implemented and will be documented for purposes of this Agreement by YOSE without further review by the Council or SHPO, provided:

a) that the undertaking is not subject to provisions of Stipulation VIII(B);

b) that the applicable YOSE management office has submitted a proposed undertaking to the YOSE Section 106 Coordinator for review and concurrence 15 work days prior to the start of the undertaking;

c) that the YOSE Section 106 Coordinator has reviewed the undertaking to ensure that identification and evaluation of Historic Properties in the area of potential effect has been completed according to Stipulation VII (A) and (B) above, and that adequate information has been compiled to identify and evaluate the effects of proposed undertakings on Historic Properties;

d) that YOSE ensures that decisions regarding proposed undertakings are made and carried out in conformance with the standards and guidelines in Stipulation I above;

e) that YOSE shall ensure that recovery of archeological data is based on the existing YOSE Archeological Research Design and Archeological Synthesis and Revised Research Design;

f) that YOSE has consulted with the appropriate Indian Tribe(s) regarding possible effects to Native American archeological or traditional cultural properties;

g) that YOSE has determined that the proposed action either does not affect or does not adversely affect Historic Properties based on the criteria of adverse effect found in 36 CFR Section 800.9; and

h) Monitoring, when appropriate, shall be summarized in a brief letter report. If Historic Properties are discovered during implementation, a detailed monitoring report shall be prepared. Large-scale ground disturbing activities shall be monitored in accordance with a monitoring plan. The monitoring plan shall include, at minimum, the following elements:

i. a detailed summary of properties that may be exposed during construction activities, based on archival research;
ii. treatment strategies (i.e. documentation, data recovery excavations, protection, etc.) for anticipated property types;
iii. specific guidelines for any necessary work stoppages;
iv. the locations of Historic Properties to be avoided and the means by which they will be avoided;
v. specific areas and phases of construction which will be monitored;
vi. a schedule for submitting progress reports of monitoring activities to the SHPO;
vii. a process for dealing with types of properties not anticipated in the monitoring plan, including names of individuals or offices to be contacted in the event of discovery
viii. reporting requirements, to be followed upon project completion
ix. specific procedures to be followed in the event of discovery of human remains
x. Indian tribal monitoring procedures

VIII. RESOLUTION OF ADVERSE EFFECTS

YOSE shall make every reasonable effort to avoid adverse effects to Historic Properties identified according to Stipulation VII (A) through project design, facilities' location, or other means. Avoidance alternatives will be documented during the NEPA process.

When avoidance of a Historic Property is not feasible or prudent, and the undertaking does not involve properties or actions described in (B) below, YOSE, as part of its examination of treatment options, may decide to implement one or more

Standard Mitigating Measures (SMM) described in (A) below. YOSE shall notify the following parties in writing of the decision to implement SMM:

- the SHPO
- Indian Tribe(s) (when American Indian properties are involved)
- members of the public who have made their interest in the undertaking known according to provisions outlined in Stipulation VI.

Consultation with the Council will not be undertaken when YOSE decides to implement SMM. If the SHPO, any Indian Tribe or any Interested Person does not object, within 14 calendar days of the notification, to YOSE's decision to treat the adverse effect according to the SMM, YOSE will proceed without further involvement of these parties. Should the SHPO, Indian Tribe, or Interested Person(s) object to the implementation of SMM as set forth above, YOSE shall make every effort to resolve the objection. If YOSE decides not to implement SMM, or YOSE and the objecting party are unable to resolve the objection, YOSE shall consult in accordance with (B) below, Required Consultation.

A. Standard Mitigating Measures

1. Recordation

a) Individual, nationally significant Historic Properties will be documented according to the standards of the Historic American Buildings Survey or Historic American Engineering Record, as appropriate. The level of documentation for these Historic Properties shall be determined by the NPS. Copies of documentation will be deposited in the YOSE archives, SHPO, and Library of Congress.

b) The following categories of structures, whether significant at the national, state, or local level, will be documented by black and white 5 x 7 photographic prints, and a Historic Record that includes narrative history and original drawings where available. Copies of documentation will be deposited in the YOSE archives and with SHPO:

- Contributing elements in a historic district (unless individually eligible)
- Individual elements of linear resources, such as ditches, roads, trails
- Minor elements of a complex (e.g. sheds, garages)
- Individual elements of cultural landscapes
- Individual Historic Properties of state and local significance

2. Salvage

   If a Historic Property will be demolished, YOSE historical architect, curator and/or preservation specialist will conduct a documented inspection to identify architectural elements and objects that may be reused in rehabilitating similar historic structures, or that may be added to the YOSE museum collection.

3. Interpretation

   YOSE will ensure that the story of human interaction with nature and changes in that interaction is a central theme in the interpretation of the Yosemite story. This interpretation will include a history of alteration of the human environment and reasons for that change.

4. National Register Reevaluation

   Within 120 working days after adverse alteration, relocation, or demolition of a Historic Property, YOSE shall consult with SHPO regarding the Property's continued eligibility for the National Register. The results of this consultation, with accompanying documentation, shall be forwarded to the Council and Keeper of the National Register. Should YOSE and SHPO disagree, YOSE shall seek a determination from the Keeper in accordance with 36 CFR Section 800.4 (C)(4).

B. Required Consultation

YOSE shall consult, according to 36 CFR Section 800.5(e) with the SHPO, Indian Tribe(s) (as appropriate) and Interested Persons as defined and identified under Stipulation VI (as appropriate), and shall invite the Council's participation regarding any action that:

1. may affect a National Historic Landmark
2. may affect a human burial
3. adversely affect a traditional cultural property
4. generates significant public controversy
5. involves a disagreement among YOSE, the SHPO, any Indian Tribe, or any Interested Persons regarding proposed use SMMs

IX. REVIEW PERIODS

A. YOSE shall submit the results of all identification efforts, NRHP eligibility determinations, discovery plans, and treatment plans to SHPO, Indian Tribes, and Council (as necessary) for a 30 calendar day review and comment period, unless otherwise agreed to. Opportunity for review by Interested Persons is as identified in

Stipulation VI. This period shall begin upon receipt of adequate documentation by the reviewing party. If any reviewing party does not respond to YOSE within 30 calendar days of receipt of adequate documentation, YOSE may assume that that party does not object to the findings and recommendations as detailed in the submission. If any party does not respond, does not object, or proposes changes that YOSE accepts, no further review by that party will be required and YOSE may proceed according to its findings and recommendations.

B. Should any party object to findings or recommendations in any submittal within the time period specified in (A) above, YOSE shall consult with the objecting party to resolve the objection. If the objection is not resolved, YOSE shall consult according to Stipulation XIV, Dispute Resolution.

X. DISCOVERY

A. Native American Human Remains

1. YOSE shall ensure that any Native American burials or Native American human remains, funerary objects, sacred objects and objects of cultural patrimony discovered during implementation of an undertaking, archeological fieldwork, or other actions, are treated with appropriate respect and according to federal law, including, but not limited to, the Native American Graves Protection and Repatriation Act, Public Law 101-601 (NAGPRA) and its implementing regulations (43 CFR Part 10, Native American Graves Protection and Repatriation Act Regulations). Actions described herein do not constitute compliance with provisions of NAGPRA.

2. If objections are raised by any Indian Tribe regarding treatment of human remains or cultural items as defined under NAGPRA, the objection shall be resolved in accordance with NAGPRA. YOSE shall notify SHPO and Council of any such dispute if so requested by involved tribes.

B. Other Historic Properties

YOSE shall notify the SHPO and Indian Tribe(s), as appropriate, as soon as practicable if it appears that an undertaking will affect a previously unidentified property that may be eligible for inclusion in the National Register, or affect a known Historic Property in an unanticipated manner. YOSE shall stop all potentially harmful activities (if ongoing) in the vicinity of the discovery and shall take all reasonable steps to avoid or minimize harm to the property until YOSE concludes consultation. If the newly discovered property has not previously been included in or determined eligible for listing in the National Register, YOSE may assume that the property is eligible for purposes of this Agreement. YOSE shall notify the SHPO at the earliest possible time and consult with the SHPO to develop actions that will take

the effects of the undertaking into account. YOSE will notify SHPO of any time constraints, and YOSE and SHPO will mutually agree upon time frames for this consultation. YOSE shall provide the SHPO (and Indian Tribe[s], as appropriate) with written recommendations that take the effects of the undertaking into account. If the SHPO does not object to YOSE's recommendations within the agreed upon time frame, YOSE will implement the recommendations. If SHPO or the Indian Tribe(s) object to the proposed treatment, and these objections cannot be resolved, YOSE shall follow procedures outlined in Stipulation XIV, Dispute Resolution.

XI. NATURAL DISASTERS

In the past YOSE has experienced major floods, fires, earthquakes, wind damage from storms, earth slides, and other natural disasters/emergencies which are likely to recur in the future. For a period not exceeding 45 days after the conclusion of the emergency (plus any extension agreed upon by YOSE, SHPO and Council) YOSE will proceed as follows:

A. YOSE will, without SHPO consultation, undertake emergency actions pursuant to the terms of this Agreement to stabilize Historic Properties and prevent further damage.

B. YOSE cultural resource specialists shall work closely with the emergency operations team, participate in discussions regarding emergency response activities and monitor work that has the potential to affect Historic Properties.

C. YOSE staff shall consult with the appropriate Indian Tribe(s) regarding emergency actions.

D. All work having the potential to affect Historic Properties shall be documented.

E. Every effort will be made to avoid known or discovered Historic Properties during emergency response activities. However, in those rare cases where this is impossible or could impede emergency responses, photographic and written documentation of affected Historic Properties shall be completed.

F. All such emergency measures shall be undertaken in a manner that does not foreclose future preservation or rehabilitation, unless YOSE determines that integrity has been permanently lost.

G. Within 90 days after the conclusion of the disaster or emergency period, YOSE shall submit to the SHPO, Council and the Federal Preservation Officer, NPS a report that documents how any effect of disaster or emergency response operations on Historic Properties were taken into account.

XII. EMERGENCY REPAIRS

A. In the event that damage to or failure of park infrastructure poses an immediate threat to life or health, YOSE will undertake emergency repairs with on-site monitoring by appropriate cultural resource specialists.

B. Should Historic Properties be discovered during emergency repair activity, all work that could result in adverse effects shall cease provided the Superintendent or designated representative determines work cessation will not impede emergency repairs. If the work stoppage at the discovery site will impede emergency repairs, emergency repair will continue and YOSE officials shall immediately notify the SHPO by telephone and provide the following information:

1. finding of a required emergency
2. description of the emergency and steps necessary to address the situation
3. description of the discovery and its apparent significance
4. description of the emergency and potential effect on the discovery feature
5. efforts to consider Historic Properties

C. Repairs and emergency treatment of any discovered properties shall be documented by YOSE on a Preservation Assessment Form or its equivalent. This form, along with a description of the emergency situation, signed by the requesting park official and the cultural resource specialist accomplishing the monitoring, shall be provided to the SHPO within 15 days of the emergency repair.

XIII. PERMITS

A. Permits and other legal agreements including, but not limited to, special use permits, leases, concessions, contracts and easements (hereinafter "Permits") for use of lands or structures in YOSE reflect a diversity of utilities and uses. All such Permits shall contain terms and conditions YOSE deems appropriate to protect and preserve Historic Properties.

B. YOSE shall require that any undertaking proposed and implemented by a permittee/licensee, which may affect a Historic Property, shall meet the guidelines and standards set forth in Stipulation I above, and is reviewed by YOSE in accordance with Stipulation VII (c). Any permittee/licensee who proceeds with an undertaking without project review and approval, and who forecloses the obligation of YOSE to fulfill terms of this agreement, may be subject to appropriate sanctions in accordance with the terms of the permit/license.

XIV. DISPUTE RESOLUTION

A. Should SHPO or Council object within 30 calendar days to any matter submitted by YOSE for review pursuant to this Agreement, YOSE shall consult with the objecting party to resolve the objection. If after 30 calendar days YOSE or the objecting party determines that the objection cannot be resolved, YOSE shall forward all documentation relevant to the dispute to the Council. Within 30 calendar days after receipt of all pertinent documentation, the Council will either:

   1. provide YOSE with recommendations, which YOSE shall take into account in reaching a final decision regarding the dispute; or

   2. notify YOSE that it will comment pursuant to 36 CFR Section 800.6(b), and proceed to comment. Any Council comment provided in response to such a request shall be taken into account by YOSE in accordance with 36 CFR Section 800.6(c)(2) with reference only to the subject of the dispute; YOSE's responsibility to carry out all actions under this Agreement that are not the subjects of the dispute will remain unchanged.

B. Should any Indian Tribe object to the manner in which the terms of this Agreement are implemented, YOSE shall take the objection into account and consult with the objecting party for 30 calendar days. If YOSE determines that the objection cannot be resolved, YOSE shall refer the objection to the Council according to Section A of this Stipulation.

C. Should any Interested Persons or a member of the public object to the manner in which this Agreement is implemented, YOSE shall take the objection into account and consult with the objecting party for 30 calendar days. If YOSE determines that the objection cannot be resolved, YOSE shall refer the objection to the Council in accordance with Section A of this Stipulation.

D. Should the subject of an objection pertain to the eligibility of a property for listing in the National Register, YOSE shall consult with the objecting party for a 30-day period. If the objection is not resolved within those 30 calendar days, YOSE shall refer the matter to the Keeper of the National Register for a final determination.

XV. FUTURE AGREEMENTS

Programmatic agreements or memoranda of agreement may be negotiated by YOSE, SHPO, and the Council, as appropriate, and may supplement this Agreement.

XVI. AMENDMENTS

Any signatory may request that this Agreement be amended, whereupon the parties will consult in accordance with 36 CFR Section 800.13. Where the parties cannot agree on executing an amendment, the matter shall be addressed pursuant to Stipulation XIV,

Dispute Resolution. Any amendment agreed upon will be executed in the same manner as the original Agreement.

XVII. FAILURE TO CARRY OUT AGREEMENT

In the event YOSE does not or cannot carry out the terms of this Agreement, YOSE shall comply with the NPS Nationwide Programmatic Agreement with regard to individual undertakings covered by this Agreement.

XVIII. REVIEW OF AGREEMENT

A. On or before November 15 of each year for two years and biannually thereafter, so long as this Agreement is in effect, YOSE shall prepare and provide to the signatories and all parties invited to concur with this Agreement and the NPS Federal Preservation Officer a report describing how YOSE is carrying out its responsibilities under this Agreement. The report shall include, at a minimum, a list of "no effect and "no adverse effect" actions carried out in accordance with Stipulation VIII (B) , above; efforts to identify and/or evaluate potential Historic Properties; monitoring efforts, and treatment of Historic Properties. YOSE shall ensure that this report is made available for public inspection pursuant to Stipulation VI, that potentially Interested Persons and members of the public are made aware of its availability, and that interested members of the public are invited to provide comments to the Council and SHPO as well as to YOSE. The SHPO, Council, and Indian Tribes may review the annual report and provide comments to YOSE. At the request of any party to this Agreement, YOSE shall supplement this process through meeting(s) to address comments and/or questions.

B. The SHPO and the Council may monitor activities carried out pursuant to this Agreement, and the Council will review such activities if so requested. YOSE shall cooperate with the SHPO and the Council in carrying out their monitoring and review responsibilities.

XIX. TERMINATION

YOSE, SHPO, or Council may terminate this Agreement by providing 30 calendar days' written notice to the other parties provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the NPS shall comply with 36 CFR Sections 800.4 through 800.6 for individual undertakings covered by this Agreement.

XX. EXPIRATION

This Programmatic Agreement shall be null and void fifteen (15) years from date of execution of this Agreement by the Council.

XX. EXPIRATION

This Programmatic Agreement shall be null and void fifteen (15) years from date of execution of this Agreement by the Council.

Execution and implementation of this Programmatic Agreement evidences that YOSE has satisfied its Section 106 responsibilities for all individual undertakings referenced in this Agreement.

NATIONAL PARK SERVICE

By: _____ 3/17/99
Superintendent, Yosemite National Park — Date

_____ 3/31/99
Regional Director, Pacific West Region — Date

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

By: _____ 4-26-99
State Historic Preservation Officer — Date

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: _____ 5/24/99
(for) Advisory Council on Historic Preservation — Date

APPENDIX A: SECRETARY OF INTERIOR'S PROFESSIONAL QUALIFICATION STANDARDS

The following requirements are those used by the National Park Service, and have been previously published in the Code of Federal Regulations, 36 CFR Part 61. The qualifications define minimum education and experience required to perform identification, evaluation, registration, and treatment activities. In some cases, additional areas or levels of expertise may be needed, depending on the complexity of the task and the nature of the historic properties involved. In the following definitions, a year of full-time professional experience need not consist of a continuous year of full-time work but may be made up of discontinuous periods of full-time or part-time work adding up to the equivalent of a year of full-time experience.

History

The minimum professional qualifications in history are a graduate degree in history or closely related field; or a bachelor's degree in history or closely related field plus one of the following:

1. At least two years of full-time experience in research, writing, teaching, interpretation, or other demonstrable professional activity with an academic institution, historic organization or agency, museum, or other professional institution; or
2. Substantial contribution through research and publication to the body of scholarly knowledge in the field of history.

Archeology

The minimum professional qualifications in archeology are a graduate degree in archeology, anthropology, or closely related field plus:

1. At least one year of full-time professional experience or equivalent specialized training in archeological research, administration, or management;
2. At least four months of supervised field and analytic experience in general North American archeology; and
3. Demonstrated ability to carry research to completion.

In addition to these minimum qualifications, a professional in prehistoric archeology shall have at least one year of full-time professional experience at a supervisory experience level in the study of archeological resources of the prehistoric period. A professional in historic archeology shall have at least one year of full-time professional experience at the supervisory level in the study of archeolog8cal resources of the historic period.

Architectural History

The minimum professional qualifications in architectural history are a graduate degree in architectural history, art history, historic preservation, or closely related field, with coursework in American architectural history; or a bachelor's degree in architectural history, art history, historic preservation or closely related field plus one of the following:

1. At least two years of full-time experience in research, writing, or teaching American architectural history or restoration architecture with an academic institution, historical organization or agency, museum, or other professional institution; or
2. Substantial contribution through research and publication to the body of scholarly knowledge in the field of American architectural history.

Architecture

The minimum professional qualifications in architecture are a professional degree in architecture plus at least two years of full-time experience in architecture; or a State license to practice architecture.

Historic Architecture

The minimum professional qualifications in historic architecture are a professional degree in architecture or a State license to practice architecture, plus one of the following:

1. At least one year of graduate study in architectural preservation, American architectural history, preservation planning, or closely related field; or
2. At least one year of full-time professional experience on historic preservation projects.

Such graduate study or experience shall include detailed investigations of historic structures, preparation of historic structures research reports, and preparation of plans and specifications for preservation projects.

APPENDIX B: REPETITIVE LOW IMPACT ACTIVITIES

The following classes of undertakings are considered exempt from further review or consultation under the terms of this Agreement. NPS staff are not required to notify or consult with YOSE cultural resource staff about these classes of undertakings unless the project proponent has reason to believe that a specific exempt undertaking may affect historic properties. (NOTE: Items 1, 6, and 11 should be recorded in building files, and should include date, action taken, building location, type of paint used, etc.).

1. Maintenance (housekeeping, routine maintenance, and building monitoring) which includes:

   a) Painting of historic structures (exterior and interior) to match existing color or based on paint analysis by a historical architect or exhibit specialist (structures);

   b) Regrading of terrain adjacent to a building to achieve positive water runoff in areas not designated as archeologically sensitive;

   c) Housekeeping, routine maintenance, building monitoring and other such actions (such as replacement of individual window panes, replacement of window putty, repair/replacement of light switches, and rewiring existing fixtures in existing conduit) that do not incur damage to historic fabric;

   d) Roofing maintenance or replacement, when maintained or replaced in kind with original historic appearance and materials;

2. Routine grounds maintenance, such as grass cutting and treatment, maintenance of shrubs, and tree trimming;

3. Installation of environmental monitoring units, such as weather, water, air quality, and natural science monitoring units, provided that such installations are done in an unobtrusive manner and do not impact historic fabric or cultural landscapes;

4. Maintenance of existing roads or existing parking areas, including repaving and grading, within previously disturbed areas ;

5. Maintenance of fire detection and suppression systems and security alarm systems, if done in an unobtrusive manner and without impacting historic fabric;

6. Rehabilitation, maintenance, or replacement of above-ground utility lines or transmission lines, unless it requires heavy equipment traffic with the potential for ground disturbance;

7. Health and safety activities such as non-destructive testing for radon gas, asbestos, lead-based paint, lead pipes, and hazardous materials and wastes;

8. Mitigation or abatement of hazardous materials, under the direction of the park exhibit specialist, including the following:

   a) Removal of damaged asbestos floor tile and replacement with appropriate historic or non-historic floor treatment;

   b) Carpeting over damaged asbestos floor tiles which do not contribute to the historic significance of a structure;

   c) Encapsulation of lead-based paint in window trim and molding where there is no change to color or appearance;

9. Maintenance operations for non-contributing buildings in a historic district, except excavations and borings in archeologically sensitive areas;

10. Conducting non-ground disturbing elements of an Integrated Pest Management (IPM) program for removal of pests such as termites, insects and rodents.

11. Fire hazard reduction activities that do not involve ground or surface disturbance and that do not have the potential to affect access to or use of resources by Native Americans;

12. Routine trail maintenance limited to brushing and light maintenance of existing trail tread with hand tools;

13. Felling of hazardous trees along trails, roadways, utility corridors, or within recreation areas, provided they are not designed elements of historic landscapes and provided that they are left in place and do not generate risk of indirect effects on historic properties from intense burning,

14. Removal of hazard trees from road prisms, so long as ground disturbance is not allowed off previously disturbed areas associated with road prisms;

15. Maintenance of existing facilities that does not involve new or additional ground disturbance (e.g. maintenance or replacement of cattle guards, gates, fences, guard rails, barriers, traffic control devices, light fixtures, curbs, sidewalks, etc.);

16. Maintenance (that does not add to nor change the configuration of the existing facilities) of existing electronic communication sites involving no ground disturbance.

17. Repair/removal of bridges when integrity has been lost.

Appendix E:
Actions that Revise the 1980 Yosemite General Management Plan

Introduction

The purpose of this appendix is to describe the ways in which the *Final Tuolumne River Plan/EIS* would revise the 1980 Yosemite *General Management Plan* (1980 GMP). Because the Tuolumne River was designated "Wild and Scenic" in 1984, some four years after the 1980 GMP was published, the National Park Service (NPS) must re-evaluate the actions called for in the 1980 GMP against the WSRA mandate to protect and enhance river values.

Once completed, the *Tuolumne River Plan* will provide direction for the management of the 54 miles of the Tuolumne Wild and Scenic River under the jurisdiction of the NPS. Although the preferred alternative from the *Final Tuolumne River Plan/EIS* integrates numerous actions called for in the 1980 GMP that both provide for public use and enjoyment of the river resource and that do not adversely impact the river values, it proposes a number of actions that differ from what was presented in the 1980 GMP. This appendix identifies the various changes that would be made to the 1980 GMP if the NPS adopts the preferred alternative from the *Final Tuolumne River Plan/EIS*.

Why the Tuolumne River Plan/EIS Amends the 1980 Yosemite General Management Plan

The Wild and Scenic Rivers Act (WSRA) directs river-managing agencies to prepare comprehensive management plans for each Wild and Scenic River. WSRA generally provides that river management plans "shall be coordinated with and may be incorporated into resource management planning for affected adjacent Federal lands" (16 USC 1274). In the case of the Tuolumne, Congress specifically envisioned that the NPS would fulfill the comprehensive management plan requirements of the act through "appropriate revisions" to the park's *General Management Plan* and that such revisions "shall assure that no development or use of park lands shall be undertaken that is inconsistent with the designation of such river segments" under WSRA.

Elements of a Comprehensive Management Plan

The Wild and Scenic Rivers Act requires a comprehensive plan for a designated river to provide for the protection of the river's free-flowing character and other values that make it worthy of designation. The Act directs that the plan shall address "resource protection, development of lands and facilities, user capacities, and other management practices necessary or desirable to achieve the purposes of this Act." The Wild and Scenic Rivers Act also requires that boundaries and segment classifications be adopted for each river. The *Final Tuolumne River Plan/EIS* addresses all of these legal requirements.

River Corridor Boundary and Segment Classifications

The final preferred alternative proposes a river corridor boundary that encompasses all land within ¼ mile of the ordinary high water mark of the Tuolumne River. This boundary defines the extent of the river corridor within Yosemite National Park. The final preferred alternative also proposes segment classifications for each of the seven river segments. The segment classifications of wild or scenic would guide and limit future land use and development within each segment to ensure that each segment maintains its classification status.

River Values and Their Management

The *Tuolumne River Plan* would revise the 1980 GMP by articulating the rare, unique, or exemplary and river-related values that make the river worthy of designation as Wild and Scenic. Depending on the segment, these values include biological, hydrological/geological, scenic, cultural, and recreational values. Each river value is discussed in detail in Chapter 5 of the *Final Tuolumne River Plan/EIS*, including a summary of its current condition, associated management concerns and specific actions needed to protect the river value. This river-value analysis is the foundation from which all alternatives were developed.

Visitor Use and User Capacity Management

The user capacity element of the *Tuolumne River Plan* was developed to conform to federal court rulings interpreting the WSRA requirement that comprehensive management plans must "address. . .user capacities." In an opinion regarding an earlier version of Yosemite's Merced River Plan, the U.S. Court of Appeals for the Ninth Circuit interpreted the act's user capacity requirement to mean that the Merced River Plan "must deal with or discuss the maximum number of people that can be received in the river area," and that the NPS must "adopt specific limits on user capacity consistent with both the WSRA and the instruction of the Secretarial Guidelines that such limits describe an actual level of visitor use that will not adversely impact the Merced's ORVs".[1] This same rationale applies to management of the Tuolumne Wild and Scenic River. The preferred alternative in the *Final Tuolumne River Plan/EIS* includes a numeric visitor capacity and facility capacities. These capacities were derived from a series of analyses that are discussed in greater detail in Chapters 5, 6 and 7 of the *Tuolumne River Plan.* The 1980 GMP did not take river values into consideration when determining its visitor use and facility capacities. If the preferred alternative from the *Final Tuolumne River Plan/EIS* is selected for implementation, it would result in a number of discrete revisions to the 1980 GMP in terms of visitor use levels and the size of facilities in the river corridor.

Development of Lands and Facilities

The Wild and Scenic Rivers Act also requires that comprehensive management plans address "development of lands and facilities" in the river area.[2] The *1982 Final Revised Guidelines for Eligibility, Classification, and Management of River Areas Secretarial Guidelines* (1982 Secretarial Guidelines) provide direction on the types of facilities that may be located within river areas. The Guidelines provide that major public use facilities should be located outside the river corridor unless they are necessary for public use or resource protection, do not adversely affect river values, and location outside the corridor is infeasible. Chapter 7 of the *Final Tuolumne River Plan/EIS* assesses facilities in the river corridor according to these criteria. As presented in Chapter 7, some facilities or commercial services that the 1980 GMP retained have been determined to be feasible to relocate outside the river corridor or are not considered necessary for public use and enjoyment of the river resource. While some of the decisions regarding public-use facilities in the river corridor may differ from the 1980 GMP, these facility decisions are consistent with the goals of the 1980 GMP to reduce the development footprint, reduce commercial services, and to promote natural processes. Specific facility decisions from the *Final Tuolumne River Plan* that would amend provisions of the 1980 GMP are detailed below.

Development of lands and facilities within the river corridor is also addressed in Chapter 4 of the *Final Tuolumne River Plan/EIS*, which presents the process that NPS would apply to water resources projects. Water resources projects are projects that would occur within the bed or banks or on tributaries to the Tuolumne River.

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1 *Friends of Yosemite Valley v. Kempthorne,* 520 *F.3d* 1024 (9th Cir. 2008).

2 16 U.S.C § 1274(d).

Specific Revisions to the 1980 General Management Plan

Introduction (GMP Pages 1-4)

As shown in Table E-1, text will be added to the 1980 GMP explaining the legal background for the *Final Tuolumne River Plan/EIS*-related revisions to the GMP. In addition, the purpose of the *Final Tuolumne River Plan/EIS*, which provides overall guidance for the management and protection of the Tuolumne River Corridor, will be added to the GMP. (Note that in all the tables to follow, additions to the GMP text are underlined and removal of GMP text is indicated with a strike-through.)

Table E-1.
Management Goals of GMP/TRP

GMP Section and Page #	1980 GMP Text	2014 GMP Revision	2014 TRP Reference
Page 4	N/A	In conformance with the Wild and Scenic Rivers Act, protect and enhance the Tuolumne Wild and Scenic River values to meet or maintain conditions above the management standards as specified in Chapter 5 of the *Final Tuolumne River Plan/EIS*.	Executive Summary: Purpose and Need for the Plan

Management Objectives (GMP Pages 5-12)

The 1980 GMP sets forth a number of Management Objectives that guide resource management, visitor use, and park operations (NPS 1980: 5-10). The *Final Tuolumne River Plan/EIS* amends the 1980 GMP by providing additional detailed guidance to park managers on how to achieve management objectives for the Tuolumne River corridor based on protection of its outstandingly remarkable values (ORVs). Therefore, Table E-2 displays the text of the broad objectives and Table E-3 displays the text of the specific objectives to be added to the 1980 GMP.

Table E-2.
Management Objectives GMP/TRP

GMP Section and Page #	1980 GMP Text	2014 GMP Amendment	2014 TRP Reference
Resource Management Page 8	N/A	Protect and enhance the Tuolumne River's outstandingly remarkable values, water quality, and free-flowing condition as described in the *Final Tuolumne River Plan/EIS* and in the table below	Chapter 5: River Values and Their Management
Visitor Use Pages 9	N/A	Provide for visitor use within the Tuolumne River Corridor in a manner consistent with the User Capacity program adopted in the *Final Tuolumne River Plan/EIS*	Chapter 6: Visitor Use and User Capacity

Table E-3.
Management Objectives for Free Flow, Water Quality, and Outstandingly Remarkable Values of the Tuolumne River

River Value	2014 TRP Management Objectives
Free-Flowing Character	All Segments Above O'Shaughnessy Dam, natural hydrologic processes are preserved and the river remains free of new unnatural impoundments. Below O'Shaughnessy Dam, science-based dam releases mimic to the extent feasible the variation of the seasonal hydrology in order to sustain the aquatic and riparian ecosystems upon which native wildlife species depend.
Water Quality	All Segments Water quality is exceptional. Management of visitor use may be intensive, if necessary, to maintain and protect the integrity of this value.
Biologic Value Subalpine riparian/meadow complex	Segments: Dana Fork (Scenic), Lyell Fork (Wild) , Tuolumne Meadows (Scenic) The subalpine riparian and meadow complex has high ecological integrity. Management of resources and visitor use may be intensive, if necessary, to restore and protect the integrity of this value. The subalpine riparian and meadow complex is sustained by natural hydrologic and biological processes to the extent feasible. The ecological restoration objectives for the meadows are to Protect, maintain, and restore natural hydrologic function of the Tuolumne River and tributaries. Protect, maintain, and restore the function, structure, diversity, and productivity of native riparian and meadow plant communities and wildlife habitat. (See Chapters 5, 8, and Appendix H)
Biologic Value Low-elevation riparian and wetland habitat	Segment: Poopenaut Valley (Wild) The ecological integrity of the riparian and wetland habitat in Poopenaut Valley is as high as possible considering its location below O'Shaughnessy Dam. Management of resources and visitor use may be intensive, if necessary, to restore and protect the integrity of the low-elevation riparian and wetland habitat.
Geologic Value Extensive example of stairstep river morphology	Segment: Grand Canyon (Wild) The character of the Tuolumne River through the Grand Canyon of the Tuolumne is shaped by the extensive stairstep morphology without human interference. Multiple cascades and waterfalls are sustained by natural processes.
Cultural Value Archeological landscape	All Segments Outstandingly remarkable archeological sites are protected at their current levels of integrity, with minimal additional human-caused disturbance. Management of resources and visitor use may be intensive, if necessary, to protect the integrity of this value.
Cultural Value Parsons Memorial Lodge	Segment: Tuolumne Meadows (Scenic) Parsons Memorial Lodge is preserved at its current level of integrity. Elements contributing to the Soda Springs Historic District are protected and restored if necessary to enhance visitor enjoyment and understanding. Historic views are maintained without disrupting the integrity of the natural ecosystem or other biological values or river processes.
Scenic Value Dramatic views and landscape features	Segments: Lyell Fork (Wild), Grand Canyon (Wild) In wild segments, the scenery of the Tuolumne River and the environment through which it flows is shaped by natural processes without human interference. Segments: Dana Fork (Scenic), Tuolumne Meadows (Scenic) In scenic segments (nonwilderness), scenery is shaped by natural processes. Identified vista points are enhanced in a manner that is protective of ecological conditions and archeological values at each viewpoint.
Recreational Value Wilderness-oriented recreation	Segments: Lyell Fork (Wild), Grand Canyon (Wild) Wilderness travelers along the Tuolumne River engage in a variety of activities in an iconic High Sierra landscape, where opportunities for primitive and unconfined recreation, self-reliance, and solitude shape the experience.
Recreational Value Access to high-elevation section of the Tuolumne River afforded by Tioga Road.	Segments: Dana Fork (Scenic), Tuolumne Meadows (Scenic) The quality of the visitor experience is protected by providing safe and efficient access, while protecting other river values from visitor use related impacts

Land Management Zoning (GMP Pages 10-14)

The 1980 GMP divided the park into several zones based on management objectives, significance of the resources, and legislative constraints. The zoning plan described the land use policies to be achieved over the life of the plan. Much of the Tuolumne River corridor exists within what are referred to in the 1980 GMP as *natural zones (*including Wilderness Subzone, Environmental Protection Subzone, Outstanding Natural Feature subzone, Natural Environment Subzone, etc.).

The *Final Tuolumne River Plan/EIS* would establish a ¼-mile river boundary on each side of the river. It also divides the river into seven segments, and each segment is classified as wild or scenic. The concept of "zones" established by the 1980 GMP is now complemented and, in some cases, superseded by the guidance from WSRA for those areas of the park within the river corridor. The segment classifications of wild or scenic would guide and limit future land use and development to ensure that each segment maintains its classification status. Furthermore, projects proposed within the bed and banks of the Merced River or its tributaries would be subject to review under Section 7 of the Wild and Scenic Rivers Act.

With regard to Land Management Zoning prescribed in the 1980 GMP, Table E-4 contains the revisions that the *Final Final Tuolumne River Plan/EIS/EIS* will make to the 1980 GMP:

Table E-4.
Land Management Zoning GMP/TRP

GMP Section and Page #	1980 GMP Text	2014 GMP Revision	2014 TRP Reference
Land Management Zoning-Natural Zone Page 12	N/A	Insert the following new heading and subsection: Tuolumne Wild and Scenic River Corridor In addition to the zones described above, all management decisions regarding lands within the Tuolumne Wild and Scenic River Corridor shall be guided by the following segment classifications: Wild: Rivers or sections of rivers that are free of impoundment and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and water unpolluted. These represent vestiges of primitive America. Scenic: Rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.	Chapter 3, Wild and Scenic River Corridor Boundaries and Segment Classifications, Figure 3-1, Table 3-1
		All projects proposed within the bed and banks of the Tuolumne River or its tributaries will be evaluated according to the process described in Section 7 of the Wild and Scenic Rivers Act. Insert Figure 3-1 from Final Tuolumne River Plan/EIS: "Tuolumne Wild and Scenic River Boundary and Segment Classifications" map	Chapter 4, Section 7 Determination Process for Water Resource Projects

Parkwide Policies and Programs (GMP Pages 15-30)

The 1980 GMP established a visitor carrying capacity that was based on the capacity of facilities and infrastructure in the park at that time (NPS 1980: 15-19). The plan recommended changes to the amount and location of development to fulfill and support the plan's objectives. As described above, the TRP revises those GMP policies and programs to comply with the Wild and Scenic Rivers Act and includes a user capacity program that is protective of river values. Furthermore, the field of "recreation ecology" and "social sciences" has substantially advanced since the time the 1980 GMP was developed. The National Park Service's understanding of the relationship between the amount of people and the types of impacts felt by both people and park resources is more sophisticated and has been incorporated into the *Final Tuolumne River Plan/EIS*.

With regard to Parkwide Policies and Programs prescribed in the 1980 GMP, Table E-5 displays the revisions that the *Final Tuolumne River Plan/EIS* would make to the 1980 GMP:

Table E-5.
Parkwide Policies and Programs GMP/TRP

GMP Section and Page #	1980 GMP Text	2014 GMP Revision	2014 TRP Reference
Page 15	N/A	The following text would be added under the "Parkwide Policies and Programs" heading Parkwide policies and programs with respect to visitor use, Indian cultural programs, park operations and visitor protection described in this section have been amended by the Final Tuolumne River Plan/EIS for all areas within the Tuolumne River corridor.	N/A
		The following text would be added under the "VISITOR USE" heading at the top of page 15: The sections below that address appropriate activities, visitor use levels, visitor facilities and services, overnight accommodations, concessions, regional cooperation, transportation, interpretation, and provisions for special populations within the Tuolumne River Corridor will be guided by the management elements of the Final Tuolumne River Plan/EIS. In particular, visitor use levels and activities within the corridor will be guided by, and must comply with the user capacity program presented in Chapter 6 of the TRP and Alternative 4. In the event of a conflict between Parkwide Policies and Programs in the 1980 GMP and specific elements of the *Final Tuolumne River Plan/EIS,* the *Final Tuolumne River Plan/EIS* will control.	Chapter 8: Alternatives for River Management
Visitor Use Levels for Developed Area			
Page 17	Tuolumne Meadows Day Use Level-1,485 Overnight Use Level-2,048	Tuolumne Meadows Day Use Level-~~1,485~~ 1,827 Overnight Use Level-~~2,048~~ 2,034	Chapter 8: Alternatives for River Management
Park Operations/Visitor Protection			
Page 24	A new field office will be developed at Tuolumne Meadows.	~~A new field office will be developed at Tuolumne Meadows.~~	Chapter 8: Alternatives for River Management

Developed Area Plans (GMP Pages 31 – 76)

The 1980 GMP contained a Developed Area Plan for the Tuolumne Meadows area, within the Tuolumne River corridor (NPS 1980: 62-65). The Development Concepts were based on information current at that time, and the GMP envisioned that final designs for these areas would be refined and shaped by new information and resource studies. Many scientific studies regarding resource conditions and visitor use have been completed since 1980, and many others were completed specifically for the *Final Tuolumne River Plan/EIS*. This information has shaped the actions in the *Final Tuolumne River Plan/EIS* that are designed to address user capacity, resource protection and development of lands and facilities, as required by the Wild and Scenic Rivers Act. The Wild and Scenic Rivers Act requires that comprehensive management plans address resource protection and development of lands and facilities. The *Final Tuolumne River Plan/EIS* therefore includes site-specific resource restoration and development proposals for Tuolumne Meadows and Glen Aulin High Sierra Camp. Detailed descriptions of these proposals are included in Chapter 5 (e.g., the Management Considerations and Enhancement Actions specific to Alternative 5) and in Chapter 8. These restoration and development actions supersede many of the proposals contained in the 1980 GMP pages 62-67.

While many of the 1980 GMP's site planning goals for Tuolumne Meadows are compatible with those established in the *Final Tuolumne River Plan/EIS*, the river plan's range of site planning alternatives has been established for Tuolumne Meadows with particular focus on the protection of river values. To the extent that any development concept presented in the 1980 GMP would not comply with the elements of the *Final Tuolumne River Plan/EIS*, that development concept is superseded by the *Final Tuolumne River Plan/EIS*. Therefore, the specific actions called for in the Tuolumne Meadows section of the 1980 GMP are replaced by those management actions called for in the *Final Tuolumne River Plan/EIS*, which has ensured that all actions

protect and enhance river values. Actions adjacent to the river corridor but outside of the river boundary must also protect the Tuolumne River's established outstandingly remarkable values.

Therefore, the *General Management Plan* will be revised as indicated in Table E-6.

Table E-6.
Developed Area Plans GMP/TRP

GMP Section and Page #	1980 GMP Text	2014 GMP Revision	2014 TRP Reference
Mather District Development Concept Map			
Tioga Pass Entrance Station: Page 62	Retain entrance station, comfort station, and ranger residence	Retain entrance station and comfort station~~, and ranger residence~~	Chapter 8: Alternatives for River Management
Tuolumne Meadows			
Page 62	Reduce drive in campground to 400 sites	~~Reduce drive in campground to 400 sites~~ Retain and upgrade campground at 304 drive-in sites, 21 walk-in sites, 4 stock sites, and 7 group sites	
	Provide 50 site walk in campground	~~Provide 50 site walk in campground~~	
	Retain lodge-66 tent cabins and restaurant	Retain lodge-6~~6~~ tent cabins and restaurant; relocate dining hall and three employee cabins away from river	
	Retain gas station and redesign to accommodate store, coffee shop, and mountaineering center	~~Retain gas station and redesign to accommodate store, coffee shop, and mountaineering center~~ Remove gas station and mountaineering center and replace with parking. Move mountaineering school to the lodge.	
	Provide visitor center with 50-car parking	Provide new visitor contact station ~~center~~ with ~~50~~ 80 car parking	
	Provide backcountry parking 110 cars	Provide ~~backcountry~~ overnight parking at the wilderness center for 89~~110~~ cars and at the Dog Lake/John Muir Trail trailhead for 68 cars	
	Provide backcountry orientation center	Provide ~~backcountry orientation~~ wilderness~~-~~center	
	Remove meadow roads, volunteer trails, and footbridge	Remove meadow roads, volunteer trails, and infrastructure away from wetland and riparian areas ~~footbridge~~	
	Retain McCauley cabin, Soda Springs enclosure, and CCC visitor center	Retain McCauley cabin, Soda Springs enclosure and~~ CCC visitor center~~ campground office*	
	Convert CCC mess hall to housing	Convert ~~CCC~~ ~~mess hall~~ visitor center to administrative uses*	
	Remove ranger station	~~Remove ranger station~~	
	Provide 10 picnic sites at Lembert Dome parking area	Provide ~~10~~ picnic sites at Lembert Dome parking area	
	Construct 1 group campground for horseback riders (25 horses)	~~Construct~~ Retain ~~1 group camp~~ 4 campsites~~-ground~~ for horseback riders~~-~~(24~~5~~ horses)	
		Remove all informal roadside parking along Tioga Road	
		Expand parking at Lembert Dome, the existing visitor center, the wilderness center, and at the store and grill	
		Upgrade wastewater treatment plant	
Tioga Pass Entrance			
Goals Page 63	Continue to provide information fee collection, and housing for employees	Continue to provide information fee collection~~, and housing for employees~~	
Actions Page 63	Retain existing entrance station, comfort station, and ranger residence	Retain existing entrance station and comfort station, ~~and ranger residence~~	

GMP Section and Page #	1980 GMP Text	2014 GMP Revision	2014 TRP Reference
Tuolumne Meadows			
Visitor Use Goals Page 63	N/A	Future plans for the Tuolumne Meadows area must comply with the management elements of the *Final Tuolumne River Plan/EIS* (river boundaries, river classifications, Outstandingly Remarkable Values, Section 7 determination process, user capacity management program, ecological restoration program, monitoring program, and management actions). To the extent that any development concepts presented in the 1980 GMP do not comply with the elements of the *Final Tuolumne River Plan/EIS*, that development concept would be superseded by the *Final Tuolumne River Plan/EIS*. Actions adjacent to the river corridor but outside of the river boundary must also protect the Tuolumne River's established Outstandingly Remarkable Values.	
	Facilities located adjacent to the meadow will continue to provide staging areas for backcountry and high mountain experiences, but development will be redesigned to eliminate intrusions on the fragile subalpine ecosystem. A horse and mule use plan is being prepared to establish carrying capacities and to determine exact locations and sizes for facilities.	Facilities located adjacent to the meadow will continue to provide staging areas for backcountry and high mountain experiences, but development will be redesigned to ~~eliminate~~ minimize intrusions on the fragile subalpine ecosystem. ~~A horse and mule use plan is being prepared to establish carrying capacities and to determine exact locations and sizes for facilities.~~	
	Eliminate cross-meadow traffic by pedestrians, stock, and vehicles	~~Eliminate~~ Direct cross-meadow traffic by pedestrians, stock, and vehicles to formally designated trails and roads. Eliminate social trails.	
	Provide overnight parking consistent with capacities proposed in the current Backcountry Management Plan	Provide overnight parking as proposed in the Final Tuolumne River Plan/EIS ~~proposed in the current Backcountry Management Plan~~	
	Provide parkwide information and reservation services for visitors entering via Tioga Pass	Provide parkwide information ~~and reservation services~~ for visitors entering via Tioga Pass	
Visitor Use Actions Page 63-65	Retain Parsons Lodge, the McCauley cabin, Soda Springs enclosure, and Civilian Conservation Corps (CCC) visitor center	Retain Parsons Lodge, the McCauley cabin, Soda Springs enclosure, ~~and Civilian Conservation Corps (CCC) visitor center~~ campground office~~,~~ store and grill, campground, Tuolumne Meadows Lodge, wilderness center	
	Remove footbridge	~~Remove~~ Retain footbridge	
		Remove fuel station and mountaineering shop and repurpose for parking	
		Relocate Cathedral Lakes trailhead parking to the existing visitor center	
		Construct a new visitor contact station and Parson's Memorial Lodge trailhead west of Unicorn Creek	
		Repurpose the existing visitor center* to administrative uses	
	Relocate the YP&CC and NPS stables and stock trails to the lodgepole pine ecosystem	~~Relocate the YP&CC and NPS stables and stock trails to the lodgepole pine ecosystem~~ Colocate the NPS stable function with the concessioner stables	
	Provide overnight parking consistent with capacities proposed in the current *Backcountry Management Plan*	Provide overnight parking consistent with capacities proposed in the ~~current *Backcountry Management Plan*~~ *Final Tuolumne River Plan/EIS*	
	Remove the campground loop and access road adjacent to the Lyell Fork	~~Remove~~Relocate ~~the campground loop~~ 21 campsites and realign the access road adjacent to the Lyell Fork	
	Relocate Lembert Dome parking area to old telephone building site to accommodate Glen Aulin trailhead and day users; provide comfort station	~~Relocate Lembert Dome parking area to old telephone building site to accommodate Glen Aulin trailhead and day users; provide comfort station~~ Retain Lembert Dome parking	

GMP Section and Page #	1980 GMP Text	2014 GMP Revision	2014 TRP Reference
	Construct a visitor contact/subdistrict ranger station, where backcountry permits will be issued, and a 50-car parking area	~~Construct a~~ Retain a ~~visitor contact/subdistrict ranger station,~~ wilderness center where ~~backcountry~~ wilderness permits will be issued, and an ~~50~~89-car parking area	
	Relocate grocery store, mountaineering center, and coffee shop to gas station building	Relocate~~ grocery store,~~ mountaineering center to the lodge; retain grocery store and grill~~, and coffee shop to gas station building~~	
	Relocate 110 trailhead parking spaces for Dog Lake and Lyell Fork	~~Relocate 110 trailhead parking spaces for Dog Lake and Lyell Fork~~	
	Relocate Cathedral Lakes parking area	Relocate Cathedral Lakes parking area to existing CCC visitor center	
	Construct one 25-horse campground near the new stables	~~Construct~~ Retain four campsites for up to 24~~5~~ horses at the existing campground ~~near the new stables~~	
	Retain the lodge (66 units) and its parking area	Retain the lodge (6~~6~~9 units) and its parking area	
	Utilize the campground to provide not more than 400 vehicle campsites, 50 walk-in sites, and 5 group sites	Utilize the campground to provide not more than ~~400~~ 304 vehicle campsites, ~~50 walk-in sites~~ 21 walk-in sites, 4 stock sites, and ~~5~~ 7 group sites	
	Construct a 10-to 20-site picnic area near the visitor contact station	Construct a ~~10-to 20-site~~ picnic area near the new visitor contact station	
Park Operations Goals Page 65	Provide facilities for a subdistrict office operation	Provide facilities for a subdistrict office operation	
	Bring drinking water quality up to standard	~~Bring~~ Ensure drinking water quality remains up to standard	
Park Operations Actions Page 65-66	Upgrade existing housing for about 120 employees in existing NPS housing area	~~Upgrade existing housing for about 120 employees in existing NPS housing area~~ Upgrade and expand NPS housing at Road Camp, Ranger Camp and Bug Camp for up to 133 employees, and provide dry campsite for up to 30 NPS employees at Gaylor Pit Relocate concessioner housing from behind store and relocate to the north of Tuolumne Meadows Lodge for up to 101 employees. Retain one cabin at stable for two employees.	
	Winterize some seasonal housing for snow survey crews, cross-country skiers, and winter keepers	~~Winterize some seasonal housing~~ Retain one winterized cabin for snow survey crews, cross-country skiers, and winter keepers	
	Convert CCC messhall to housing	Convert ~~CCC messhall~~ visitor center to ~~housing~~ administrative uses	
	Record and remove ranger station and relocate subdistrict offices to new subdistrict ranger station	~~Record and remove~~ Retain ranger station~~ and relocate subdistrict offices to new subdistrict ranger station~~	
	Remove present housing at Bug Camp/NPS stables area and from behind grocery store	Remove present concessioner housing ~~at Bug Camp/NPS stables area and from behind grocery store~~ from all existing locations and relocate to the north of Tuolumne Meadows Lodge for up to 101 employees. Retain one cabin at stable for two employees.	
	Construct operations building for resource management and maintenance	~~Construct operations building for resource management and maintenance~~ Provide office space at former CCC messhall*	
	Upgrade water supply, sewage disposal, and electrical systems	Upgrade water supply, sewage disposal, and electrical systems	
	Remove horse camp and restore Gaylor disposal site	Remove horse camp and restore Gaylor disposal site, converting it to a dry employee campground	

*The "CCC Visitor Center", as referred to in the 1980 GMP is currently used as the campground office. The "CCC Mess Hall" was converted to the current visitor center.

Wilderness (Backcountry)

The Tuolumne Wild and Scenic River and Yosemite Wilderness were both established in 1984, four years after the publication of the park's 1980 GMP. Although the area was not designated as wilderness at the time, backcountry management objectives were established, along with zones, capacities, and visitor use management strategies.

The *Final Tuolumne River Plan/EIS* would continue to steward the wild segments of the river in accordance with provisions of the Wilderness Act and overarching goals for backcountry management as articulated in the 1980 GMP. An upcoming Wilderness Stewardship Plan will provide further guidance on wilderness activities in the river corridor.

Additionally, the *Final Tuolumne River Plan/EIS* would revise and augment management of commercial stock use in upper Lyell Canyon through the establishment of a determination of extent necessary process for commercial use in wilderness (Appendix C), grazing capacities (counted in use nights), designated commercial stock camps and approach routes, and a methodology for opening dates. The *Final Tuolumne River Plan/EIS* would revise and augment management of commercial use throughout the river corridor consistent with the Extent Necessary Determination (Appendix C).

The text on page 77 of the 1980 GMP explains that the park had established carrying capacities for each backcountry zone to limit use and preserve the resource integrity. These carrying capacities and trailhead quotas were re-evaluated during the Tuolumne River planning process to ensure that use levels within the wilderness in the Tuolumne River corridor would protect and enhance ORVs. The user capacity limits adopted through the *Tuolumne River Plan* replace the previous carrying capacity limits for these areas.

Appendix F: Tuolumne Wild and Scenic River Final Comprehensive Management Plan/EIS: Section 7 Determination

In 1984, Congress designated the Tuolumne as a Wild and Scenic River to protect the river's free-flowing condition and to protect and enhance its unique values for the benefit and enjoyment of present and future generations (16 USC 1271). This designation gives the Tuolumne River special protection under the Wild and Scenic Rivers Act (WSRA). Section 7(a) of WSRA requires managing agencies to conduct a rigorous and consistent process to protect the free-flowing condition of the Tuolumne River when a proposed *water resources project*[1] triggers a review, as described in Chapter 4 of the *Tuolumne Wild and Scenic Final Comprehensive Management Plan and Environmental Impact Statement* (*Tuolumne River Plan*).

The preferred alternative in the *Tuolumne River Plan* proposes several federally funded actions that would be located within the bed and banks of the Tuolumne River or its tributaries, triggering additional review under section 7(a) of the Wild and Scenic Rivers Act. Proposed actions within the river corridor are: (1)Remove riverbank riprap near the Tuolumne Meadows Campground A-loop, (2) Apply bioengineering techniques and plant riparian vegetation to stabilize riverbanks (3) Install temporary fencing, natural obstructions, and/or deer fencing to allow vegetation to establish and, (4) Relocate the water intake pipe at Glen Aulin. There is one action proposed on an upstream tributary to the Tuolumne River: (1) Improve, replace, and add new culverts on upstream tributaries at Tuolumne Meadows. The *Tuolumne River Plan* also calls for improvements of the Tioga Road bridge at Tuolumne Meadows to mitigate ponding effects during periods of high flows. This action will require a separate, subsequent environmental compliance process. The NPS will complete the Section 7 determination for this bridge improvement action as part of the subsequent planning process.

Actions within the river corridor require a different standard and evaluative process than actions proposed on tributaries to the river, per the guidelines provided by the *Wild and Scenic Rivers Act, Section 7 Technical Report* of the Interagency Council (IWSRCC 2004). This Section 7 Determination evaluates actions within the river corridor for their potential to have direct and adverse effects on free-flowing condition, water quality, and outstandingly remarkable values. This is known as the "direct and adverse effect" standard. Actions that would take place on tributaries to the Tuolumne River are evaluated for their potential to either invade or diminish the scenic, recreational, fish, or wildlife values of the wild and scenic river. This is known as the "invade or diminish" standard. Part 1 of this Section 7 Determination evaluates actions proposed within the river corridor. Part II of this Section 7 Determination addresses actions proposed on tributaries.

[1] A water resources project is any dam, water conduit, powerhouse, transmission line, or other works project under the Federal Power Act, or other developments, that would affect the free-flowing character of a wild and scenic or congressionally authorized study river. In addition to projects licensed by the Federal Energy Regulatory Commission, water resources project may include dams, water diversions, fisheries habitat and watershed restoration, bridges and other roadway construction/reconstruction projects, bank stabilization projects, channelization projects, levee construction, boat ramps, fishing piers, and activities that require a section 404 permit from the U.S. Army Corps of Engineers.

Authority

The authority for this determination is found in section 7(a) of the Wild and Scenic Rivers Act (Public Law 90-542, as amended, 16 United States Code [USC] 271-1278). Section 7 states that

> *No department or agency of the United States shall assist by loan, grant, license or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration. Nothing contained in the foregoing sentence, however, shall preclude licensing of , or assistance to , developments below or above a wild, scenic or recreational river area or on any stream tributary thereto which will not invade the area or unreasonably diminish the scenic, recreation, and fish and wildlife values present in the area on the date of designation of a river as a component of the national wild and scenic rivers system.*

Part I. Proposed Water Resource Projects within the Tuolumne River Corridor

Methodology

Potential actions within the river corridor will be evaluated as follows for their potential to have direct and adverse effects on free-flowing condition, water quality, and the outstandingly remarkable values identified for the river using the following process, as adopted from Interagency Council guidelines (2004 IWSRCC):

- Define the context of the project – purpose and need, geographic location, duration, magnitude and extent of proposed activities, and relationship to past and future management activities.
- Determine whether the proposed activity would directly alter within-channel conditions.
  Describe the position of the proposed activity relative to the streambed and streambanks. Describe likely changes in active channel location; channel geometry, channel slope, channel form, water quality, and navigation of the river. Address the magnitude and spatial extent of the effects.
- Determine whether the proposed activity would directly alter riparian and/or floodplain conditions.
  Describe the position of the proposed activity relative to the riparian area and floodplain. Analyze likely changes in vegetation (composition, age structure, quantity, or vigor), relevant soil properties (compaction, percent bare ground), relevant floodplain properties (width, roughness, bank stability, susceptibility to erosion). Address the magnitude and spatial extent of effects on riparian/floodplain attributes.
- Determine whether the proposed activity would directly alter upland conditions.
  Describe the position of the project relative to uplands. Analyze likely changes in vegetation, soils, or relevant hydrologic properties (i.e. drainage patterns or the character of surface and subsurface flows.
- Evaluate and describe likely changes in on-site conditions that would alter existing hydrological processes. These processes include the ability of the channel to change course, re-occupy former segments, or inundate its floodplain; streambank erosion potential, sediment routing and deposition; or debris loading; amount and timing of flows surface and subsurface flow characteristics; flood storage; aggradation/degradation of the channel.
- Evaluate and describe likely changes in on-site conditions that would alter existing biological processes. These processes include reproduction, vigor, growth and/or succession of streamside vegetation; nutrient cycling; fish spawning or rearing; riparian dependent avian species needs; amphibian/mollusk needs; and native species diversity.

- Address potential off-site or indirect effects of the proposed activity.
- Compare the project analysis to management goals. Identify the effects of the project on management goals relative to free flow, water quality, riparian area and floodplain conditions, ORVs, and river classification.
- Based on the analysis, determine the effects of the proposed activity on the river's free flowing conditions, water quality, and ORVs.

Project Description

A complete description of the actions are available in the *Tuolumne River Plan*, Chapter 8 and Appendix H – Ecological Restoration Planning for the *Tuolumne River Plan*. Chapter 5 includes a complete description of the outstandingly remarkable values for the Tuolumne River. The selected alternative proposes the following actions within the bed and banks of the Tuolumne River corridor.

(1) Remove riverbank riprap near the Tuolumne Meadows Campground A-loop.
Approximately 150-feet of boulder riprap would be removed from the riverbank near the campground A-loop to enhance free flow of the Lyell Fork of the Tuolumne River. The NPS would remove boulders during periods of low flow, and restore the riverbank to natural contours similar to that of the adjacent unaffected riverbank. Willows and other local native vegetation would be planted to stabilize the riverbank, protect water quality, and restore natural habitat.

(2) Apply bioengineering techniques and plant riparian vegetation to stabilize riverbanks.
The NPS would use bioengineering techniques to stabilize riverbanks that exhibit human-caused accelerated erosion, throughout sub-alpine meadows in the Tuolumne River area. Examples of bioengineering techniques include willow hydrodrilling, brush layering, insertion of willow wattles, and anchoring logs to secure soils and accrete sediment. To establish willows on riverbanks, cuttings would be taken from established plants and placed deeply into the soil. Hydrodrilling is a system used to create deep holes to plant willow cuttings. A hydro-drill is a pump that creates a high-powered stream of water, the size of a hose, which creates deep holes for willow cuttings. Brush layering is the technique of laying willows on horizontal benches that follow natural river contours. Willows may also be bundled into wattles and partially buried and anchored along riverbanks. These techniques, along with the placement of anchor logs, and intensive planting and seeding of native site-specific vegetation, would promote sediment accretion, and minimize further riverbank loss. If restoration work is proposed within Wilderness, the NPS would complete a Minimum Requirement Analysis for bank stabilization projects.

(3) Install temporary fencing, natural obstructions, or deer fencing to allow establishment of native riparian vegetation.
These measures would protect fragile riverbank vegetation from trampling, allowing newly planted or impacted vegetation to establish. Temporary exclosures would allow willow regeneration and protect willows from deer browsing.

(4) Relocate the water intake pipe at Glen Aulin High Sierra Camp.
The intake for the pipe that carries water from the Tuolumne River to the Glen Aulin High Sierra Camp is located within Wilderness. Proposed actions would remove the intake pipe from Wilderness, and replace it within the Potential Wilderness Addition associated with Glen Aulin High Sierra Camp. The existing intake is a 2-inch HDPE pipe, anchored to a rock. It is a gravity-fed system. The filter is in an upland site. Relocation of the intake is not expected to change conditions within the bed and banks

of the Tuolumne River, but there would be changes in associated upland sites. A gravity-fed system would not work at the new proposed site, and it would be necessary to install a new pump and energy system for the pump in an upland area.

Analysis

The effects of the proposed water resources actions within the Tuolumne River corridor are outlined in Table F-1.

Table F-1.
Effects of the Proposed Water Resources Actions within the Tuolumne River Corridor

Remove riverbank riprap near the Tuolumne Meadows Campground A-loop	Apply bioengineering techniques and plant riparian vegetation to stabilize riverbanks	Install temporary fencing, natural obstructions, and/or deer exclusions	Relocate the water intake pipe at Glen Aulin
Effects on Within-Channel Conditions			
The action would restore the river channel to natural configuration.	The action would reduce the potential for accelerated streambank erosion. This is likely to restore more natural within-channel attributes such as channel geometry, form, and water quality parameters such as turbidity.	The action would allow establishment of riparian vegetation, reducing the potential for accelerated streambank erosion.	The action is not likely to alter within-channel attributes such as active channel location, channel geometry, slope, form, or water quality.
Effects on Riparian and Floodplain Conditions			
Existing rip-rap prevents some flood flows from reaching portions of the floodplain. The action would restore natural floodplain processes and allow establishment of riparian vegetation.	The action would reduce the potential for accelerated streambank erosion and provide a foundation to establish natural riparian vegetation along the riverbank.	The action would allow establishment of riparian vegetation, enhancing floodplain habitat and potentially enhancing water quality parameters such as turbidity.	The action is not likely to alter the composition, age structure, quantity, or vigor of adjacent riparian areas. Action is not likely to alter floodplain properties such as width, roughness, bank stability, or susceptibility to erosion.
Effects on Upland Conditions			
Existing campsites in the floodplain would be relocated to upland areas within campground boundaries. Upland conditions would be largely unaffected.	Upland conditions would be largely unaffected.	Upland conditions would be largely unaffected.	A water pump (and associated energy source) would need to be established in an upland area along the water intake pipe. The NPS would install composting toilets in upland areas to help the concessioner meet water use limits.
Effects on Existing Hydrological and Biological Processes			
The action would restore the ability of the channel to inundate the river floodplain in localized areas and/or make minor course changes.	The action would reduce the potential for accelerated streambank erosion, allowing restoration of natural channel attributes and providing a foundation to establish riparian vegetation and habitat.	The action would reduce the potential for accelerated streambank erosion, allowing restoration of natural channel attributes and providing a foundation to establish riparian vegetation and habitat.	The action is not likely to alter existing biological or hydrological processes. It would have a negligible effect on the amount of flow in the channel. Water use would be restricted to 500 gallons per day, which is less than current water use. This water use would be less than 0.1% of the daily flow of the river.

Table F-1.
Effects of the Proposed Water Resources Actions within the Tuolumne River Corridor (continued)

Remove riverbank riprap near the Tuolumne Meadows Campground A-loop	Apply bioengineering techniques and plant riparian vegetation to stabilize riverbanks	Install temporary fencing, natural obstructions, and/or deer exclusions	Relocate the water intake pipe at Glen Aulin
Off-site changes			
None	None	None	None
Comparison with Mgmt. Goals			
Consistent with goals to protect and enhance hydrologic processes.	Consistent with goals to protect and enhance hydrologic processes.	Consistent with goals to establish riparian vegetation.	Consistent with Wilderness management goals
Effects on Outstandingly Remarkable Values			
In this segment, the action would enhance free flowing condition. There would be a negligible beneficial impact on biological values (subalpine meadow /riparian complex) and water quality. The action would not affect water quality, the archeological landscape, scenery through Tuolumne Meadows and Lyell Canyon, or recreational access to the area via Tioga Road.	In this segment, the action would enhance free flowing condition, water quality, and biological values (subalpine meadow /riparian complex). The action would not affect the archeological landscape, scenery through Tuolumne Meadows and Lyell Canyon, or recreational access to the area via Tioga Road.	In this segment, the action would enhance biological values (subalpine meadow /riparian complex) and water quality. There would be a short-term minor impact on scenic values in Tuolumne Meadows. In the long term, the action would stabilize and enhance natural scenery along the riverbank. The action would not affect the archeological landscape or recreational access to the area via Tioga Road.	In this segment, the action would not impact biological values, geologic values, cultural values, or scenic values. There would be a minor impact to Wilderness recreational values in terms of natural sounds, as a generator may be necessary to run the water intake system. The NPS will conduct a Minimum Requirement Analysis as part of project compliance.

Part II. Proposed Water Resource Projects on Tributaries to the Tuolumne River

Methodology

Potential actions on tributaries to a designated river within the river corridor will be evaluated for their potential to invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the area as of the date of designation. This standard applies to projects outside the river corridor but on the same river or a tributary.

- Evaluate whether the proposed project invades the designated river. The term 'invade' is defined as "encroachment or intrusion upon." If the project is determined to invade the designated river, the proponent must develop measures to eliminate this unacceptable effect.
- Evaluate whether the proposed project will "unreasonably diminish" free-flowing condition, water quality, or the scenic, recreational, and fish and wildlife values of the designated river.
- If there is diminution, determine whether the effect is reasonable? Consider the magnitude of loss and whether the value contributed to the designation of the river (i.e., an outstandingly remarkable value). Also consider the current condition and trends of the resource. If diminution is determined unreasonable, the proponent must reduce adverse effects to within acceptable levels (IWSRCC 2004 Interagency Technical Report).

Tuolumne Wild and Scenic River Outstandingly Remarkable Values

Outstandingly remarkable values are the river-related values that make the river unique and worthy of special protection. They form the basis for the river's designation. The complete list of outstandingly remarkable

values for the Tuolumne River is provided in chapter 5. Detailed descriptions specific to the Tuolumne Meadows segment are included in the analysis.

Project Description

A complete description of the *Tuolumne River Plan* is included in the body of this document, chapter 8. Chapter 5 includes a complete description of the outstandingly remarkable values for the Tuolumne River. This part of the Section 7 Determination focuses on the specific actions that would take place on tributaries to the Tuolumne River outside the river corridor, as proposed in the preferred alternative and appendix H – Ecological Restoration Planning for the *Tuolumne River Plan*. These actions are:

(1) Improve, replace, and add new culverts on tributaries to the Tuolumne River, outside the river corridor

Tioga Road is a trans-Sierra highway that runs east to west along the southern edge of Tuolumne Meadows in Yosemite National Park. Surface water flowing from the southern side of the road is channeled through 35 culverts under the road to Tuolumne Meadows and the Tuolumne River. In 2006, researchers observed that Tioga Road culverts were clogged with vegetation and sediment in 12 locations, and signs of ponding water south of the road were observed in 23 locations.

Culverts force previously dispersed runoff into local channels, and downcutting (also known as vertical erosion) in these channels is occurring on the meadow side of the culverts. These culverts may also be causing headcuts, which occur when sheet flow is concentrated and channeled at higher than natural velocity, thus increasing scour and altering sedimentation dynamics. Like downcut channels, headcuts lower the adjacent water table and limit sheet flow across meadows. In addition, many Tioga Road culverts were installed lower or higher than the meadow surface, exacerbating downcutting, headcutting, and ponding.

To enhance meadows and hydrologic function, culverts along Tioga Road would be improved to facilitate water flow to the river and adjacent meadows. Some culverts would be repaired, increased in size, and culverts would be installed in better locations to mitigate many of the observed impacts in Tuolumne Meadows. Culverts conveying water from Budd Creek and Unicorn Creek, two named tributaries to the Tuolumne River, would be made larger and more numerous to accommodate runoff.

Historic culverts would require special treatment to mitigate impacts on the cultural landscape. Potential adverse effects on the Tioga Road Historic District could be minimized or avoided by salvaging materials from existing culverts and using culvert types and materials that are historically compatible with the period of significance for this section of the Tioga Road Historic District (1932-1961). Placement of all culverts would depend on surface levels of the meadow to minimize downcutting, headcutting, and ponding effects. Restoration of the contours adjacent to existing culverts would reduce impacts and the likelihood of further downcutting, headcutting, and ponding. Restoration could include:

- Filling in ditches associated with culverts with native soil
- Applying woody debris, native mulch, and plant material (willows using hydrodrilling techniques) to divert and disperse runoff, promote deposition and limit scour
- Placing rocks to disperse outflow energy and prevent downcutting
- Recontouring slope and landform to natural conditions to encourage sheet flow
- Revegetating areas adjacent to and downslope of culverts with native species to slow velocity of water flowing into the meadow, encouraging sheet flow and sediment deposition

Analysis

Does the proposed project invade the designated Tuolumne Wild and Scenic River?

The proposed culvert improvement and riprap removal work would be located within the Tuolumne Wild and Scenic River corridor, along the Tioga Road, throughout Tuolumne Meadows. The proposed action includes two named tributaries to the Tuolumne River, Unicorn Creek and Budd Creek. Budd Creek is located within the 100-year floodplain of the Tuolumne River. Culvert work would occur within the bed and banks of the tributaries, and construction work could occur within the ordinary high-water mark.

Potential construction impacts from these actions would be minimized by scheduling construction activities during seasonal periods of low or no water. Additional mitigation measures would include minimizing the disturbance area at the banks of the tributaries, salvaging excavated materials for replacement after construction, returning the banks to their preexisting contours, and implementing best management practices (see appendix O of the *Final Tuolumne River Plan/EIS*) during construction to ensure that construction activities would not affect water turbidity, temperature, or nutrient availability.

Final culvert dimensions and design would be determined by hydrologists and engineers during the design phase of the project. The culverts would be designed to minimize impacts to hydrologic function. In combination with the mitigation proposed above for construction activities, the culverts would be designed so that they would not impede the free-flowing condition of the Tuolumne River, and hydrologic processes would be protected during low- and high-water periods. Therefore, the proposed actions would not encroach or intrude upon the hydrologic function of the Tuolumne River and would not invade the wild and scenic river.

Does the proposed project unreasonably diminish the scenic, recreational, and fish and wildlife values present in the area as of the date of designation?

The effects of the proposed water resources management action on scenic, recreational, and fish and wildlife values are outlined in Table F-2.

Table F-2.
Effects of the Proposed Water Resources Management Action on Scenic, Recreational, and Fish and Wildlife Values

Value	Conditions at the Time of 1984 Designation	2013 Condition of Outstandingly Remarkable Values	Effect of Proposed Culvert Improvement and Riprap Removal
Scenic	Expansive views were afforded by the natural vegetation patterns at Tuolumne Meadows. The natural features created numerous scenic viewing opportunities, ranging from high panoramic views to views into and away from Tuolumne Meadows. Views into and away from the meadows were maintained and occasionally expanded by the mechanical removal of encroaching lodgepole pines. Additionally, the siting of all post-1920s development was guided by the principle of not obstructing or competing with the naturally occurring views and vistas. Reducing human visual impacts was a key reason for realigning the Tioga Road and eliminating all camping inside the meadow. Building locations and circulation patterns were designed to take advantage of the scenic opportunities of this landscape, while remaining as unobtrusive as possible.	Views from trails and vista points through Dana and Tuolumne Meadows continue to have high aesthetic value. The predominantly open meadows provide for a remarkable variety of visual experiences, including unobstructed views of the craggy Sierran horizon line and the ability to watch dramatic weather formations roll in. Even from the periphery of the meadows, where denser vegetation obstructs the panoramic views, a sense of openness is provided by glimpses of the meadows and distant peaks between the trees.	Scenic and visual landscape elements would not be affected by the culvert improvement or riprap removal. The culverts would be low profile, compatible with the surrounding cultural landscape and would not be visible from the Tuolumne River upon project completion. Short-term visual impacts during installation of the culverts and removal of riprap would be visible from the banks of the Tuolumne River.

Table F-2.
Effects of the Proposed Water Resources Management Action on Scenic, Recreational, and Fish and Wildlife Values (continued)

Value	Conditions at the Time of 1984 Designation	2013 Condition of Outstandingly Remarkable Values	Effect of Proposed Culvert Improvement and Riprap Removal
Recreational	Abundant recreational and educational opportunities were available at the time of designation. They included day hiking, overnight backpacking, swimming, wading, fishing, camping, climbing, horseback riding, picnicking, artistic pursuits, sightseeing, nature study and skiing and snowshoeing in winter. Tioga Road offered excellent opportunities for scenic driving. The Tuolumne Wild and Scenic River Study noted that Tuolumne Meadows contained one of the largest campgrounds in the national park system and served as a major trailhead into the spectacular Yosemite backcountry. It noted that the number of visitors in the Tuolumne Meadows area reached 3,000 per day during the peak summer season.	The Tioga Road continues to provide access to a great diversity of recreational and educational opportunities in the Tuolumne River corridor that are easily accessible to people of various ages and abilities. These opportunities have not changed since the time of designation, with the exception that the number of campsites in the Tuolumne Meadows campground has been reduced from about 600 (USFWS and NPS 1979a) to 304 to accommodate larger modern recreational vehicles, provide better site separation, and better protect natural features. Recreational opportunities include day hiking sightseeing, viewing exhibits along the road, and many other related activities. In winter, the road is the primary route taken by trans-Sierra skiers.	Abundant recreational and educational opportunities would remain available in the river corridor and would not be diminished in the project area. The proposed action would not change access to the Tioga Road and would enhance the beauty of the Meadows, and therefore, the visitor's experience.
Fish and Wildlife	At the time of designation, the subalpine meadow and riparian complex was largely undeveloped, with high biodiversity and productivity. The vast meadows—the annual floodplains for the Tuolumne River—were largely free of structures. Most facilities, with the exception of roads and trails, were concentrated in upland areas around Tuolumne Meadows. Tioga Road skirted the southern edge of the meadow. Culverts along the Tioga Road allowed for flows from upland areas to connect to Tuolumne Meadows (although these flows did not replicate natural sheet flows).	The unusual extent and influence of glaciations in the Tuolumne River corridor created extensive areas of low relief that alternate with steep river reaches flowing over bedrock. The long, low-gradient reaches along the Lyell Fork, the lower Dana Fork, and below their confluence through Tuolumne Meadows were conducive to the accumulation of sand, silts, and organic debris. The resulting meadow/riparian complex is the largest in Yosemite National Park and one of the most extensive in the Sierra Nevada.	Additional and/or enlarged culverts would improve hydrologic processes compared with existing conditions by accommodating peak spring runoff, some channel migration, and flash floods from summer thunderstorms. To the extent possible, natural sheet flow at those locations would be restored. Improved hydrologic flow and connectivity between the river and the meadows would be expected to enhance adjacent meadow and wetland areas and associated habitat. The project is expected to result in a long term beneficial impact on vegetation, wildlife communities, habitat, diversity, and the river processes that species depend on. Project specific mitigation measures (see appendix O of the *Final Tuolumne River Plan/EIS*) would be implemented to minimize any impacts to wildlife or associated habitat during construction. There would be no impacts on fish.

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Section 7 Determination

The Tuolumne Wild and Scenic River Plan includes actions to: (1) Remove riverbank riprap near the Tuolumne Meadows Campground A-loop; (2) Apply bioengineering techniques and plant riparian vegetation to stabilize riverbanks; (3) Install temporary fencing, natural obstructions, and/or deer fencing to allow establishment of vegetation; (4) Relocate the water intake pipe at Glen Aulin High Sierra Camp; and (5) Improve, replace, and add new culverts on tributaries to the Tuolumne River. These actions are consistent with management goals to reduce the potential for accelerated streambank erosion, allow restoration of natural channel attributes, and provide a foundation to establish riparian vegetation and habitat.

In conjunction with specific mitigation measures outlined in appendix O of the *Final Tuolumne River Plan/EIS* (e.g. performing construction at periods of low or no water, application of best management practices, and seasonal species-specific restrictions for construction activities), the National Park Service has determined that these actions within the river corridor will not have direct and adverse effects on free-flowing condition, water quality, and/or outstandingly remarkable values of the Tuolumne River. Actions on tributaries outside the river corridor will not invade the Wild and Scenic Tuolumne River or unreasonably diminish the scenic, recreational, or fish and wildlife values present in the area as of the date of designation.

Recommended by Don L. Neubacher, Superintendent Date

Approved by Chris Lehnertz, Regional Director Date

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Appendix G:
Revisions to Outstandingly Remarkable Value Statements, 1984-2014

Outstandingly remarkable values were first considered for the Tuolumne River as part of the development of the 1979 *Tuolumne Wild and Scenic River Study Final Environmental Impact Statement and Study Report* (Tuolumne Final Study). That report, prepared cooperatively by the National Park Service and the U.S. Forest Service, established the eligibility of the Tuolumne River for inclusion in the National Wild and Scenic Rivers System. The Tuolumne was designated a wild and scenic river in 1984 based in part on the statements of outstandingly remarkable values included in the Tuolumne Final Study.

Since the completion of the Tuolumne Final Study, the Interagency Wild and Scenic Rivers Coordinating Council (Interagency Council) has issued guidance for identifying and defining a river's outstandingly remarkable values. As part of the comprehensive planning for the river, the National Park Service has followed the Interagency Council's guidance and used the most current scientific and scholarly information available to reevaluate the statements of Tuolumne River outstandingly remarkable values.

Draft outstandingly remarkable value (ORV) statements presented in the 2006 "Tuolumne Wild and Scenic River Outstandingly Remarkable Values Draft Report," and the initial revisions of those statements included in the 2007 Tuolumne Planning Workbook, were based on relatively broad, inclusive interpretations of the criteria that an outstandingly remarkable value must be river related and rare, unique, or exemplary. As the planning for the Tuolumne River progressed, the planning team concluded that the statements were too broad to guide the management decisions that needed to be made, to guide long-term monitoring, and ultimately to ensure that planned management would be effective in protecting and enhancing river values. The Interagency Council confirmed the need to reassess the initial statements using a stricter interpretation of the outstandingly remarkable value criteria. Based on that guidance, the Tuolumne planning team revised the statements to describe a set of specific, generally mappable and measurable, outstandingly remarkable values that met stricter interpretations of being river related and unique, rare, or exemplary. The specific differences in the two sets of statements are shown below in table F-1.

Table G-1.
Revision History of Outstandingly Remarkable Value (ORV) Statements 2007-2014

Draft Outstandingly Remarkable Value (ORV) Statement from the 2007 Tuolumne Planning Workbook	Revised ORV Statement(s) in the *Final Tuolumne River Plan/EIS*	Reason for Change
ECOSYSTEM ORVS	BIOLOGICAL ORVS	
Exemplary Ecosystems Providing Habitat for a Remarkable Diversity of Species The following biological resources contribute to this value:	None	Statement was too broad and too inclusive to be useful in guiding river management.
▪ Alpine (above 10,500 feet) habitat along the Lyell and Dana Forks, characterized by relatively high plant diversity, is important for numerous plant and animal species, including migratory bird populations and special status plant, amphibian, and small mammal species.	None	Under a tighter interpretation of the ORV criteria, alpine habitat was not considered river related or rare, unique, or exemplary.
▪ Mineral springs habitat for localized populations of special status plant species occurs in Lyell Canyon and Tuolumne Meadows.	None	Under a tighter interpretation of the ORV criteria, mineral spring habitat was not considered rare, unique, or exemplary (such habitat is found in many places in the Sierra and Rocky Mountains) or river related or dependent.
▪ The *subalpine* (8,000 to 10,500 feet) meadow systems at Tuolumne Meadows, Dana Meadows, and the meadows along the Lyell Fork sustain an exceptional diversity of river-related habitat types for plant and animal species, including migratory bird populations and special status plant, amphibian, and bat species.	None	Subalpine meadows were redundant in the earlier ORV statements, but are included in the reworded biological ORV below.
▪ Intact river-dependent habitat types, such as pools, riffles, and steep cliffs, between Tuolumne Meadows and Hetch Hetchy Reservoir support a diverse assemblage of species, including special status bird and bat species.	None	Under a tighter interpretation of the ORV criteria the plants and animal communities in the canyon were not considered unique, rare, or exemplary. Also, because these bird and bat species are found outside of the river corridor, they are not considered to be river-related or dependent.
▪ Largely intact low-elevation (below 4,000 feet) riparian and meadow communities provide habitat for an exceptionally diverse assemblage of bird species and several special status bat species at Poopenaut Valley, one of the few undeveloped low-elevation meadow/wetland complexes in the region.	**Poopenaut Valley contains a type of low-elevation riparian and wetland habitat that is rarely found in the Sierra.**	The previous description emphasized the bird diversity. It is instead the wetland habitat that is unusual and most directly linked to the river.
Some of the Most Extensive Subalpine Meadow and Riparian Complexes in the Sierra Nevada	**In Tuolumne Meadows, Dana Meadows, and along the Lyell Fork, the Tuolumne River sustains one of the most extensive Sierra complexes of subalpine meadows and riparian habitats with relatively high biological integrity.**	The revised description places more emphasis on the attributes of the meadows that make them an ORV: their relatively high biological integrity and size.

Draft Outstandingly Remarkable Value (ORV) Statement from the 2007 Tuolumne Planning Workbook	Revised ORV Statement(s) in the *Final Tuolumne River Plan/EIS*	Reason for Change
GEOLOGIC ORV		
Exceptionally Well-Preserved Evidence of Glacial Processes The following geologic resources contribute to this value:	None	Statement was too broad and too inclusive to be useful in guiding river management.
▪ The Tuolumne River corridor represents one of the most extensive examples of stairstep river morphology in the Sierra Nevada.	**Between Tuolumne Meadows and Pate Valley, the Tuolumne River demonstrates classic stairstep river morphology, repeatedly transitioning from calm stretches to spectacular cascades.**	Description was rewritten to emphasize those components most integral to this ORV.
▪ The geomorphology of Lyell Canyon provides a textbook example of a meandering river through a glaciated U-shaped valley.	None	Under a tighter interpretation of the ORV criteria the glacial topography was not considered to be unique, rare, or exemplary; glaciated U-shaped valleys are found throughout the American West.
▪ Unusual glacial kettle ponds are located along the Dana Fork.	None	Under a tighter interpretation of the ORV criteria the glacial topography was not considered to be river related (glaciers created these features, not the river).
▪ Dramatic evidence of glaciation along the Dana Fork, Tuolumne Meadows, and the Grand Canyon of the Tuolumne includes glacial erratics, moraines, roches moutonnées, striations, hanging valleys, and some of the best examples of glacial polish in the United States.	None	Under a tighter interpretation of the ORV criteria the glacial topography was not considered to be river related (glaciers created these features, not the river).
▪ Poopenaut Valley contains some of the lowest elevation evidence of glaciation found anywhere in the western Sierra Nevada.	None	Under a tighter interpretation of the ORV criteria the glacial topography was not considered to be river related.
HYDROLOGIC ORVS		
Exceptional Water Quality	None	As addressed by the Wild and Scenic Rivers Act, water quality is a river value that is independent of the ORV criteria and should be addressed separately.
Exemplary Diversity of Hydrologic Features The following hydrologic resources contribute to this value:	None	As addressed by the Wild and Scenic Rivers Act, hydrologic processes, principally the fact that the river is free-flowing, is a river value that is independent of the ORV criteria and should be addressed separately.
▪ One of the most extensive examples of stairstep river morphology in the Sierra Nevada creates a series of spectacular cascades and waterfalls between Tuolumne Meadows and Hetch Hetchy Reservoir.	None	Stairstep morphology was redundant in the earlier ORV statements (see above).
▪ A classic and well-known example of an alkaline spring occurs at Soda Springs.	None	Under a tighter interpretation of the ORV criteria, mineral spring habitat was not considered rare, unique, or exemplary (such habitat is found in many places in the Sierra and Rocky Mountains) or river related or dependent.

Draft Outstandingly Remarkable Value (ORV) Statement from the 2007 Tuolumne Planning Workbook	Revised ORV Statement(s) in the *Final Tuolumne River Plan/EIS*	Reason for Change
PREHISTORIC AND AMERICAN INDIAN CULTURAL ORVS	CULTURAL ORV	
Regionally Significant Archeological Evidence of Prehistoric Travel, Trade, Land Use, and Settlement The following archeological sites, eligible for listing on the National Register of Historic Places, contribute to this value:	**The rich archeological landscape along the Tuolumne River reflects thousands of years of travel, settlement, and trade.**	Description was rewritten to be inclusive of all elements related to this ORV.
▪ The oldest known sites in the river corridor, which are found along the Dana Fork, provide evidence of continuous human use and possible environmental change in the region over millennia.	See above	The value of archeological sites throughout the river corridor was combined into a single ORV statement (see above).
▪ Tuolumne Meadows and the Grand Canyon of the Tuolumne are flanked by concentrations of prehistoric archeological sites with excellent integrity and data ORVs. The remote canyon sites retain a level of integrity that is uncommon in the region.	See above	The value of archeological sites throughout the river corridor was combined into a single ORV statement (see above).
▪ Prehistoric archeological sites in the low-elevation flats represent possible year-round use by groups of American Indian people.	See above	The value of archeological sites throughout the river corridor was combined into a single ORV statement (see above).
HISTORIC ORV	CULTURAL ORV	
Nationally or Regionally Significant Evidence of Historic Trade, Travel, Recreation, and Early Conservation Activism The following historic resources contribute to this value:	None	Statement was too broad and too inclusive to be useful in guiding river management.
▪ Historic sites along the Lyell and Dana Forks attest to their status as regionally important trade and travel routes between the eastern and western Sierra.	None	Under a tighter interpretation of the ORV criteria these sites were not considered to be river related or unique, rare, or exemplary (many trade routes crossed the Sierra).
▪ Historic sites at the Soda Springs Historic District in Tuolumne Meadows commemorate the significance of this area as a place inspiring conservation activism on a national scale. Parsons Memorial Lodge is a national historic landmark.	**Parsons Memorial Lodge, a national historic landmark sited near the Tuolumne River, commemorates the significance of this free-flowing segment of the river in inspiring conservation activism and protection of the natural world on a national scale.**	The revised description places more emphasis on Parsons Memorial Lodge, which best fits the unique, rare, or exemplary criterion, of all the Tuolumne Meadows historic sites.
▪ Rustic accommodations at Tuolumne Meadows and Glen Aulin represent the development of a nationally distinctive kind of high-country touring.	None	Under a tighter interpretation of the ORV criteria rustic accommodations were not considered to be river related (the siting of Vogelsang and Sunrise High Sierra Camps, distant from a river, indicates that they are not river related) or unique, rare, or exemplary (such rustic lodging is common throughout the West, at outfitter camps in many national forests).
TRADITIONAL CULTURAL ORV		
Resources Important for Maintaining the Cultural and Religious Traditions of American Indian People	See above	The archeological value and traditional cultural value of sites were determined to be so closely related, that they were combined into the single ORV statement above.

Draft Outstandingly Remarkable Value (ORV) Statement from the 2007 Tuolumne Planning Workbook	Revised ORV Statement(s) in the *Final Tuolumne River Plan/EIS*	Reason for Change
SCENIC ORV		
Magnificent Scenery with a Character Unique to the Tuolumne River Corridor The following scenic resources contribute to this value:	None	Statement was too broad and too inclusive to be useful in guiding river management.
▪ The largest glacier on the western flank of the Sierra Nevada is part of the spectacular high-country views from the Lyell Fork.	**Lyell Canyon offers remarkable and varied views of lush meadows, a meandering river, a U-shaped glacially carved canyon, and surrounding peaks.**	Description was rewritten to emphasize those components most integral to this ORV.
▪ Breathtaking views along the Lyell Fork, Dana Fork, and Tuolumne Meadows encompass the meandering river, adjacent meadows, glacially carved domes, and rugged mountain peaks.	**Dana and Tuolumne Meadows offer dramatic views of a meandering river, adjacent meadows, glacially carved domes, and the Sierra Crest.**	Description was rewritten to emphasize those components most integral to this ORV.
▪ The low-relief topography at Tuolumne Meadows and Dana Meadows allows for magnificent skyward views, including some of the best views of dark night skies in the Sierra Nevada.	None	Under a tighter interpretation of the ORV criteria, dark night skies were not considered to be river related or rare, unique, or exemplary (other locations in the Sierra Nevada have dark night skies).
▪ Views within the Grand Canyon of the Tuolumne include steep canyon walls, hanging valleys, and dramatic cascades of falling water.	**The Grand Canyon of the Tuolumne offers views of a deep, rugged canyon with vast escarpments of granite, hanging valleys, and tall cascades of falling water.**	Description was rewritten to emphasize those components most integral to this ORV.
▪ The stretch of river below Hetch Hetchy Reservoir offers stunning views of verdant meadows, a glacially carved bedrock valley, large river pools, dramatic canyon walls, and a constricted slot canyon.	None	Under a tighter interpretation of the ORV criteria these views were not considered to be unique, rare, or exemplary.
RECREATIONAL ORV		
Outstanding Opportunities for Experiences Characterized by Primitive, Unconfined Recreation The following recreational resources and opportunities contribute to this value:	**Wilderness travelers along the Tuolumne River engage in a variety of activities in an iconic High Sierra landscape, where opportunities for primitive and unconfined recreation, self-reliance, and solitude shape the experience.**	The recreational ORV was rewritten to express the recreational value of the wilderness river setting rather than specific kinds of activities, which would not necessarily be river-related or unique, rare, or exemplary.
▪ The Pacific Crest Trail, which follows the Lyell Fork and the Tuolumne River through Tuolumne Meadows, offers opportunities to travel one of the country's eleven national scenic trails.	None	See above.
▪ The Grand Canyon of the Tuolumne offers exceptional opportunities for backcountry excursions through a deep, rugged, and seldom-traveled gorge.	None	See above.
▪ The recreational opportunities below Hetch Hetchy Reservoir are unusual due to the relative rarity of low-elevation designated wilderness elsewhere in the Sierra Nevada.	None	See above.
Outstanding High-Elevation Recreational and Educational Opportunities that Are Accessible to People of Various Ages and Abilities The following recreational resources and opportunities contribute to this value:	**Rare and easy access to high-elevation sections of the Tuolumne River through Tuolumne and Dana Meadows is provided by the Tioga Road across the Sierra.**	The recreational ORV was rewritten to emphasize the access to high country afforded by the Tioga Road, rather than specific kinds of activities, which would not necessarily be river-related or unique, rare, or exemplary. It is the access that is rare, and because the road traverses the river corridor, it is river-related.

Draft Outstandingly Remarkable Value (ORV) Statement from the 2007 Tuolumne Planning Workbook	Revised ORV Statement(s) in the *Final Tuolumne River Plan/EIS*	Reason for Change
RECREATIONAL ORV, CONTINUED		
▪ A wide range of recreational opportunities attract people of various ages and abilities to Tuolumne Meadows, where many individuals, families, and groups establish traditional ties with the area. The National Park Service and other organizations focus on the river and adjacent meadows as a centerpiece of nature interpretation and education in the Sierra Nevada.	None	See above.
▪ The rustic high-country lodging available at the Tuolumne Meadows Lodge and the Glen Aulin High Sierra Camp is associated with the development of a nationally distinctive High Sierra recreational opportunity.	None	Under a tighter interpretation of the ORV criteria rustic high country lodging was not considered to be river related (the siting of Vogelsang and Sunrise High Sierra Camps, distant from a river, indicates that they are not river related) or unique, rare, or exemplary (such rustic lodging is common throughout the West, at outfitter camps in many national forests).
SCIENTIFIC ORVS		
Invaluable Opportunities to Examine Natural, Cultural, and Sociological Resources with High Research Value The following resource conditions contribute to this value:	None	The category of 'scientific' ORVs was determined to be redundant with the other categories, such as the biologic and geologic ORVs. Although the specific term *scientific features* is used in section 10(a) of the Wild and Scenic Rivers Act (in the context of giving primary emphasis to protecting "aesthetic, scenic, historic, archaeologic, and scientific features," this category is not included in the ORV-related eligibility criteria developed by the Interagency Wild and Scenic Rivers Coordinating Council.
▪ Relatively intact Sierran river ecosystems provide crucial baseline data and basic information on how components of natural and social systems interact and respond to perturbation (e.g., climate change).	None	See above.
▪ The entire river corridor is either in or surrounded by designated wilderness, which is critical to protecting the integrity and maintaining the scientific value of these resources.	None	See above.
▪ Some of the best evidence of glacial processes in the Sierra Nevada occurs along the river corridor.	None	See above.
▪ Well-preserved prehistoric and historic archeological resources within the river corridor provide outstanding opportunities to research trade, travel, subsistence, and technological change that occurred over thousands of years.	None	See above.
▪ Previous and ongoing human interaction with and visitation to the Tuolumne River and its environs provides outstanding opportunities for social science inquiry.	None	See above.

Appendix H:
Ecological Restoration Planning for the Tuolumne Wild and Scenic River Comprehensive Management Plan

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Ecological Restoration Planning for the Tuolumne Wild and Scenic River Comprehensive Management Plan





Ecological Restoration Planning for the Tuolumne Wild and Scenic Comprehensive Management Plan

Division of Resources Management and Science

Yosemite National Park

WRITTEN BY

CHAPTER 1 - ECOLOGICAL RESTORATION PLANNING FOR THE GREATER TUOLUMNE MEADOWS AREA

MONICA BUHLER, SUE BEATTY AND APRIL JOHNSON

CHAPTER 2 - MITIGATION MEASURES TO PROTECT CULTURAL RESOURCES FOR THE GREAT SIERRA WAGON ROAD ECOLOGICAL RESTORATION PROJECT

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REVIEWED BY

NIKI NICHOLAS AND JUDI WEASER

Cover Photos:

Upper - Photo taken from the west end of Tuolumne Meadows late 1800s

Lower – Photo taken from the west end of Tuolumne Meadows 2008

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INTRODUCTION

This report presents an ecological restoration plan to support the Tuolumne Wild and Scenic River Comprehensive Management Plan (Tuolumne River Plan). It provides a description of sites recommended for ecological restoration in the Tuolumne River area, incorporating analyses of the status and integrity of plant communities in Tuolumne Meadows, and a cultural landscape review of the Great Sierra Wagon Road.

The first chapter in this report describes recommended ecological restoration actions throughout the Tuolumne Meadows area and the justification and need for these proposed actions. This chapter focuses on restoration actions associated with the Tuolumne River, Tuolumne Meadows, roads, trails, campgrounds and lodging.

The second chapter in this report focuses on cultural resource protection of a portion of the Great Sierra Wagon Road. This chapter provides culturally sensitive recommendations for the ecological restoration efforts along the road. It establishes mitigation measures for ecological restoration of abandoned sections of the road, and maps the past alignment(s) of the Great Sierra Wagon Road relative to today's Tioga Road. Ongoing consultation with NPS cultural resources staff will accompany restoration efforts.

The third chapter presents design guidelines for any boardwalk or trail treatment to ensure protection of natural, cultural and scenic resources.

Two studies frequently cited in this document provide baseline data on hydrology and vegetation that directs ecological restoration efforts and priorities. Cooper et al. (2006) completed a study focusing on the effects of the Tioga Road on hydrologic processes and lodgepole pine invasion into Tuolumne Meadows. Researchers found incongruence between existing vegetation, hydrology and soils that requires further study. A second study (Ballenger and Acree 2008) focused on the biological integrity of Tuolumne Meadows north of the Tioga Road. Botanists compared vegetation and habitat attributes of Tuolumne Meadows with eight other subalpine meadows in the park with similar plant communities. This study focused on several measures of meadow integrity – community level plant diversity, forb:graminoid ratio, the percentage of areas without functioning vegetation (bare ground), and levels of small mammal activity.

CHAPTER 1. ECOLOGICAL RESTORATION PLANNING FOR THE GREATER TUOLUMNE MEADOWS AREA

By Monica Buhler, Sue Beatty and April Johnson

THE NEED FOR ECOLOGICAL RESTORATION

Meadow and riparian ecosystems are sites of exceptional ecological importance. While highly productive and diverse, riparian and aquatic systems (including meadows) are the most impacted areas in the Sierra Nevada (SNEP 1996). Declining spatial extent and degradation of riparian and wet meadow ecosystems is occurring throughout California at an alarming rate (SNEP 1996). While riparian and meadow ecosystems occupy relatively little land area in Yosemite National Park, they comprise the most biologically diverse areas and are priorities for ecological restoration (Hall 1997).

Tuolumne Meadows represents some of the most extensive subalpine meadow and riparian habitat in the Sierra Nevada (Weixelman, pers. comm. 2011). This meadow/riparian/river complex provides habitat for a diversity of plant and animal species including several special-status species [e.g., slender lupine *(Lupinus gracilentis)*, Yosemite bulrush *[Trichophorum clementis (Scirpis clementis)]*, Yosemite toad *(Bufo canorus)*, several species of bats, and migratory bird populations). In addition, Soda Springs, a natural alkaline spring, supports localized populations of special status plant species [e.g., Buxbaum's sedge (*Carex buxbaumii)* and marsh arrow-grass (*Triglochin spp.*)].

Natural processes such as hydrology continue to shape the landscape and the meadow and riparian complex that extends through Tuolumne Meadows, Dana Meadows, and Lyell Canyon. While productivity of these riparian and meadow areas remains relatively high, recent studies document changes in the ecological integrity, particularly in parts of Tuolumne Meadows, exemplified by expanding areas of barren ground, atypical plant species, conifer encroachment, and diminished willow cover along riverbanks (Cooper et al. 2006). Development such as buildings, roads, trails, and past land management practices (such as ditching) disrupt hydrology, discourage vegetation establishment, and reduce habitat function. Many undeveloped portions of the Tuolumne Meadows area also exhibit impacts from past and contemporary activities such as human trampling, old roadbeds, historic grazing, stock use, invasive plant introduction, vegetation loss, and alterations to river processes.

Ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed (SER 2004). Through ecological restoration, processes that sustain natural ecosystems, such as hydrology, are restored to provide conditions ideal for the perpetuation of native flora and fauna.

Ecological restoration is also appropriate to restore natural conditions if facilities are removed, updated or relocated. This report describes potential ecological restoration actions for currently impacted areas in the Tuolumne Meadows area, including developed areas that will require restoration if infrastructure are moved or removed, as well as undeveloped areas that have directly or indirectly been altered by human activities. Areas outside of designated Wilderness will be the first priority for restoration. Any restoration actions in designated Wilderness will use the minimum tool necessary to accomplish the project, in accordance with the minimum requirements analysis

Important cultural resources are numerous in the Tuolumne Meadows area and in addition to specific mitigations outlined in Chapter 2, the following programmatic guidance and collaboration with cultural resource staff will ensure protection during ecological restoration. Archeological sites are fragile, nonrenewable resources and contain important information potential about past life ways and represent tangible heritage resources for park-associated American Indian peoples, as well as the visiting public. Where archeological sites are subject to ongoing impacts from social trails or visitor use, careful assessment for stabilization needs is necessary. Social trails will be removed and visitor use of these areas will be discouraged using techniques that retain the data potential of the resource while encouraging native plant establishment and growth. Where ecological restoration actions have the potential to affect archeological resources, actions will be designed to avoid impacts wherever feasible. If avoidance is not possible, employment of archeological site treatments such as controlled testing and data recovery excavations where necessary, will reduce the level of impact and minimize adverse effects. All treatments for pre-contact archeological sites will involve close consultation with park-associated American Indian tribes and groups to ensure these treatments incorporate native concerns, issues and perspectives.

ECOLOGICAL RESTORATION GOALS AND OBJECTIVES

The goals and objectives of ecological restoration focus on restoring primary processes, particularly hydrology, to maintain the structure and function of a self-sustaining ecosystem. Overall goals of ecological restoration actions for the Tuolumne River are to promote sheet flow in meadows, maintain groundwater levels that reflect landforms without incised channels, and limit continued disruptions to natural hydrology, all of which are factors for maintaining native plant communities. In order to achieve these goals the following combination of restoration actions will provide the best avenue for achieving ecological restoration objectives:

- Protect, maintain and restore natural hydrologic function of the Tuolumne River and tributaries

- Protect, maintain and restore the hydrologic connectivity between the main river channel and the floodplain (meadows, ponds, wetlands, cutoff channels, oxbows) during regular high water flows
- Protect, maintain and restore naturally high ground water levels and sheet flow processes to support biotic communities in riparian and meadow plant communities
- Protect, maintain and restore the ability for the Tuolumne River channel to migrate and change course
- Improve and protect ecological integrity of Soda Springs
- Protect, maintain and restore the function, structure, diversity and productivity of native riparian and meadow plant communities and wildlife habitat
- Restore areas impacted by the removal or relocation of facilities to natural conditions



Fig. 1-1. Riverbank erosion



Fig. 1-2. Heavily browsed willow

THE TUOLUMNE RIVER

NPS staff and researchers observed apparent absence of willow and extensive riverbank erosion along the Tuolumne River as it flows through Tuolumne Meadows. This triggered a recent study (Cooper et al 2006) which found that the banks of the Tuolumne River are eroding on outside meanders without concomitant riparian vegetation recruitment on the complementary point bar, likely resulting in channel widening. Channel widening produces a shallower channel with a lower river stage for any given flow volume and a concurrent drop of the groundwater level associated with the river (Cooper et al. 2006). A wider, shallower channel also influences the magnitude and frequency of overbank flow. The low vegetation cover on riverbanks, perhaps exacerbated by human trampling, contributes to the rapid bank erosion.

RIVERBANK EROSION

In general, the riverbanks on the Tuolumne River (particularly on the northwest end of the meadows) have little to no vegetation, particularly willows *(Salix ssp.)* and are characterized by extensive erosion and riverbank loss (Figure 1-1). Willows typically occur in much greater density along the river and are very effective at anchoring soils, stabilizing eroding riverbanks and providing wildlife habitat (Cooper et al. 2006). Vegetation, particularly woody species such as willow, also slows the velocity of water and associated scour while promoting sediment accretion (Mitsch and Grosselink 2007).

Existing willows in Tuolumne Meadows are heavily browsed (Figure 1-2), precocious (flowering on the previous season stems), or have no reproductive structures at all (Cooper et al. 2006). Deer browsing suppresses the plants to heights of less than 0.5 m in species that are typically 1-2 m tall. Because deer prefer tender, young shoots, heavy browsing can also limit the extent and regeneration of willow stands. Willows also provide important nesting habitat for many birds and cover for other





Fig. 1-3. Trampled vegetation on riverbanks

wildlife. The lack of willow establishment on sandbars and riverbanks contributes to the net river channel widening. This absence of vegetation allows water to flow unimpeded, increasing velocity and altering scour and deposition relationships. Understanding of the causal factors of the absence of willows along the Tuolumne River is limited, but the current condition of the riverbanks indicates that this has been occurring for some time and may be a remnant impact from historic sheep grazing (Loheide et al. 2008).

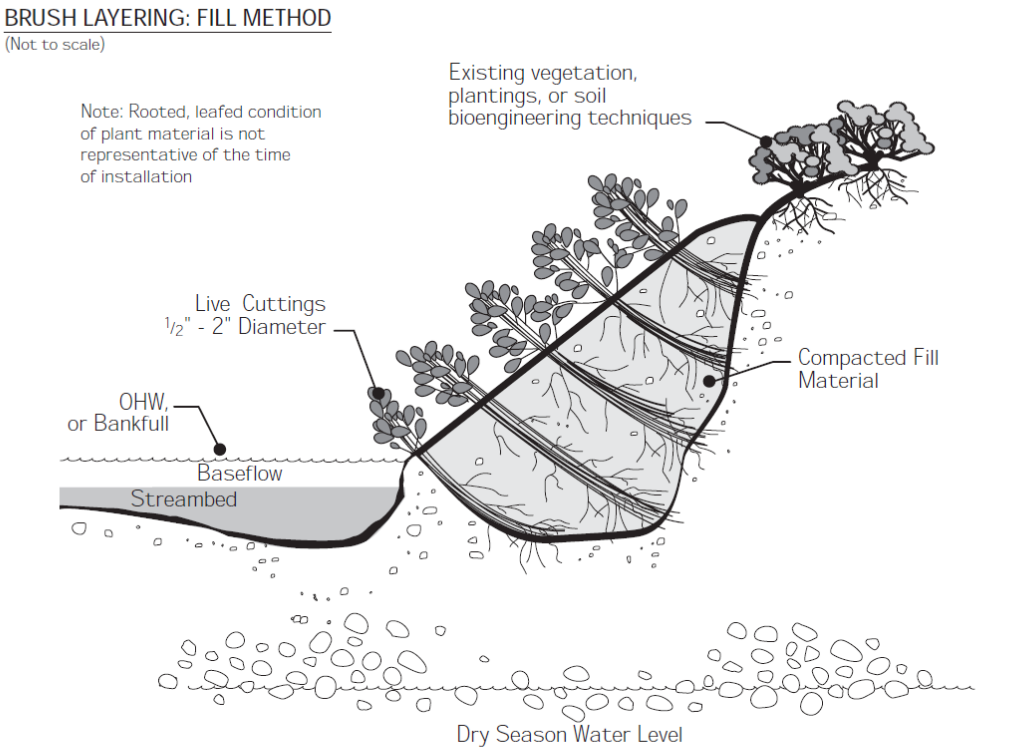
Human trampling can exacerbate vegetation loss and subsequent riverbank erosion (Milestone 1978, Madej et al. 1994), (Figure 1-3). Certain reaches of the Tuolumne River experience high levels of visitor use and are devoid of vegetation, facilitating more erosion. Protection of riverbanks in sensitive areas can help promote vegetation establishment and improve riverbank stability. If further studies indicate that current and past human actions impact riverbank conditions in the Tuolumne Meadows area, ecological restoration may be warranted.

Because of the dynamic nature of river processes and gaps in knowledge, it would be shortsighted to focus riverbank restoration in isolated areas. Therefore, a holistic approach to riverbank restoration and willow establishment is necessary for the entire stretch of the Tuolumne River including both the Dana and Lyell Forks, and as it flows through Tuolumne Meadows. Further research on willow establishment, recruitment and persistence, and sediment dynamics will refine restoration techniques. The following restoration actions are proposed to mitigate impacts and restore riverbanks and natural river processes:

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document any cultural resources
- Protect, maintain and restore the function, structure, diversity and productivity of native riparian and meadow plant communities and wildlife habitat
- Apply bioengineering techniques (e.g. brush layering, anchor logs, intensive planting of vegetation) to stabilize riverbanks, promote sediment accretion, and minimize further riverbank loss
- Establish willows (using hydro-drilling techniques) along riverbanks
- Protect impacted riverbanks from further trampling using temporary fencing or natural obstructions, such as logs, so vegetation can establish
- Install temporary exclosures to protect willow regeneration from deer browsing
- De-compact, mulch, seed and plant to encourage vegetation establishment on denuded riverbanks

Examples of bioengineering techniques commonly used for riverbank restoration include willow hydro-drilling, brush layering (Figure 1-4), willow wattles and anchoring logs to stabilize soils and accrete sediment. To establish willow and prevent them from washing away during high water events, cuttings are cut from established plants and placed deeply into the soil. A hydro-drill (a pump with a

high-powered stream of water) will be used where riverbank areas are rocky or compacted to create deep holes into which cuttings are placed. Willows may also be bundled and partially buried and anchored along riverbanks.



Brush Layering

Brush layering is the technique of laying cuttings on horizontal benches that follow the contour of either an existing or filled bank (slope). Branches serve as tensile inclusions or earth-reinforcing units to provide shallow stability of slopes.

The cuttings are oriented more or less perpendicular to the slope face. The portion of the brush that protrudes from the slope face assists in retarding runoff and reducing surface erosion. When used on a fill slope, this technique is similar to vegetated geogrids without the geotextile fabric.

Applications and Effectiveness

- Breaks up the slope length into a series of shorter slopes separated by rows of brush layer.
- Dries excessively wet sites.
- Works where the toe is not disturbed.
- Works on a slump and as a patch.
- Reinforces the soil with the unrooted branch stems.
- Reinforces the soil as roots develop, adding significant resistance to sliding or shear displacement.
- Traps debris on the slope.
- Aids infiltration on dry sites.
- Adjusts the site's microclimate, aiding seed germination and natural regeneration.
- May cause flow to wash soil from between layers.
- Does not work on outside bends.

Construction Guidelines

Brush layering can be installed on an existing or filled slope. On an existing slope, a bench is cut 2- to 3-ft. deep and angled slightly down into the slope. On a fill slope, brush layers are laid into the bank as it is filled.

Live material

- Branch cuttings should be 0.5 to 2 in. in diameter and long enough to reach the back of the bench and still protrude from the bank.
- Side branches should remain intact.
- Mix easy-to-root species such as willow, dogwood, and poplar.

Fig. 1-4: From *A Soil Engineer's Guide* (Eubanks et al. 2006)

TUOLUMNE MEADOWS

Meadows and wetlands link the main Tuolumne River channel with neighboring terrestrial systems and regulate the entry of water, nutrients, and organic material into the river channel (Gregory et al. 1991). Humans have used the Tuolumne Meadows area for thousands of years, but in the last century the level and intensity of use has increased and changed dramatically. Human alterations in Tuolumne Meadows range from historic actions such as digging ditches to drain ponded areas of the meadow, building roads in the meadow, and extensive sheep grazing from 1860-1905, to contemporary impacts from trampling, development, and fragmentation. Other impacts result from parking area edge effect or parking creep leading to soil compaction, soil loss, and vegetation loss. Tuolumne Meadows is not only ecologically important but also is a treasured resource for visitors and highly valued by traditionally associated people because it contains sacred areas and provides traditionally used ecological resources. Efforts to sustain the integrity of the Tuolumne River ecosystem are likely to be more effective over the long term when considering the integrity of the meadow and associated riparian areas.

VEGETATION

Most of the greater Tuolumne Meadows comprises subalpine meadow vegetation with pockets of subalpine forest dominated by lodgepole pine *(Pinus contorta).* Existing plant communities are influenced by hydrologic and climatic conditions as well as past (intensive grazing, fire suppression, tree removal) and current (tree removal, infrastructure, fire suppression, trampling) human activities. Changes in hydrology from a variety of perturbations including ditching, road and trail building, water diversions, livestock grazing, visitor foot traffic, fire suppression, and imbalances in the mammal herbivore populations, have altered the plant and animal communities that once occupied the meadow (WRD 2010). These disturbances alter hydrologic conditions including water delivery (primarily through channelization rather than sheet flow), sediment dynamics, lowered groundwater levels, and changes in the amount and timing of ground and surface water availability for plants (Loheide et al. 2007).

A study completed in 2008 (Ballenger and Acree) compared several attributes of meadow integrity in Tuolumne Meadows with eight other subalpine meadows in Yosemite. All other meadows in the study have also experienced grazing or other perturbations and are not considered reference or pristine, but provide a range of meadow condition for comparison. Assessments focused on indicators of meadow function and structure including community level plant diversity, forb (flowering herbaceous plants):graminoid (grasses, sedges, rushes) ratio, the percentage of areas without functioning vegetation (bare ground), and levels of small mammal activity.

Tuolumne Meadows had a much greater proportion of plots with bare ground as well as a much higher occurrence of plots with bare ground cover greater than 50% when compared to other meadows. In addition, Tuolumne Meadows study plots had four to eight times the proportion of plots dominated by forbs (Ballenger and Acree 2008). In terms of the forb:graminoid ratio, study plots in Tuolumne Meadows had two to eight times the proportion of plots dominated by forbs compared to six of the other meadows (Ballenger and Acree 2008). Areas in Tuolumne Meadows that have a high forb:graminoid ratio are of particular importance, especially in areas with high organic matter content in the soil. Centuries of the accumulation of organic matter contributed from deep-rooted graminoids typically build and maintain high organic content levels in meadow soils (Cooper et al. 2006). Where soil organic matter content is high but no or few graminoids occur, it is likely that the floristic composition has changed from the time when these soils developed. Shallow- or tap-rooted forbs do not grow as densely as long-lived rhizomatous and clonal plants, and they do not grow into and reduce the areas of bare ground in the same manner as the graminoid species (Ballenger and Acree 2008). Because tap- or shallow-rooted forbs lack the soil stabilizing characteristics of graminoids and do not contribute significantly to soil organic matter, areas with a high proportion of forbs are also at higher risk of soil erosion and loss of soil organic matter (Cooper et al. 2006). Finally, areas with high forb:graminoid ratios and high cover of bare ground are not likely to re-vegetate on their own, and soils may be losing organic matter.

Tuolumne Meadows was the only meadow (of the eight surveyed) with areas dominated by big sagebrush (*Artemisia tridentata*) shrubs (Ballenger and Acree 2008). Related meadow studies found that expansion of sagebrush into meadows might be stemming from livestock grazing-related disturbances, which can compact soil, increase the aridity of soils, and cause changes in meadow hydrologic processes, such as stream incision (Vavra et al. 1994, Magilligan and McDowell 1997). Berlow et al. (2002) found that intact moist meadow vegetation effectively prevents sagebrush germination and subsequent seedling survival, while small disturbances (such as gopher activity) can decrease competition with other vegetation and promote sagebrush invasion (Burke and Grime 1996). The fact that Tuolumne Meadows has areas dominated by big sagebrush is another indication that the biological integrity of this meadow is in a compromised state (Ballenger and Acree 2008).

Mammal burrowing activity can influence plant communities but levels did not differ greatly between Tuolumne and the eight other meadows (Ballenger and Acree 2008). Although Tuolumne had proportionately more plots with high levels of mammal activity (excepting Lower Lyell - also a highly impacted meadow), the proportion of Tuolumne plots with any (low, moderate to high) burrow activity falls within the normal range of variability of the other meadows.

CONIFER ENCROACHMENT

Conifer encroachment into subalpine meadows has been observed and researched for nearly a century in the mountains of western North America. Several studies focused on the Sierra Nevada, including Tuolumne Meadows, indicate that conifer establishment is likely a response to climate change (Jakobus and Romme 1993, Cooper et al. 2006), reduction in fire frequency (DeBenedetti and Parsons 1979), high levels of bare ground and impacts from intensive grazing (Sharsmith 1959, Ratliff 1985, Miller and Halpern 1998, Millar et al. 2004, Cooper et al. 2006).

Conifer encroachment is widespread in Tuolumne Meadows. Lodgepole pines are more likely to establish on bare mineral soil (Lotan at el. 1985) and the high levels of bare ground observed in Tuolumne Meadows provide ideal conditions for germination. Conifer encroachment occurs nearly twice as often in drier meadow plant communities with higher cover of bare ground when compared with other plant communities in the meadow (Ballenger and Acree 2008). Periods of low precipitation and low year-to-year variability in moisture conditions appears to be related to lodgepole pine expansion into Tuolumne Meadows and follows recruitment patterns observed Sierra Nevada wide (Cooper et al. 2006). Because tree removal activities have occurred in Tuolumne Meadows since around1933, it is unknown if earlier tree establishment episodes would have survived in the absence of managed tree removal.

Despite aggressive tree removal over the past 80 years, lodgepole expansion into the meadow continues and is likely due to climatic and soil conditions. Studies of subalpine meadows in the Cascade Mountains indicate that soils in meadows and adjacent forests have different biochemical properties and that meadow soils rapidly assume forest soil characteristics as trees establish in the meadow (Griffith et al. 2005). Changes in the soil pH, extent of fungal mats, denitrification potential, and litter depth, favor continued establishment of conifers even after removal (Griffith et al. 2005). In particular, higher pH and the presence of extensive fungal mats that depend on conifers as their hosts, discourage establishment of meadow species. It is probable that conifer establishment will continue with the current soil, vegetation, and climate conditions and ecological restoration may not be appropriate or feasible for limiting conifer encroachment. However, where conifer encroachment can be attributed to bare ground resulting from human trampling or development, and/or research indicates that conifer encroachment is tied to anthropogenic impacts, ecological restoration that includes conifer removal to restore those plant communities may be appropriate. Clearing of conifers may also continue to maintain scenic vistas and the cultural landscape.

FIRE REGIME

Both natural and anthropogenic factors likely influenced the fire regime in Tuolumne Meadows. Lightning-ignited fires are documented in Yosemite National Park (van Wagtendonk 1993), but the spatial and temporal patterns in Tuolumne Meadows during the last 500 years are largely unknown. Prior to the 1850s, American Indians may have set fires in Tuolumne Meadows to modify vegetation

(Reynolds 1959, Gassaway 2005). During the early years of sheep grazing, sheepherders may have set fires in forested areas around Tuolumne Meadows in order to expand grasslands (Babalis et al. 2006). Fire suppression efforts in Tuolumne Meadows began after 1891 and natural fires have not occurred since at least 1921 (Cunha 1992, Cooper et al. 2006). However, it is unknown if natural or anthropogenic fires burned across Tuolumne Meadows or stopped at the forest/meadow margin.

Based on a limited study (Cooper et al. 2006) of fire scarred trees in the Tuolumne Meadows area, fire has not occurred in the Tuolumne Meadows area since at least the early 1900s, but may have been relatively frequent prior to the mid-1800s. More frequent fires may have modified the meadow environment or led to the mortality of lodgepole seedlings, thus greatly changing the prevalence of conifer establishment. A fire history study of lodgepole pine forests in the Sierra Nevada is in progress and may shed some light on the spatial and temporal patterns of previous fires.

NON-NATIVE SPECIES

Based on limited survey and incidental observations, there is a relatively low level of occurrence of non-native plant species in the Tuolumne area. Observed non-native species include common dandelion *(Taraxacum officionale),* cheat grass *(Bromus tectorum)* and yellow star thistle *(Centaurea solstitialis).* Reports of yellow toadflax *(Linaria vulgaris)* at 9,000 feet in elevation and spotted knapweed *(Centaurea maculosa)* at 7,500 feet in elevation in the Inyo National Forest along Tioga Road above 9,000 feet in elevation, indicate that high elevation areas are still vulnerable to the introduction of highly invasive plant species.

Survey and treatment of common dandelion began in 2010 but no treatment of cheat grass currently occurs. Plans for expanding non-native plant survey of the Tuolumne area will provide managers a better idea of the extent and number of non-native plant species and lead to recommendations for effective treatment. Survey and treatment methods will follow those outlined in Yosemite's Invasive Plant Management Plan Update (NPS 2010).

SUMMARY

These findings support the importance of further investigation into the causes of differing vegetation and habitat features in Tuolumne Meadows. High levels of bare ground in areas that likely have rich organic soil suggest that the dense deep-rooted sedges and grasses that formed these soils over centuries of time may not be self-sustaining, and these areas may even be losing organic matter. When coupled with high forb:graminoid ratios, revegetation may not occur on its own. Research into the root causes of vegetation differences, the make-up of historic vegetation, and whether carbon is being lost in the soil, could confirm these hypotheses (Ballenger and Acree 2008). Meadow integrity is reflected in biotic elements and the processes that generate and maintain those elements such as groundwater levels (Angermeier

and Karr 2005). For example, where high groundwater levels persist during the growing season yet conifer encroachment, high levels of bare ground cover or other indications of impaired meadow integrity are observed, other causal factors are likely (Ballenger and Acree 2008).

Soils

Based on initial assessments of soils in Tuolumne Meadows completed by the National Resources Conservation Service (NRCS), meadow soils are comprised of sandy loams, loamy sands and silt loams, with some component of volcanic ash or glacial till (Jones and Stokes 2001). A hydric soils list is not available for the Tuolumne Meadows area, but redoximorphic features (those indicating prolonged inundation or saturation during the growing season) occur in many areas.

A 2006 study (Cooper et al.) of the organic matter in soils found that content ranged from 12-18% in wet meadow plant communities and approximately 7% in upland and border areas dominated by lodgepole pine and upland herbaceous plant species. Initial investigations indicate that the high organic content of these soils and the low below-ground plant production may suggest that the existing vegetation did not form the existing soils (Cooper et al. 2006). Further investigations are needed to determine if ecological restoration actions are feasible and warranted.





Fig. 1-5. Trails and channels can interrupt or channelize sheet water flows

Hydrologic Processes

Sheet flow is very important in maintaining meadow ecosystems by providing water via surface flow at low velocities and depositing sediment that provides nutrients to meadow biota. Channel incision resulting from downcutting, vegetation loss and headcuts has altered sheet flow processes in the meadow, leading to concentrated flows and a lower groundwater level. Ponding associated with culverts further concentrates water and limits sheet flow.

The conditions of the riverbanks along the Tuolumne River, as well as the shallower and wider channel, also influence sheet flow processes and groundwater levels. According to recent assessments of the hydrologic regime in Tuolumne Meadows, most sediment transport occurs during spring or summer rainstorms (Roche, personal comm). During heavy downpours associated with thunderstorms, water flows off adjacent granite domes at high velocity in sheets that typically flow into lower lying areas such as meadows. Small streams quickly become bank full and redeposit sediment transported by the high velocity water sheeting off of landforms such as granite domes. However, when water reaches trail ruts, incised channels, bare or sparsely vegetated areas, flows are concentrated in these channels rather than sheeting across the meadow (Figure 1-5). Sediment accumulated during these storms is deposited in concentrated areas rather than dispersing throughout the meadow, limiting the distribution of nutrients. Flow concentration and channelization limit infiltration of storm water and snow melt, affecting soil moisture and groundwater.



Fig. 1-6. Headcut near Delaney Creek



Fig. 1-7. Headcut on Budd Creek



Fig. 1-8. Diffuse headcut



Fig. 1-9. Healthy transition between vegetation types

HEADCUTS

Numerous headcuts associated with trails, culvert ditches and natural water channels (such as incised sections of Budd Creek) occur throughout Tuolumne Meadows (Figure 1-6, 1-7). Headcuts occur when water flow is concentrated and channeled at high velocity, increasing scour and altering sedimentation dynamics. Headcuts lower the adjacent groundwater level, expose soils, and limit sheet flow across the meadow. With a lower groundwater level, the upper soil levels dry sooner in the year, potentially changing wetland plant communities to upland plant dominated communities with less anchoring roots. Headcuts are most commonly due to some perturbation such as vegetation loss, concentration of water flow, increase in flow or increase in slope. While these perturbations can occur naturally, most headcuts observed in Tuolumne Meadows result from artificial (human-caused) changes to hydrology.

Incipient headcuts are more diffuse and characterized by an abrupt transition between different vegetation types (Figure 1-8, 1-9). These types of headcuts occur below Pothole Dome where surface water flows off the dome at high velocity and is channeled onto informal trails. The abrupt slope transition from the relatively flat and vegetated surface of the meadow to the unvegetated trail surface erodes the trail margin, progressively incising the meadow surface upslope from the trail. With water flow concentrated by the trail, sediment is channeled to discrete deposition points rather than deposited over larger areas of the meadow.

To mitigate downcutting, headcutting, and other disruptions to hydrologic flow, it is important to understand and address the source of the problem. Because headcutting is a result of channeling (often in trail ruts or incised streambeds), simply filling in the deep gouges does not address the cause of the headcut and it will likely continue. Mitigation of the source or cause of the high velocity and concentrated flow is necessary to limit the development and enlargement of headcuts. To restore the hydrologic conditions to limit further headcutting, the following actions are proposed:

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document any cultural resources
- Determine source of problem (channeling of water from culvert ditches, trails, bare ground etc.) and mitigate to decrease velocity, slope and concentration of flow
- Fill in deep headcuts with local native soil to discourage continued channeling
- Apply bioengineering techniques (such as hydro-drilling of willows, brush layering, installing of woody debris, plant material, and erosion control structures such as wattles or blankets) to divert and disperse runoff, promote deposition and limit scour
- Re-contour surrounding area to natural landform
- Mulch, seed and plant to re-vegetate with native species and minimize bare ground cover, sediment loss and continued erosion



Fig. 1-10. Incised channel near Pothole Dome



Fig. 1-11. Ditch draining kettle pond



Fig. 1-12. Bare area adjacent to shuttle bus stop



Fig. 1-13. Bare area with lodgepole seedlings

Ditches and Incised Channels

There are several ditches and incised channels throughout Tuolumne Meadows associated with perennial and intermittent streams, trails, culverts and historic draining efforts (Figure 1-10). The most prevalent ditches are those adjacent to a section of the Great Sierra Wagon Road that serves as a trail between the Visitor Center and Soda Springs. Other, more subtle ditches are likely remnants of draining efforts of potholes (kettle tarns) and ponding associated with culverts for mosquito abatement (Figure 1-11). There is also extensive channel incision associated with perennial and intermittent streams throughout the meadows that may be attributed to poor or inadequate culverts and bare ground.

Ditches and incised channels alter the hydrologic regime by channeling and concentrating water flow, intercepting surface and groundwater, cutting off flow to downstream areas and altering the timing, velocity, depth and direction of groundwater flow. The resulting concentrated flow and velocity leads to further downcutting. Mitigation of the source in upstream areas and any conditions that have led to channel incision is also necessary. To restore the landform from past ditching and channel incision, the following actions are proposed:

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document any cultural resources
- Determine source of problem and mitigate to decrease velocity, slope and concentration of flow
- Fill in ditches and incised channels with local native soil to discourage continued channeling
- Apply woody debris, native mulch, and plant material (willows using hydro-drilling techniques) to divert and disperse runoff, promote deposition and limit scour
- Re-contour surrounding area to natural landform
- Mulch, seed and plant to re- vegetate with native species and minimize bare ground, sediment loss and continued erosion

Trampling

Several areas experience high levels of human trampling resulting in vegetation loss, soil compaction and impacted meadow habitat. Several of these areas are adjacent to trailhead parking, shuttle bus stops and visitor facilities such as the Visitor Center, Tuolumne Meadows Store and Grill and Gas Station. The meadow adjacent to these high use areas is characterized by a high proportion of bare ground, different vegetation communities than observed in undisturbed portions of the meadow (e.g. dominated by big sagebrush), dead or damaged vegetation, compacted soils, and disrupted hydrologic function such as headcutting (Figure 1-12). Because of the high level of visitor use in the Tuolumne Meadows area, allowing dispersed use only increases the area of vegetation damage. Human trampling may also, via soil compaction and bare soil exposure, contribute to the lodgepole pine encroachment apparent in Tuolumne Meadows (Vale and Vale 1994), (Figure 1-13). Based on a



Fig. 1-14. Parking lot creep

recent study of the effects of tramping on subalpine meadow habitat, Tuolumne Meadows is very sensitive to trampling impacts and is very slow to recover from damage and degradation (Holmquist 2008). Several methods are recommended to minimize these impacts and the following actions are proposed:

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document any cultural resources
- Protect sensitive areas using closure signs, fencing, and/or other natural barriers such as rocks and logs as deterrents
- Focus use by delineating trails, signs and other means of concentrating visitor use to more sustainable areas
- Assess visitor flow associated with trailheads, shuttle bus stops and facilities and focus use to more appropriate areas
- Delineate parking areas adjacent to meadow
- Delineate trailhead areas and the beginnings of trails to reduce informal trail density and minimize area of impact
- Consider shuttle bus stop locations in respect to impacts on vegetation

PARKING AND TRAILHEADS

Limited parking for visitors to the Tuolumne Meadows area puts enormous pressure on the existing parking areas. These areas exhibit parking lot "creep" (Figure 1-14) and continue to expand as more and more visitors try to find parking. Areas around the parking areas exhibit damaged vegetation, bare ground and many informal trails. This also impacts cultural resources and archeological sites. The most impacted areas include the Cathedral Meadow Trailhead (Figure 1-15), the Soda Springs trailhead and the Lembert Dome/Glen Aulin Trailhead. Issues and design for the trailheads along the entire Tioga Road will be addressed in a separate environmental assessment. Depending on the preferred alternative for parking determined in the Tuolumne Meadows Plan, the following actions are proposed to maximize natural and cultural resource protection:

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document any cultural resources
- Delineate parking areas with rocks, logs, or other obstructions to discourage creep (expansion)
- Ensure that parking areas are flat to minimize erosion and runoff
- Organize parking areas and trail access to minimize the tendency for informal trails
- Focus parking areas away from meadow habitat or sensitive cultural areas
- Re-vegetate damaged areas by de-compacting soils, mulching, seeding and planting
- Protect newly restored areas from further impact with closure signs, fencing, and/or other natural barriers such as rocks and logs



Fig. 1-15. Impacted vegetation adjacent to Cathedral Lakes Trailhead

CATHEDRAL LAKES TRAILHEAD

The Cathedral Lakes and Cathedral Peak trailhead is one of the most popular in the Tuolumne Meadows area. Over decades, the roadside parking area has expanded further west and east along the road and further out into vegetated areas, particularly on the north side where parking is immediately adjacent to the meadow. The impacts extend beyond the parking as visitors walk further out into the meadow, trampling vegetation and promoting more bare ground. Because parking is limited, visitors annually increase the parking area by squeezing their cars between trees, boulders or directly onto meadow vegetation. Roadside parking in this fragile meadow ecosystem is neither sustainable nor appropriate. To restore this heavily impacted area after parking is removed, the following actions are recommended:

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document any cultural resources
- Close area to parking with fencing, boulders or other obstructions
- In forested areas, de-compact, mulch and seed the area
- In meadow areas, re-contour, de-compact, mulch, seed, and plant to restore natural meadow topography and vegetation
- Collect seed and grow native vegetation in a nursery to plant the area
- Address any hydrologic diversions or channeling to limit erosion and facilitate sheet flow

ROADS

TIOGA ROAD

Highway 120 (Tioga Road), runs east to west along the southern edge of Tuolumne Meadows and surface water flowing from the southern slopes is channeled through 35 culverts. In 2006, culverts clogged with vegetation and sediment were observed in 12 locations and signs of ponding water south of the road were observed in 23 locations (Cooper et al. 2006), (Figure 1-16). In most places, water is diverted to run parallel to the road at a distance less than 10 meters before a culvert allows water conveyance under the road and into the meadow (Cooper et al. 2006). Ponding is much more frequent near the east end of the meadow, where culverts are spaced further apart. The campground, gas station, store, and other infrastructure, coupled with lower gradient surface slopes, further interrupt water flow. The Tuolumne River is spanned by a bridge on the east end of the meadows that impacts the free-flow of the river.

Culverts



Fig. 1-16. Partially blocked culvert

Because culverts force previously dispersed runoff into localized channels, downcutting has occurred downstream of many of the culverts, particularly in the west end of the meadow. This downcutting results in levee formation and accumulations of soils with greater permeability than surrounding meadow soils. These areas experience isolated prolonged inundation (in the channel) surrounded by higher elevation areas with little to no inundation. Surface water inflows, in particularly Unicorn and Budd Creek, provide groundwater recharge to the meadows, resulting in locally higher water levels near the streams. Downcutting may decrease recharge from surface water to meadow groundwater since it lowers the water table in the downcut streams and limits overbank flow (Cooper et al. 2006).

In addition, many of the culverts along Tioga Road are lower or higher than the surface level of the meadow (Figure 1-17). This increases downcutting, headcutting, and ponding, producing lower water availability and concomitant changes in species composition.



Fig. 1-17. Culvert set too low in meadow

A single culvert conveys the majority of Budd Creek under the Tioga Road and does not effectively accommodate high spring flows. As a result, upstream incision on the south side of the road has deepened the channel and reduced overbank flow. A secondary culvert and associated channel accommodates Budd Creek during very high flows but channel incision and decreased overbank flow from the main stem limits this function (Figures 1-18, 1-19).

An assessment of the placement, number and size of existing culverts helps identify where replacement or modification can improve the hydrologic connectivity between the surface flow from the south side of the road and Tuolumne Meadows,. In general, additional, larger and better-placed culverts could mitigate

many of the observed impacts. Placement of culverts should depend on surface levels of the meadow to minimize downcutting, headcutting and ponding effects. In particular, culverts conveying water from Budd Creek and Unicorn Creek need to be much larger and numerous to accommodate peak spring runoff, some channel migration and "flashy floods" from summer thunderstorms. Many of these culverts have been identified as contributing features to the historic Tioga Road. Suggested mitigations are discussed further in Chapter 2



Fig. 1-18. Ponding at culvert below Budd Creek

Once culverts are enhanced and replaced, work to restore the contours adjacent to existing culverts would help reduce the impacts and likelihood of further downcutting, channeling and ponding on the meadow vegetation and groundwater level. To lessen impacts of the existing culverts on meadow hydrology, the following restoration actions are proposed:

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document any cultural resources
- Fill in ditches associated with culverts with native soil
- Apply woody debris, native mulch, and plant material (willows using hydro-drilling techniques) to divert and disperse runoff, promote deposition and limit scour
- Place rocks to disperse outflow energy and prevent downcutting
- Re-contour slope and landform to natural conditions to encourage sheet flow
- Re-vegetate areas adjacent to and downslope of culverts with native species to slow velocity of water flowing into the meadow, encouraging sheet flow and sediment deposition



Fig. 1-19. Budd Creek culvert

TIOGA ROAD BRIDGE

The Tioga Road Bridge, west of the Lembert Dome parking area, has a 400-foot length of fill on the northeast approach to the bridge that acts as a levee, bisecting the wetland floodplain into two separate areas. Transfer of water downstream across the right bank floodplain is impeded, forcing overbank flows back through the constricted bridge opening that increases hydraulic pressure on the bridge. This condition also erodes the riverbank, alters the composition of wetland soils in the area, and compromises the structural integrity of the bridge. To reestablish a hydrologic connection between the floodplain on either side of the fill and allow water to transfer under the approach road, one of the following actions are recommended:

- Install a series of large culverts placed on grade under the road or
- Increase span of bridge to a greater width, including more of the river and floodplain.

Little Blue Slide

Little Blue Slide is an unstable road cut east of Tuolumne Meadows along Tioga Road. Continuous sloughing of silt and boulder-sized material from the road cut impacts water quality, park operations, and safety. Stabilization of the site would require development of an engineering and revegetation strategy followed by extensive manipulation of the cut slope above the road and the fill slope below the road.

Mitigation of impacts due to the Little Blue Slide road cut should consist of two components: 1) a low guard wall at the base of the slope next to the road to intercept boulders and sediment before they hit the road and 2) stabilization of the remaining cut slope using a proven bioengineering approach. The guard wall may be 6-10 feet in height and engineered for impacts of large boulders tumbling from the top of the cut slope. The proposed bioengineering approach consists of cutting benches in the slope and backfilling each bench with blue slide sediments ameliorated with organic materials. The fill will be planted with local plant species capable of withstanding the harsh climate and creating substantial root masses that can stabilize the slope. While these measures will not eliminate fine sediment flux from the slope, they will reduce it to levels of other steep natural slopes nearby.

- Engineer benches backfilled with soil with adequate rooting depth for plants to stabilize the surface layer, facilitating infiltration and providing cover
- Construct a small retaining wall at the base of the slope on the road
- Re-vegetate the slope by planting, seeding and mulching

Historic Roads

In 1883, the Great Sierra Consolidated Silver Mining Company built the Great Sierra Wagon Road (GSWR) to access the company's mines east of Tuolumne Meadows. In 1915, the road became a public highway and was officially renamed the Tioga Road and a segment was rerouted through Tuolumne Meadow to cross the river (referred to as the Old Tioga Road), (Figure 1-20). Today, some sections of the original Great Sierra Wagon Road and Old Tioga Road are well-defined and serve as a trail or access road. Other sections of the Great Sierra Wagon Road lie under the footprint of the present Tioga Road, while some sections are barely discernible. The western portion of the Great Sierra Wagon Road is listed in the National Register of Historic Places, with other sections likely eligible to be listed. This Great Sierra Wagon Road, and other historic roads in the Tuolumne Meadows area, are also contributing features to the Tuolumne Meadow Historic District and are subject to considerations of the National Historic Preservation Act (NHPA).

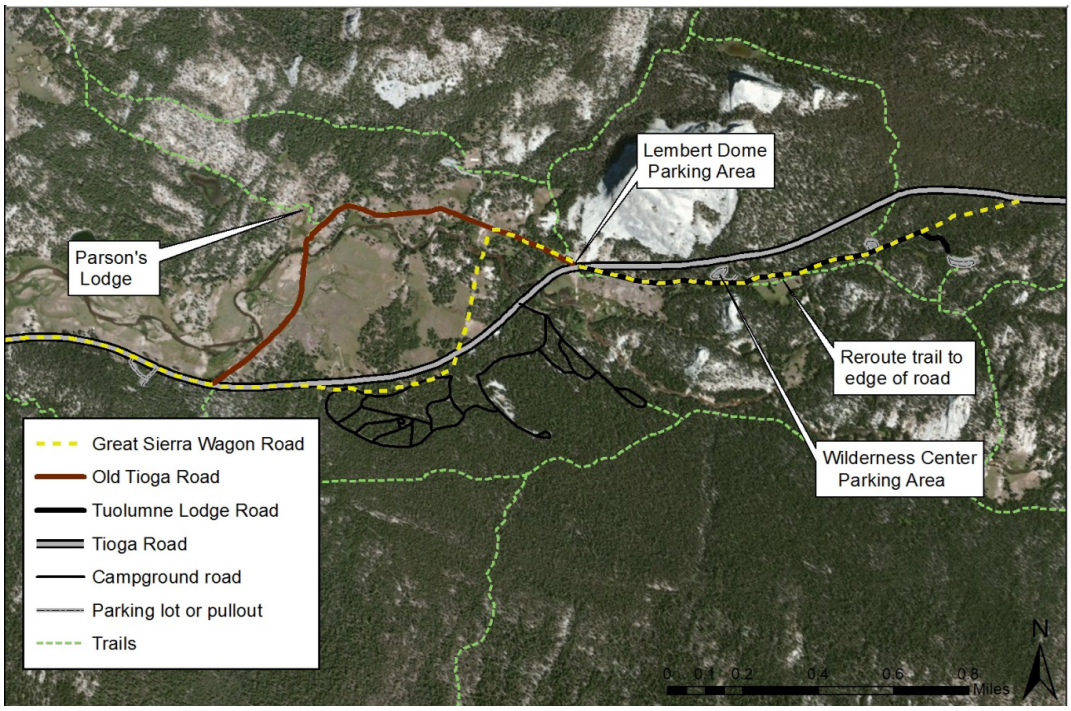


Figure 1-20: The Great Sierra Wagon Road and Old Tioga Road alignment

There are remnants of these old roadbeds along the northern and southern edges of Tuolumne Meadows (Figure 1-21, 1-22). Many sections of the roads are difficult to detect, while other sections are obvious and characterized by sparse vegetation, multiple ruts, and conifer encroachment. While these roadbeds have historic value, they also impact meadow integrity in a number of ways including channeling water, altering vegetation composition, retaining compacted soils, and disrupting hydrologic connectivity (ponding upslope and drying downslope areas).



Fig. 1-21. Old roadbed north of the Visitor Center

As part of larger efforts to restore meadow health, the most ecologically-damaging aspects of these historic resources may be addressed through ecological restoration. Since these actions are likely represent an adverse impact under NHPA, historic preservation mitigation measures are discussed in Chapter 2. Two sections of old roadbed currently used as trails require special attention due to the impacts on ecological processes in the adjacent meadow and are described in more detail below. The following general restoration actions are proposed for other abandoned sections of road:

- Re-contour, de-compact, mulch and seed to restore to natural conditions
- Remove associated fill or infrastructure such as culverts
- Ensure documentation of historic resources before removal

Chapter 2 in this report provides a cultural resource analysis with design recommendations and mitigations required to minimize adverse effects to the contributing structures and the historic district should ecological restoration take place. Following are general objectives for historic roads:



Fig. 1-22. Old roadbed near Delaney Creek

- Document the Great Sierra Wagon Road and Old Tioga Road through Tuolumne Meadows
- Retain alignments of all trails along historic road segments
- Retain first (southernmost) 174 meters (570 feet) of the Old Tioga Road roadbed and stretches of the Great Sierra Wagon Road near the Tioga Road that are minimally impacting meadow hydrology (e.g. across from the Visitor Center)
- Conduct archeological monitoring during any operations that require soil disturbance

The sections below provide more detail on the specific restoration actions that are proposed by each section of old roadway.



Fig. 1-23. Headcut and downcutting

Section 1: Lembert Dome Parking area to Tuolumne Lodge

The Great Sierra Wagon Road crosses the Tuolumne River just south of Dog Creek, continues to the south across from the present day Lembert Dome Parking area and through meadow habitat towards the Tuolumne Lodge. A section of this portion of the Great Sierra Wagon Road now serves as a trail between Lembert Dome Parking area to the Wilderness Center. This section of trail is heavily used by stock coming from the NPS stables towards the Glen Aulin trail. Due to heavy use and erosion, some sections of the trail are up to 3 feet below the grade of the meadow and up to 12 feet wide; significantly impacting meadow hydrology by lowering groundwater levels and channeling surface flow. Culverts on the nearby Tioga Road concentrate surface flow coming off Lembert Dome (particularly during heavy thunderstorms) that previously sheet flowed to the meadow into the trail corridor, leading to extensive erosion, headcuts and sediment transport into the river. This concentration of sheet flow in the trail corridor diverts water from the meadow areas, lowers groundwater levels, increases erosion and alters plant communities (Figure 1-23). Because this section of trail is so deep and sandy, it is difficult to walk on so visitors and pack stock walk on the edge next to the trail, causing more vegetation loss and further widening (Figure 1-24). There are also several informal trails leading to the main trail, further exacerbating channeling effects. In order to mitigate impacts to the meadow, prevent sediment from going into the Tuolumne River, retain the trail for foot and pack stock traffic, and minimize any adverse effect to the historic character of the Great Sierra Wagon Road, the following actions are proposed. Project implementation will require the utilization of heavy equipment including an excavator, dozer, skid steer, and dump truck over up to 10 weeks in late summer/early fall when river and groundwater levels have dropped.



Fig. 1-24. Wide deep rut with trail on side

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document any cultural resources
- Bring trail ruts up to the same elevation as the adjacent meadow (fill with soil, rocks and/or gravel) – heavy equipment such as skid steer and excavator may be used



Fig. 1-25. Ditches adjacent to old roadbed

- Apply woody debris, plant material, and erosion control structures such as wattles or erosion blankets to divert and disperse runoff, promote deposition and limit scour
- Establish native vegetation (locally gather seed, grow out seeds in a nursery setting and plant, transplant salvaged plants and mulch) to slow water velocity
- Narrow roadbed to width recommended by cultural resource specialists, while minimizing impacts to natural resources
- Increase the number and size, and improve the placement of culverts conveying water flowing off of Lembert Dome (north of the road) to reduce channeling, downcutting, headcutting, and velocity, and encourage sheet flow
- Stabilize existing headcut – completely fill and plant appropriate native plants and install a series of properly designed checkdam structures to encourage sediment accretion
- Relocate a section of trail that diverges from the historic GSWR alignment out of the meadow across from the Tuolumne Ranger Station to the edge of the road and restore the meadow to natural conditions
- Improve signage to encourage visitors to stay on the trail

Section 2: Tioga Road to Parson's Lodge and Soda Springs

The section of the Old Tioga Road that begins east of the Visitor Center from the current Tioga Road to Parson's Lodge now serves as the main foot and stock trail to the lodge and the Soda Springs area. Constructed in 1915, the roadbed was elevated above the meadow level with soil dug from the sides of the road (Figure 1-25). Today, the road averages 12 feet wide, and the roadside ditches channel water laterally alongside the roadbed into one of four culverts (one of which conveys Unicorn Creek). These roadside channels, along with the damming effect of the roadbed, alter surface flow ultimately changing plant communities. Where the road crosses Unicorn Creek and another small drainage, inadequate culverts have caused significant scour and headcutting downstream of the roadbed (Figure 1-26). A bridge across the Tuolumne River brings visitors to the lodge and these bridge abutments constructed on the riverbanks alter natural river processes and sediment deposition and scour. In addition, conifer encroachment on the roadbed (Figure 1-27) detracts from scenic views of the meadow.



Fig. 1-26. Scour downstream of culvert on Unicorn Creek

In order to mitigate impacts on hydrology and meadow vegetation, retain the trail for foot and pack stock traffic, retain the historic alignment of this road and address impacts of the bridge over the Tuolumne River, the following actions are proposed. Treatment will vary depending on the expected surface water flow, level and the best opportunity for restoration of meadow hydrology. Project implementation will require the utilization of heavy equipment including an excavator, dozer, skid steer, and dump truck over up to 10 weeks in late summer/early fall when river and groundwater levels have dropped.



Figure 1-27. Multiple trail ruts on old roadbed

Historic road:

- Conduct archeological monitoring prior to and during implementation
- Salvage plants in ditches or on roadbed prior to restoration work and replant them to encourage plant reestablishment and to limit erosion
- Promote surface water connectivity utilizing a range of the following actions (further described in Chapter 3), (Figure 1-28):
    - Install box culverts under the trail to provide surface water connectivity for drainages (such as Unicorn Creek) and areas of ponding water
    - Lower roadbed and use that material to fill in ditches (specifically those parallel to the roadbed), headcuts, borrow pits and/or incised channels to restore natural meadow topography
    - Install boardwalk (i.e. wood, metal or concrete) or other trail surface through wet and saturated areas to maintain sheet flow and protect vegetation from trampling
    - Construct low crossings for stock and stepping stones for visitors in areas with intermittent flow to allow for surface water connectivity during spring runoff
- Narrow or maintain trail corridor to approximate historic road width to retain historic character (determine by cultural resource specialists)and minimize impacts to cultural and natural resources
- Gather and spread local native seed to encourage plant establishment
- Remove conifers that have established in response to the drier conditions on the roadbed
- Apply woody debris, plant material, and erosion control structures such as wattles or blankets to divert and disperse runoff, promote deposition and limit scour

- Improve signage to encourage visitors to stay on the designated trail
- Avoid impacting archeological site on northern end near the Tuolumne River (south of the bridge)

Tuolumne River Bridge area:

- Install two low spans up to the southern abutment to increase flow capacity of the side channel currently cut off from the river by road fill
- Consider bridge redesign If impacts on the Tuolumne River continue: focusing on improving bank abutments (abutment in the middle of the river is built on natural boulder and has less impact)

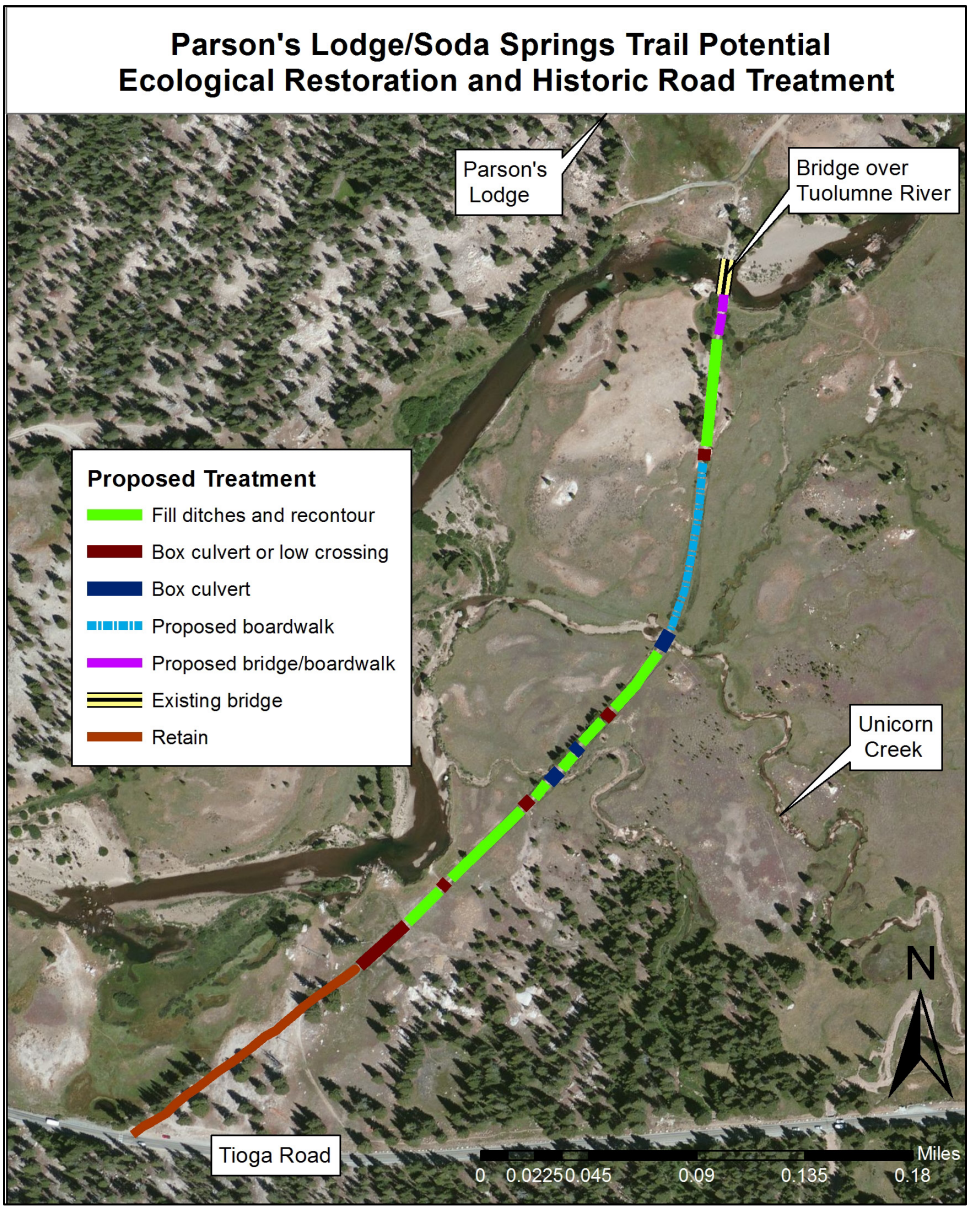


Figure 1-28. Proposed treatment for the old road to Parson's Lodge

TRAILS

There are miles of both formal and informal trails throughout the Tuolumne Meadows area. Trails through meadows can affect hydrology, compact soils, reduce vegetation cover and impact scenic views. In general, multiple rutted trails are common in meadows because as the ruts deepen they are subject to more saturation and inundation, causing visitors to move to drier areas adjacent to the trail, thus creating a new trail that also will become rutted (Figure 1-27). In some areas of frequent saturation, the trail may be built up to keep the tread dry but this impacts hydrology by obstructing sheet flow by acting as a dam. Most of the formal trails in the Tuolumne Meadows area lie within the footprint of the Great Sierra Wagon Road and are described in that section. There are also heavily used trails along the Dana and Lyell Forks of the Tuolumne River. Sections of these trails also exhibit braiding, rutting and widening. To mitigate impacts of both formal and informal trails, particularly multiple, rutted trails, the following restoration actions are proposed:

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document any cultural resources
- Reroute trails out of meadows to drier, more resilient areas in collaboration with Trails, Wilderness, and RMS staff
- Remove any non-native fill, salvage native fill and vegetation
- Restore multiple ruts to natural conditions by re-contouring, de-compacting, mulching, seeding and re-vegetating
- Improve sheet flow disrupted by existing trails by improving or adding causeways
- Lower trail sections that act as dams
- Fill ditches that channel water with native soil
- Apply woody debris, plant material, and erosion control structures such as wattles or blankets to divert and disperse runoff, promote deposition and limit scour
- Install boardwalks or other trail types in very wet sections to promote sheet flow, protect vegetation and discourage multiple trail ruts
- Assess site appropriateness for formal trails considering wetland status, duration and depth of flooding/saturation, impacts of installing boardwalks or elevated trails and recovery of subalpine vegetation
- Delineate trails with natural materials and improve signage to encourage visitors to stay on the designated trail
- Narrow trails where appropriate (considering historic character)

INFORMAL TRAILS



Fig. 1-29. Wilderness sign at informal trail

Informal hiking trails are common throughout Tuolumne Meadows. Some of these trails exhibit heavier use just in the past decade, as they become more defined from constant traffic. Informal trail conditions vary depending on the level of use. Deep multiple ruts characterize some informal trails while others only exhibit trampled vegetation. A restoration project at Pothole Dome in the 1990's addressed multiple informal trails and proved effective in protecting the central part of the meadow. In addition, fencing was installed to guide visitors to walk along the edge of the meadow. In recent years, an informal trail originating from parking just east of Pothole Dome and extending to the Tuolumne River has become much more prominent, particularly after an "Entering Yosemite Wilderness" sign was placed at the edge of the road (Figure 1-29). The sign is an indication to visitors that it is a formal trail and subsequently, use has increased. High concentrations of informal trails exist adjacent to the Tuolumne Store and Grill, at the Soda Springs trailhead, around the Soda Springs area, along the Cathedral Peak parking area and along the banks of the Tuolumne River. Many of these informal trails also affect cultural resources and merit removal. To minimize the extent and impact of informal trails, the following actions are proposed:

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document any cultural resources
- Restore informal trails to natural conditions through re-contouring, de-compacting, mulching, seeding and re-vegetating
- Direct visitors to established trails
- Limit off-trail hiking in the meadow to protect sensitive areas
- Install temporary deterrents to protect sensitive areas from further impact
- Allow dispersed use in more resilient and less popular areas



Fig. 1-30. Riprap along river in Tuolumne Campground

TUOLUMNE MEADOWS CAMPGROUND

The Tuolumne Meadows Campground has seven loops and 304 campsites. While most of the campground is within lodgepole pine forest, the A loop is very close to the riparian corridor of the Lyell Fork of the Tuolumne River. This loop road experiences ponding and flooding in the early part of the season. At the end of the A loop, flooding in 1997 washed out some of the road, prompting park mangers to lay riprap to harden the riverbank (Figure 1-30). Riprap can be effective in protecting infrastructure from further flood exposure, but it decreases the free flow of the river, compromising channel morphology and altering scour and deposition dynamics. There are many informal trails along this section of riverbank as well. The access road, campsites and other hardened areas concentrate water flow and sediment movement. To restore the free flowing character of the Tuolumne River

and to protect and restore riverbanks and the riparian corridor, the following actions are proposed:



Fig. 1-31. Employee housing next to river

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document any cultural resources
- Remove the A loop access road, informal trails and infrastructure to protect the riverbanks from further impact and to allow free flow of the Tuolumne River
- Remove riprap and any other erosion control structures
- Remove asphalt, re-contour, de-compact, mulch, seed and re-vegetate impacted areas
- Reroute the road entering the campground further away from the river out of the floodplain
- Re-vegetate and re-contour disturbed areas adjacent to the reroute
- Salvage any soil or vegetation that is removed for any new road development
- Apply bioengineering techniques (e.g. brush layering, anchor logs, intensive planting of vegetation) to stabilize riverbanks, promote sediment accretion, and minimize further riverbank loss
- Minimize the extent and concentration of informal trails by focusing access to more resilient areas and restore impacted areas to natural conditions

TUOLUMNE MEADOWS LODGE

The Tuolumne Meadows Lodge is a historic resource and provides overnight accommodation for visitors and housing for employees. Several structures, particularly the lodge and employee housing, are located within 10 meters of the Dana Fork of the Tuolumne River (Figure 1-31). These areas exhibit compacted soils, vegetation loss, exposed roots and riverbank erosion. Having structures so close to the river can also affect water quality. If any structures are removed, the following are proposed:

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document any cultural resources
- Remove all above and below ground infrastructure (including pipes or any utilities)
- Re-contour the area to natural landform
- De-compact, mulch, seed and plant to promote native plant establishment
- Protect newly restored areas from further impact with closure signs, fencing, and/or other natural barriers such as rocks and logs

SODA SPRINGS AND PARSON'S LODGE

Soda Springs is a natural alkaline spring, unusual in the high Sierra Nevada, which provides habitat for many special status plant species. Soda Springs is not only ecologically valuable but is also an important American Indian historic resource. Parsons Lodge is listed on the National Register of Historic Places and is designated a National Historic Landmark. It is currently used for workshops and as a starting point for interpretive walks and talks. This area experiences high levels of use, with most people accessing the site via the trail from the Visitor Center. Additionally, the road to the sewage treatment ponds, the Glen Aulin trail, and many informal trails provide access to this very popular area. The Glen Aulin trail, heavily used by stock, passes very closely to the springs and the associated manure and dust has potential to contaminate the springs. To improve the ecological integrity of the site, the following actions are proposed:

- Consult with park-associated American Indian tribes and groups to develop restoration strategies, ensuring that treatments incorporate native concerns, issues, and perspectives
- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document any cultural resources
- Improve delineation of trails
- Improve signage
- Remove informal trails and restore to natural conditions
- Direct visitors to use established trails
- Reroute the Glen Aulin trail further away from the springs
- Establish monitoring of vegetation and hydrology

STABLES

To provide supplies to the High Sierra Camps, day rides for visitors, and park management operations in wilderness, stock is housed in one of two corrals in the Tuolumne area. Issues associated with the corrals include soil loss from erosion and dust, potential water quality issues, water diversions for water supply, and vegetation loss. For alternatives of the Tuolumne Meadows Plan that propose to relocate, remove or consolidate stock staging areas, the following ecological restoration actions are recommended to minimize continued impacts:

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document any cultural resources
- Re-contour impacted area to natural landform if stables are consolidated and/or removed
- De-compact, mulch, seed and plant to re-vegetate with native species
- Restore hydrologic processes to minimize erosion, eliminate water diversions and address water quality issues

- Remove and restore associated trails that would no longer be needed to natural conditions
- Where stables are retained, ensure that water quality issues are addressed
- Where stables are retained, minimize footprint
- Protect newly restored areas from further impact with closure signs, fencing, and/or other natural barriers such as rocks and logs

General Removal or Relocation of Facilities

There are several facilities providing visitor and park management services in the Tuolumne Meadows area including roads, trails, employee housing, maintenance facilities (including stock operations, water collection and wastewater treatment facilities, and storage and staging areas), the Tuolumne Meadows Visitor Center, Tuolumne Meadows Campground, Tuolumne Meadows Lodge, Store, Grill, Mountaineering Shop and Gas Station, and Glen Aulin High Sierra Camp. Day use, overnight parking areas, and utilities are also associated with these facilities.

Depending on the preferred alternative, any plans to remove or relocate facilities must consider minimizing impacts to natural and cultural resources. If facilities, utilities, and/or associated infrastructure are removed, the following actions are proposed to restore areas to natural conditions:

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document cultural resources
- Restore wetland function impacted by infrastructure (e.g. housing area behind the gas station)
- Remove all above and below ground infrastructure impacting hydrologic conditions (pipes, asphalt, water diversion etc.)
- Crush, fill (slurry), or remove all abandoned underground utilities
- Re-contour area to natural landform
- Restore primary ecosystem processes, primarily hydrology and wetland function
- Salvage any soil or vegetation impacted by removal
- De-compact, mulch, seed and re-vegetate impacted area
- Minimize impacts to surrounding vegetation by limiting size and development of staging and construction areas
- Minimize impacts to hydrology
- Minimize impacts to wildlife
- Ensure that all equipment and materials are weed seed free
- Ensure that new construction or demolition does not impact the surrounding area (e.g. changes in drainage patterns), specifically wetland, riparian or riverine ecosystems or any primary ecological processes
- Protect restoration areas from further impacts with fencing or appropriate deterrents



Fig. 1-32. Sewage Treatment Pond



Fig. 1-33. Pump station associated with treatment pond

WASTEWATER TREATMENT

Wastewater from Tuolumne Meadows facilities is currently conveyed through pipes to two sewage ponds and spray fields north of Parsons Lodge (Figure 1-32). If the preferred alternative is to move wastewater treatment facilities to another location, significant restoration of the existing site is needed. Any site chosen for new wastewater treatment facilities or associated infrastructure would require an impact analysis for natural and cultural resources. The following actions are proposed to ecologically restore the existing site as well as associated access routes (including roads) to the site:

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document cultural resources
- Restore natural contours which match the surrounding landscape using heavy equipment (excavator, bulldozer, loader, dump trucks)
- Fill in pond sites (potentially using fill material left from the construction of the ponds)
- Remove asphalt, de-compact, re-contour, re-vegetate and restore to natural conditions
- Remove pump station and restore area to natural conditions (Figure 1-33)
- Remove and properly dispose of any toxic substances associated with the wastewater treatment
- Remove or crush all pipes and underground infrastructure associated with wastewater treatment
- Remove riprap and re-contour mounds from the construction of the ponds
- Re-contour ditched areas associated with the spray field and restore area to natural conditions
- Remove sections of non-historic road and restore to natural conditions; narrow sections of historic roads to retain historic character

WILDERNESS

Any restoration actions in designated Wilderness will use the minimum tool necessary to accomplish the project, in accordance with the minimum requirements analysis. For actions not covered under Yosemite's Programmatic Minimum Requirement Analysis for Ecological Restoration, a separate MRA will be completed.

GLEN AULIN HIGH SIERRA CAMP

The Glen Aulin High Sierra Camp is a historic resource and provides overnight lodging six miles into the wilderness. A wetland delineation of the area completed in 2006 documented areas of fragmented wetlands, a heavily used trail through a wetland and areas in need of ecological restoration. Denuded riverbanks also occur in the area. Ecological restoration is necessary to mitigate current impacts to wetlands and riverbanks and will vary in extent depending on whether the camp remains, is reduced in size, or is completely removed, Because Glen Aulin is located

in a Potential Wilderness Addition, extra sensitivity to natural and cultural resources and wilderness character is necessary. For any structures or utilities that are removed or altered, the actions outlined in this plan under "Removal or Relocation of Facilities" apply. In addition, the following restoration actions are recommended:

- Survey for rare or sensitive plant and animal species and ensure protection
- Protect and document cultural resources
- Remove any impacts to wetlands and restore currently impacted areas to natural conditions
- Reroute the heavily used trail out of the fragmented wetland to a less sensitive upland area
- Salvage plants in reroute area and transplant to obstruct old trail
- Remove trail in wetland by de-compacting soils, filling in ruts, re-contouring natural meadow topography, seeding and mulching to promote plant establishment
- Obstruct old trail with natural materials to encourage visitors to use the new route
- Restore the natural drainage that was filled in and flattened to natural conditions, thereby improving access to toilets
- De-compact, mulch and seed to revegetate the historic corral on the granite bench that once was an extension of a delineated wetland
- Re-vegetate, stabilize and protect denuded riverbanks on the Tuolumne River

Lyell Canyon

The Pacific Crest Trail and John Muir Trail travels along the Lyell Fork of the Tuolumne River for approximately nine miles. Where the trail passes through wet meadow habitat, multiple ruts and muddy hiking conditions are common. Ongoing work by National Park Service staff to reroute these sections of the trail to upland areas and restore the meadow to more natural conditions protects these sensitive habitats.

Research

Additional research is needed to quantify the condition of meadow plant communities and the Tuolumne River, and the relationships to past and current land management practices. In particular, more research is needed to determine historic vegetation communities in these areas of concern, the most efficient and effective techniques for restoration, and the feasibility or appropriateness of ecological restoration. Research into the composition of historic vegetation is likely to entail analysis of soil seed banks, plant macrofossils and phytoliths (microscopic pieces of plants that are resistant to decay and can identify historic plant species). Analyses of organic matter content, soil carbon, carbon cycling, and plant productivity may also be included. Ecological restoration techniques to actively restore meadow plant communities, if feasible or appropriate, are likely to involve planting, seeding and

mulching with temporary closure to foot traffic as vegetation re-establishes. These data may also provide information on the conditions that increase the rate and extent of conifer seedling establishment as related to past land use (i.e. intensive grazing). All of these studies would address the potential influence of climatic conditions and consider those interactions.

Cooper et al. (2006) recommended a detailed study of willows in order to understand the factors that limit establishment and persistence as well as the relationship between willow growth and riverbank stability. Research may also focus on mammalian herbivory (pocket gophers, voles and deer) and the effects on establishment and growth of perennial plants typical of wet meadows. This research may require installation of temporary experimental plots that eliminate entry of small mammals. The effects of deer browsing would be assessed by protecting individual willows from grazing by small exclosures and comparing willow height, productivity, and catkin/seed production of those willows not protected. These research plots would be located outside of designated Wilderness. If research indicates that vegetation communities are in an altered state due to anthropogenic influence (such as historic sheep grazing), restoration actions to restore these plant communities may be desired and appropriate.

Monitoring and Long-Term Maintenance

Tuolumne Meadows and the Tuolumne River corridor comprise diverse and dynamic ecosystems. Any alterations can effect cascading changes to the complex physical, chemical and biological interactions and conditions. Monitoring the efficacy of restoration efforts and the conditions stemming from those actions can feed into adaptive management and help avoid unwanted results.

Successful ecological restoration should also include continued protection and management of the project site into the indefinite future (Clewell et al. 2005). Frequently, ecological restoration projects are not funded for subsequent management that may be required to prevent recurrent degradation of restored ecosystems. To ensure success and to facilitate adaptive management, it is critical to include monitoring in ecological restoration planning.

Monitoring can help to determine the efficacy of the restoration efforts and provide guidance for future restoration projects in similar environments. Monitoring methods may include vegetation transects, quadrats or ocular estimations of vegetation cover, temporary exclosures, groundwater monitoring wells, and photo point establishment.

Ecological restoration is a long-term process and future intervention may be necessary. Future ecological restoration actions and monitoring will also be guided by research as understanding meadow systems increases. Future monitoring and adaptive management of restoration actions will be dependent on the ability of Park staff to secure funding through proposal processes.

CHAPTER 2. MITIGATION MEASURES TO PROTECT THE GREAT SIERRA WAGON ROAD

By Daniel Schaible, Historical Landscape Architect

HISTORIC OVERVIEW OF THE GREAT SIERRA WAGON ROAD

The Great Sierra Wagon Road was built in 1883 by the Great Sierra Consolidated Silver Mining Company to access the company's mines on Tioga Hill east of Tuolumne Meadows. This road was unpaved, built to a maximum grade of 10% and was 10-20 feet wide. In 1915, it was acquired by Stephen Mather and donated to the Department of the Interior as a public highway serving motor tourism in the area. At that time the road was officially renamed the Tioga Road, although it had been referred to by that name for some time earlier. A segment of the wagon road was rerouted through the meadow from east of the Visitors Center to the area of Parsons Lodge in 1915.

In the early 1930s, the National Park Service decided to reconstruct the Tioga Road in three phases. The first involved rebuilding the road from the east, from Tioga Pass to Cathedral Creek, the second from the west, from Crane Flat to White Wolf, and the third segment, begun about twenty years later, completed the remainder of the current road alignment. Although the first two segments were constructed on schedule, the third section of roadway, having been stalled following the U.S. entering into World War II, was not completed until 1958. The "new" Tioga Road was built to contemporary Forest Highway Standards, as defined by the Bureau of Public Roads, and was 26-28 feet wide with a maximum grade of 6%. Although following a similar route in some locations, the new Tioga Road deviated from the alignment of the original road in many stretches. Today, many remnants of the original alignment of the Great Sierra Wagon Road are still present, some of which are currently used as foot and stock trails.

The western portion of the Great Sierra Wagon Road, from the area near Aspen Valley to White Wolf, (which is far outside of the proposed ecological restoration project area) was listed in the National Register of Historic Places in 1978 with local significance within the fields of transportation, industry and engineering. Later, the remnant section of the Great Sierra Wagon Road that passes through the project study area was evaluated and determined to be a contributing feature within the Tuolumne Meadow Historic District, as defined in the 2007 Tuolumne Meadows Cultural Landscape Inventory .

PROJECT OVERVIEW

The goal of this project is to restore natural hydrological functions, and address erosion and trampling of native vegetation within Tuolumne Meadow. It is important to note that Tuolumne Meadow itself is also a cultural resource as the central character defining feature of the Tuolumne Meadow Historic District, and an important cultural landscape for many people.

A component of this project will regrade and narrow segments of the Great Sierra Wagon Road (1883) that are now used as foot and equestrian trails in the Tuolumne Meadows area. These modifications are necessary because the roadbed disrupts natural hydrologic flow, and the roadside swales in the meadow have become deeply incised n many locations. The section of the road that crosses the meadow to Parson's Lodge and Soda Springs was likely built on fill excavated from meadow soils alongside the roadway. There are currently an inadequate culverts resulting in disrupted surface water flow and increased erosion. Furthermore, the trail itself is deeply rutted and "braided" in some locations, resulting in multiple parallel pathways, unsecure walking surfaces, difficult wayfinding, all of which result in further widening the trail.

The following actions are recommended in conjunction with actions to recreate ecological processes within Tuolumne Meadows:

- Narrow stretches of the historic roadbed to an appropriate historic width of approximately 10 feet.
- Remove fill and reduce the profile of the historic roadbed.
- Add fill and raise the profile of eroded sections of the historic road.
- Add or enlarge culverts or construct footbridges over stream channels along the Great Sierra Wagon Road roadbed.
- Fill in and/or re-contour the swales that run parallel to the historic road.
- Remove vegetation that has grown on the historic roadbed, particularly lodgepole pine.
- Remove non-historic social trails that parallel the historic road and restore to natural conditions.

Mitigation Measures to Minimize Adverse Effects on Historic Landscape Resources within Tuolumne Meadows

In order to minimize impacts to cultural resources, the following guidelines should be followed during the ecological restoration work in Tuolumne Meadows: When narrowing the roadbed (which is wider than historically and excessively braided in some locations) maintain a minimum width of 10 feet in order to convey the corridors historic use as a wagon road.

- Before any actions take place, historic resources must be researched and existing conditions documented in the field by qualified staff.
- When narrowing the roadbed (which is wider than historically and excessively braided in some locations) maintain a minimum width of 10 feet in order to convey the corridors historic use as a wagon road.
- Maintain the current alignment of historic remnants of the Great Sierra Wagon Road.
- If modifications are necessary to historic culverts and their associated headwalls, efforts should be undertaken to ensure that modifications meet the Secretary of the Interior's Standards for Treatment of Historic Properties. Measures can include retaining materials, construction style, and workmanship that matches the historic character. These efforts should be combined with photo-documentation, contracting with a qualified stonemason, numbering headwall stones for reconstruction and locating granite that matches the color and texture of the existing stone masonry granite.
- New culverts (if added) should be built to complement historic culverts along the roadway, with simple, understated stone masonry headwalls with discrete, low profiles. The stone used in the headwalls should match, as closely as possible, the color, texture and dimensions of the stone found in other historic culvert headwalls found at Tuolumne Meadows.
- Once the work is completed, the historic road should be documented to capture the changes.
- It is acceptable to remove woody vegetation from the roadside shoulders, as these features were not present during the historical period.
- The ditches that lead from and drain many of the area's kettle ponds are not documented as historic features and should be investigated and documented before filling and regrading.
- Major reroutes of historic trails in the area, particularly iconic trails such as the John Muir Trail and the Pacific Crest Trail, will likely constitute an adverse effect on potential historic properties. If any such actions are proposed, their possible historical significance should be investigated. Depending on the outcome of any such investigations, further discussions should occur

Figure 2-1. U.S. Geological Survey map of Yosemite National Park from 1910, 1:125,000. The alignment of the Tioga Road is traced in black.

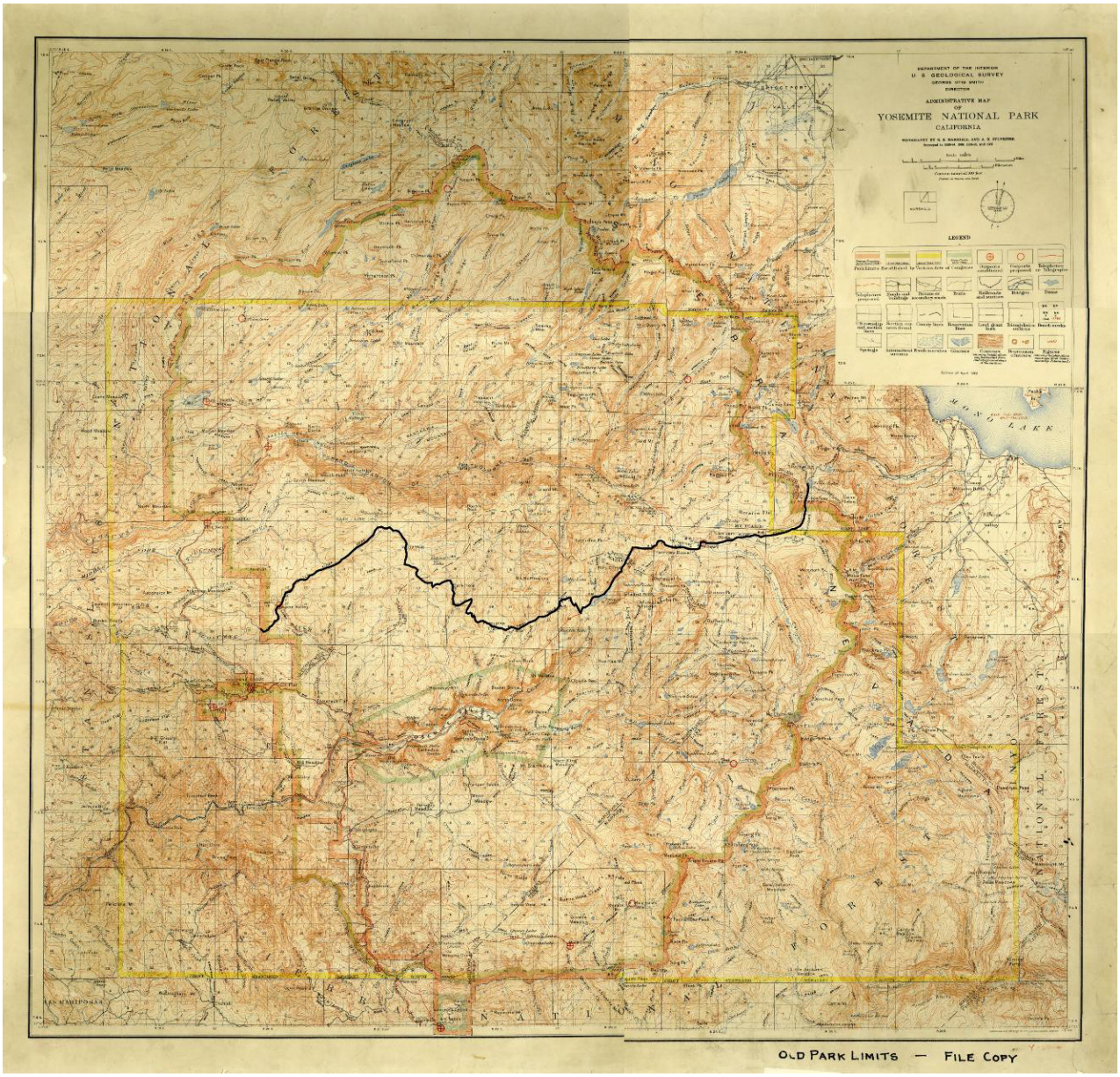


Figure 2-2. U. S. Geological Survey map of Yosemite National Park from 1958, 1:125,000. The alignment of the Tioga Road is traced in red.

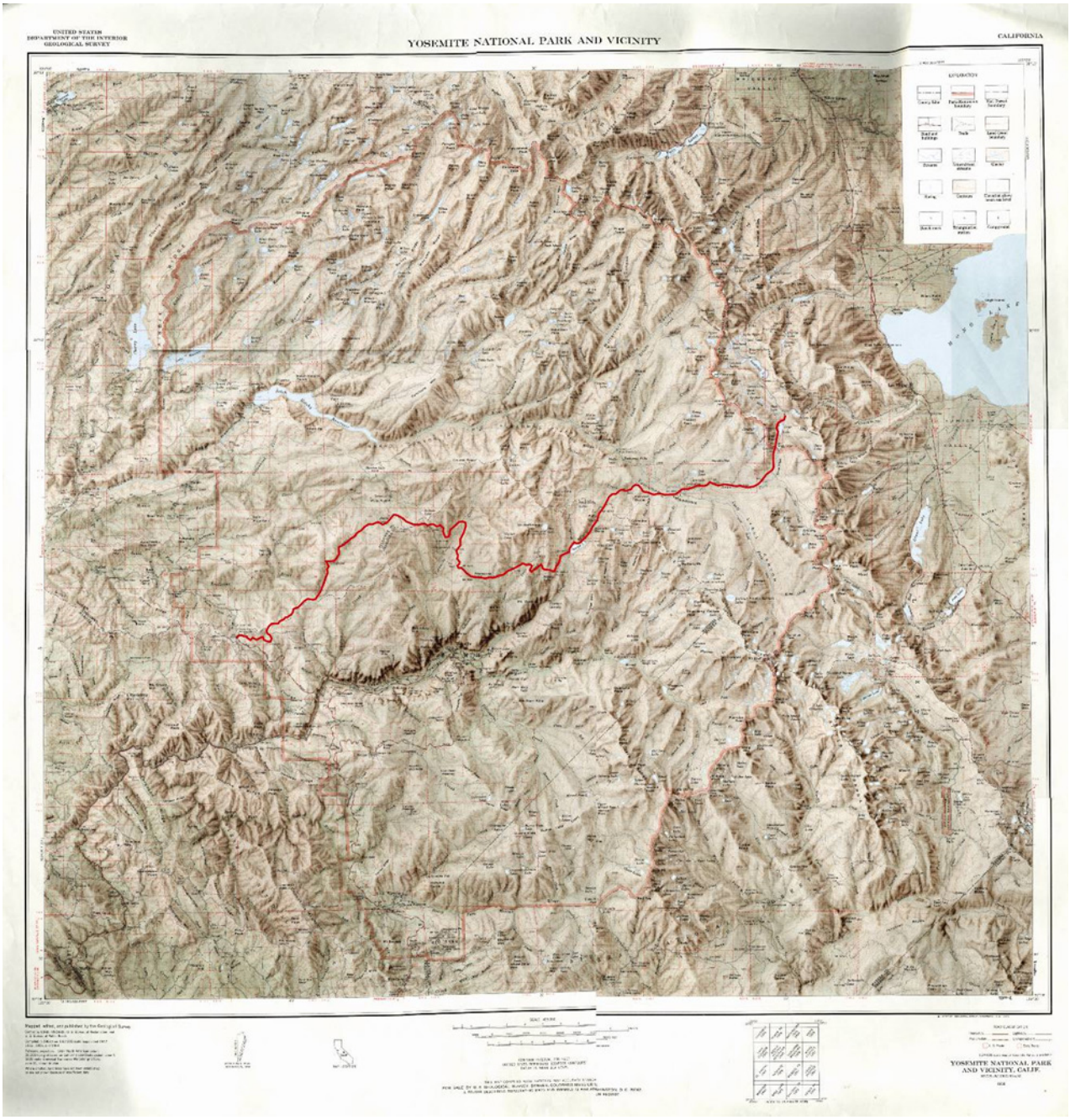
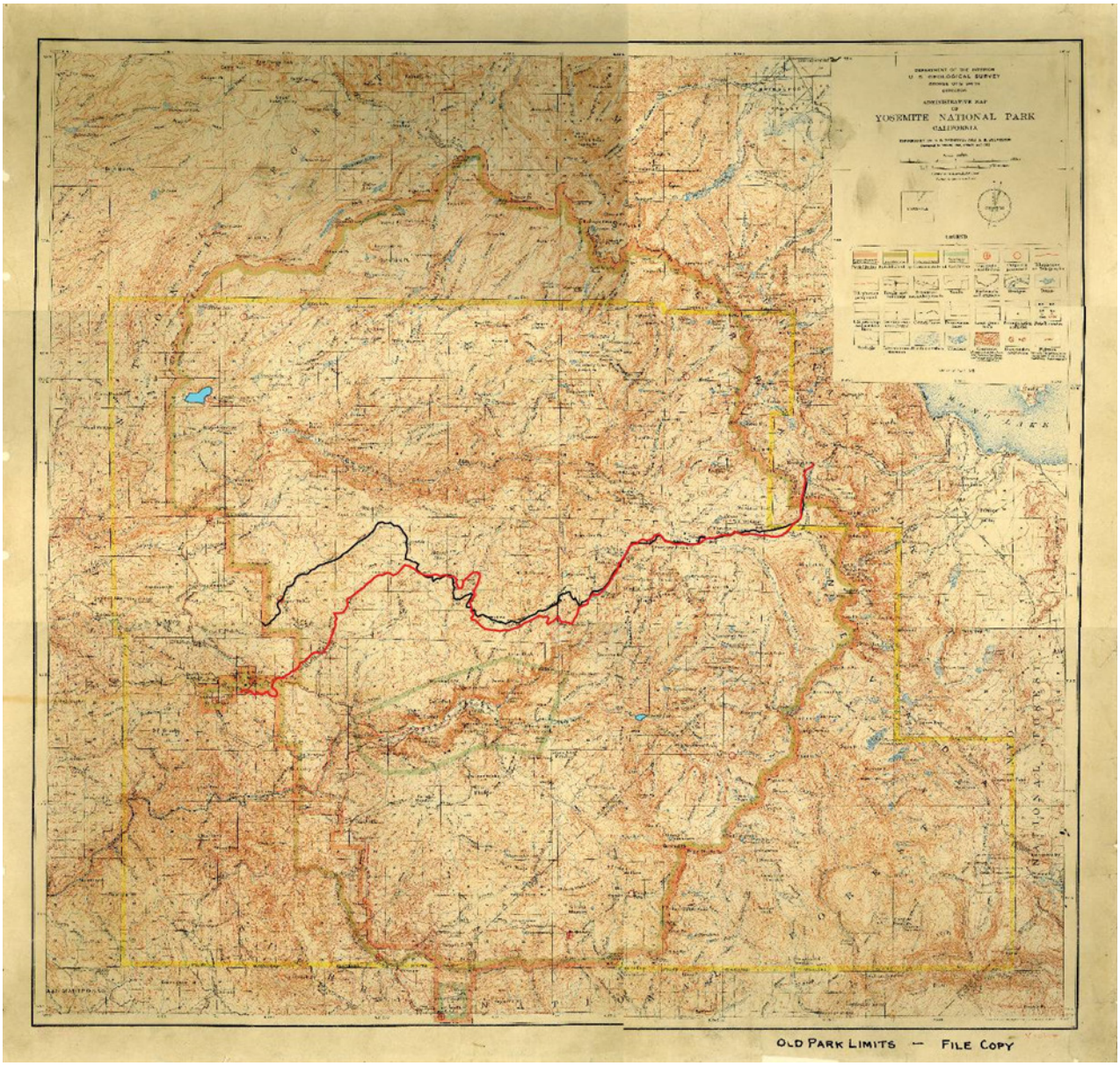


Figure 2-3. Map showing the 1910 alignment of the Tioga Road (black) overlaid with the 1958 alignment of the Tioga Road (red). Notice that the alignment is profoundly different, particularly along the western stretches of the road



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Figure 2-4. Map showing a detail of the 1910 (black) and 1958 (red) alignments of the Tioga Road as it passes through Tuolumne Meadows. Although the alignments are quite close for this stretch of the road, the arrow points to the section of the 1910 road that used to cross Tuolumne Meadows out towards Soda Springs, but, since the 1930s, now runs along the meadows perimeter. Most of the ecological restoration work will take place on this stretch of the historic roadway

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CHAPTER 3. DESIGN GUIDELINES FOR TRAILS

Overall, the goal is to create a trail for visitors that lessens the ecological impact on the meadow, retains the meadow's visual beauty, and reflects the historic and cultural importance of the meadow. These goals can be achieved by matching the surrounding native colors, using similar materials, maintaining a trail height and horizontal line that is close to the natural grade as possible, retaining an alignment that reflects that of the historic road, and using existing structures as a model. The following list provides more detail on these objectives.

Alignment: Maintain the historic alignment of the road
Width: Restrict to 10 feet to maintain approximate historic road width and to accommodate high levels of visitor use
Surface: Install sections of boardwalk (possible materials outlined below) or durable trail surface such as logs, stepping stones, lowered trail profile that allows for surface flow.
Support*:* Use helicals, piers and small abutments to support the boardwalk surface to minimize disruption to hydrologic flow
Height: Retain at the minimum necessary rise above meadow grade. This will typically be less than 18". If railing is required, select low profile to match design and style of bridges
Color: Use pale brown to blend into the landscape
Maintenance*:* Design for low maintenance requirements as future funding is not secured.
Stock use: Design for heavy stock use. If wood products are used, a wear strip or center section that can be replaced without deconstructing the whole boardwalk is recommended to reduce replacement costs and time. Consider redirecting stock to new trail south of Tioga Road.
Bridges**:** Construct any new bridges or stream crossings using similar materials and patterns found in the existing Tuolumne River Bridge. These do not need to be duplicates, but reflect the design that successfully blends with the surrounding area.

BOARDWALKS

Boardwalks may be constructed of wood, pressed wood, silica infused wood, plastics, concrete, steel or a combination of these materials (Figure 3 provides a matrix of different products). A series of piers (placing, size and depth depend on the type of decking and the substrate) typically supports the beams and decking (Figure 1). The use of tall and extended beams to support the decking creates a large profile and can disrupt water flow during flooding. The use of helicals and piers along with shorter and narrower beams can provide a stable footing yet require minimal ground disturbance. An ideal solution will balance these requirements.

In areas of heavy snowpack such as the Tuolumne Meadows area, the strength of the boardwalk must be sufficient to support snow weight. Boardwalks can require high maintenance costs and labor, particularly in high elevation areas that receive heavy snowpack or that flood regularly. Over time, boardwalks can begin to sag where the wood is weakening and connections loosen. Freeze/thaw is also an issue for some composite products and some products can be very slippery when frosty. Other parks like Glacier and Yellowstone have successfully constructed, and continue to maintain, boardwalks in such climates. Following is a brief description of several products that may be used, with uses in these two parks discussed as appropriate.



Figure 3-1: Cook's Meadow boardwalk in Yosemite Valley. Constructed of recycled plastic, a material commonly used in Yellowstone National Park, where a roughened surface is used to provide traction on frosty mornings. However, Yosemite managers have found that this product does not last and requires frequent maintenance.

TIMBERSIL®:

TimberSIL® wood is infused with a microscopic layer of amorphous glass that provides an effective permanent barrier to rot, decay and other common wood problems. The wood is non-toxic, odorless and nonvolatile, is not corrosive to fasteners, does not cause excessive wear on tools, and has a natural clear color. The company that produces this material claims that TimberSIL® Glass Wood is stronger and longer lasting than natural or composite wood / lumber, does not burn and is guaranteed not to rot or decay for 40 years. This product looks like natural wood and is being used at Tenaya Lake (Figure 3-2). Yosemite staff working with this product found that it is somewhat difficult to work with as the boards are warped and require a sealing epoxy on the ends. In addition, further investigation is required to ensure that this product could accommodate stock.



Figure 3-2: Newly installed TimberSIL® boardwalk at Tenaya Lake 2012

PERMATRAK®:

Permatrak® is a precast concrete boardwalk system for elevated trails (Figure 3-3). This trail material is primarily supported by piers and footings, is less susceptible to freeze/thaw damage than treated wood, and will not float away during high water events. Components are precast and can be assembled and installed on site with a relatively low level of impact. There are standard and custom colors available and it can be finished to resemble a wood texture (Figure 3-4). A slip resistant surface is also available, like a standard concrete walkway.



Figure 3-3: Boardwalk Estate, Melbourne Australia: Permatrak® boardwalk with pier supports allows water flow underneath the structure



Figure 3-4: Permatrak® wood finish

STEEL GRATING:

This boardwalk material is used extensively in Glacier National Park (Figures 3-5 - 3-8) and other areas with heavy snowpack. It is typically supported by a series of crossbeams but piers may also be an option. Benefits include allowing light to penetrate through the tread and allow some plants to grow underneath the trail. It is also less susceptible to flooding impacts and heavy snow load. In frosty conditions, the surface can become slippery but surface traction can be added. Maintenance requirements are generally less than wooden boardwalks. There are several different types of steel grating with varying gap size and strength. Gap sizes must be less than ¼" to be American Disability Act (ADA) compliant and must be of sufficient strength and gap size to withstand stock traffic.



Figure 3- 5: plants growing beneath grate



Figure – 3-6: Metal grate boardwalk in Australia



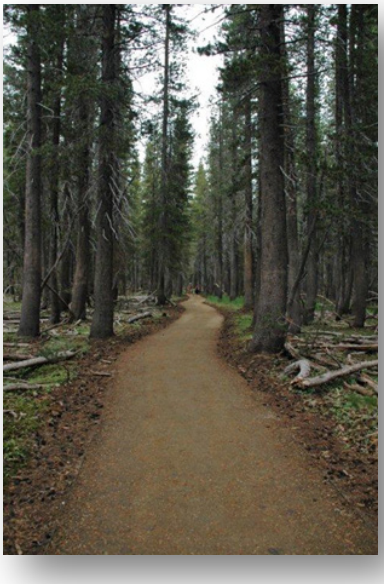


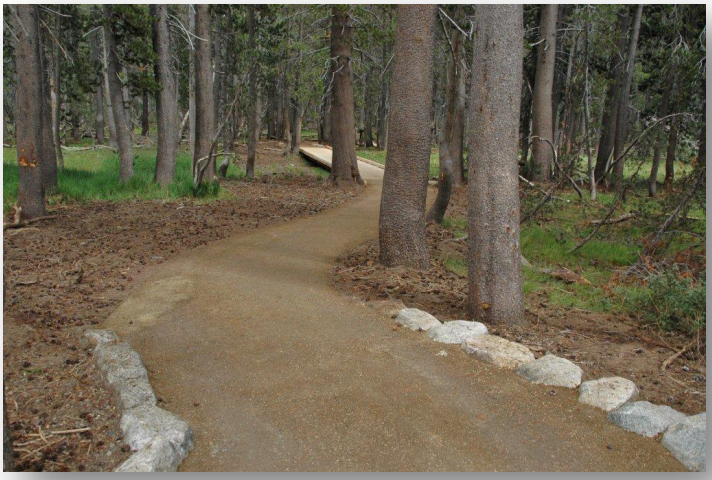
Figure 3-7 and 3-8: Metal grate boardwalk in Glacier National Park

OTHER TRAIL SURFACES AND TREATMENTS

STABILIZER®:

This product stabilizes soils with the crushed seeds of a native plant that is activated by water. The powder is blended into the soil and works its way into the pore spaces. The swelling action triggered by the addition of water, pulls the particles and binds them together and depending on the aggregate used, can provide a very hard to relatively flexible surface. When the stabilizer is saturated, excess water drains and the soil remains stable without becoming muddy because the stabilizer keeps the soil particles bonded. It is uncertain how this product performs in seasonally wet areas but it could be used in sections of trail that are rarely or only intermittently saturated. Stabilizer® was most recently used in Yosemite on the Tenaya Lake east beach access trail (Figures 3-9 and 3-10).





Figures 3- 9 and 3-10: Stabilizer® trail at Tenaya Lake 2012

GEOSYNTHETICS:

Geosynthetics help create stable trail surfaces in wet areas saturated by subsurface moisture and precipitation (Groenier et al. 2008). Geosynthetics such as geotextiles, geonets and geocoposites (sheet drains) keep saturated, weak native soils from intermixing with stronger, load-bearing trail surface materials. These products also allow subsurface drainage and lessen saturation and weakening of the trail tread. In addition, they also provide some degree of tread reinforcement and load distribution.

Most geotextiles are made from some sort of polymer and are typically black, although tan, green or other colors with no heavy metal content are also available.

Typical life expectancy is 10 years when used with a porous trail tread material such as coarse sand, gravel or small rock (Groenier et al. 2008).

Low Crossings

Low stream crossings or fords are effective for providing some surface water connectivity and work well in areas experiencing flow or saturation for short periods of time. To construct a low crossing, the roadbed fill would be used to fill in side ditches and re-contoured to allow for surface water connectivity. The crossings are typically covered with rocks or cobble large enough to remain stable during any flow.

Where this treatment may be applied, stepping stones placed to one side can provide a dry surface for visitors during times of saturation or flooding, while still allowing surface water connectivity.

Box Culverts:

Box culverts allow for surface water transport under a trail or road structure while providing a dry and stable walking surface. Box culverts are typically constructed of steel enforced concrete and may be custom designed to an appropriate height and width for a given expected flow and area. When box culverts are installed at the meadow surface, this low profile decreases visibility yet surface water transport is maintained. Box culverts can accommodate high surface flows (such as Unicorn creek) or can just provide connectivity for standing surface water.

Rockwork to support and frame the box culvert and delineate the trail surface decreases visibility and provides a more rustic appearance (Figure 3-11). Surfacing on a box culvert may be native soil overlying an aggregate that improves stability yet maintains the appearance of a trail.



Figure 3-11 Road box culvert in Yosemite Valley (trail would be lower profile)

BRIDGES OR SPANS:

To allow for flow in the side channel along the southern abutment of the bridge over the Tuolumne River, two spans of boardwalk are proposed. These would be similar in structure and appearance to the bridge over the Tuolumne River (Figure 3-12). This surface may be wooden or match the material of the trail surface in other sections (e.g. steel grate or concrete). Where steel girders are required, they will be narrow, located above the stream crossing, only cover short runs (to avoid damming effects) to limit impacts to hydrologic connectivity.

The width of the spans will be 10 feet to match the trail and bridge width and would not be substantially higher than meadow grade (18 inches). If railing were required, style would be similar to the 8x8 foot beams on the bridge over the Tuolumne River.



Figure 3-12: Bridge over the Tuolumne River

FIGURES

Figure 3- 1: Boardwalk in Cook's Meadow NPS photo
Figure 3-2: Timberwil at Tenaya Lake - Suzy Hasty 2012
Figure 3-3: Permatrak: http://www.permatrak.com/#!prettyPhoto[home]/1/
Figure 3-4: Permatrak: http://www.permatrak.com/features-benefits/tread-surfaces-and-color-palette/#!prettyPhoto[profile]/1/
Figure 3-5: Steel grating at Glacier National Park - Lou Summerfield 2012
Figure 3-6: Steel grating in Australia - http://www.wildwalks.com/bushwalking-and-hiking-in-nsw/kosciuszko-np-south/thredbo-to-the-eagles-nest-via-dead-horse-gap.html
Figure 3-7 and 3-8: Steel Grating at Glacier National Park - Monica Buhler 2009
Figure 3-9 and 3-10: Stabilizer at Tenaya Lake - Monica Buhler 2012
Figure 3-11: Box culvert in Yosemite Valley - Daniel Boughtner 2013
Figure 3-12: Bridge over the Tuolumne River - Monica Buhler 2012

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Table 3-1: Matrix of different boardwalk materials available

Product	Raw Material Cost for 2 x 6 (per linear ft)	Sustainability	Safety for employees to install	Lifespan (years)	Maintenance requirements	Performance in Freeze/Thaw and heavy snow load environment	Aesthetics
Pressure Treated Douglas fir	$1.16	N: Sustainably harvested but, is treated with chemicals	N: chemicals used to treat wood are toxic	10-20	High	Good	Good: Consistent with well established Yosemite rustic trail aesthetic, although "slits" detract from the visual appearance
Timbersil	$3.08	Y	?: Requires toxic sealant epoxy on cut ends	40-year warranty	Unknown: manufacture claims Low	Good, performs slightly better than wood because it is completely dry (according to sales rep)	Good: May be on the light side when compared to pressure treated wood, although could be stained. Supposedly weathers like real wood (turns grey).
Steel grating	$11.35	Y	Y	100+	Low	Great	Fair: May have urban, industrial feel. Departure from Yosemite rustic style but used in other NP.
Western red cedar	$5.55	N: Sustainably harvested but requires long transport	Y	10-20	High	Good	Good: Consistent with well established Yosemite rustic trail aesthetic
DreamDex	$6.94	Y	Y	25-year warranty	Moderate	Good, expansion/ contraction is less than wood because polymer is infused in product	Good: From website, looks like normal wood.
Plastic Lumber	$4.63	Y	Y	10-year warranty	High	Poor, significant expansion/contraction observed in Yosemite	Fair: Inconsistent with Yosemite rustic bridge and boardwalk – although has been used in Cook's Meadow
Permatrak	$17-3 per sq. foot (includes entire system; planking, footing etc.)	Y	Y: Precast: reduces time to install	40- year warranty	Low	Unknown but manufacture claims great - concrete in general is not impacted by freeze/thaw	Good: From website looks like wood and texture and color can be modified with added aggregate
Stabilizer	$1.50	Y	Y	Unknown	Frequent but low cost and time	Unknown	Looks like soil but when very compacted or with large aggregate, may resemble asphalt

Appendix I: Scenic Vista Management in the Tuolumne River Corridor

The *Scenic Vista Management Plan for Yosemite National Park Environmental Assessment*, completed in 2010, inventoried 181 potential vista points throughout the park, outside of wilderness and chiefly along the major roads. The plan outlined a programmatic framework for prioritizing and prescribing the work to be completed at each of the viewpoints necessary to obtain a desirable vista. The 2011 *Finding of No Significant Impact* (FONSI) stipulates that the final determination of vista points for the Tuolumne Wild and Scenic River corridor would be deferred to the comprehensive river management plan.

This appendix captures the programmatic direction and outlines methods in the *Scenic Vista Management Plan*, but also analyzes the viewpoints from the perspective of the Wild and Scenic Rivers Act mandate to protect and enhance the values of the Tuolumne Wild and Scenic River.

The scenery through the Tuolumne River—considered an outstandingly remarkable value—offers outstanding views of the river valley, meadows, glacially carved domes, rugged mountain peaks, steep canyons, and expansive skies. Where these tremendous views intersect with frequent visitation is along the roads, in highly visited sites such as Tuolumne Meadows. The *Scenic Vista Management Plan* FONSI identified ten vistas located in, or adjacent to, the wild and scenic river corridor at Tuolumne Meadows. Upon analyzing these ten vista locations within the context of the *Tuolumne River Plan*, eight vistas were selected for their outstanding scenic qualities.

The eight vista points originally identified in the *Scenic Vista Management Plan* in the Tuolumne Meadows area (which includes the Tuolumne Meadows and Lower Dana Fork segments of the river corridor) can be summarized as views encompassing the meandering river, adjacent meadows, domes, and mountain peaks as seen from the bed and banks of the river, and from view corridors along Tioga Road and the Great Sierra Wagon Road. Two of these viewpoints are physically located outside the wild and scenic river corridor, but are included because of their proximity to the river corridor, and because their views are dominated by features within the river corridor.

- Tioga Road: Mount Dana and Mount Gibbs view facing east, overlooking a pond and meandering Tuolumne River (note that this viewpoint is outside the Tuolumne River corridor)
- Tioga Road: Mount Dana viewpoint, looking east at the river meandering through Dana Meadows, with the Sierra crest in the background
- Tioga Road: "Islands in the Ice" interpretive viewpoint, looking west down through the glaciated river valley along the Dana Fork, with distant views of the granite peaks
- Tioga Road: (near the "little blue slide" roadcut), overlooking Lyell Canyon and the Kuna Crest
- Lembert Dome (near the parking area), looking west to Unicorn Peak (note that this viewpoint is outside of the Tuolumne River corridor)
- Tioga Road and Parsons Memorial Lodge trailhead: looking northwest toward and river, with Fairview Dome in the background
- Tioga Road: Pothole Dome (near the parking area), looking east over Tuolumne Meadows, Mount Dana, and Mount Gibbs (note that this viewpoint is outside the Tuolumne River corridor)
- Parsons Memorial Lodge doorway, looking east across the meadow and river to Mount Gibbs

The *Tuolumne River Plan* acknowledges that the outstandingly remarkable scenery through Tuolumne and Dana Meadows will continue to evolve in response to natural ecological processes. The mechanical removal of conifers from meadows will be discontinued, pending further study as part of the ecological restoration program with the possible exception of limited removals at the eight scenic vista points identified above. If conifer removal proved to have ecological benefits as part of the program to restore meadow and riparian habitats, it could be included in that program. Management of scenic vista points would vary among the alternatives. Once an alternative has been selected in a formal record of decision, the management actions included in that alternative will be incorporated into chapter 5 of the *Tuolumne River Plan* to guide the future management of scenic values in the Tuolumne River corridor. This guidance could also amend the park's *Scenic Vista Management Plan*.

The objectives for managing and maintaining these sites are to protect the visitor's access to the scenic value of the Tuolumne River while protecting any sensitive resources. Maintenance of these viewpoints will further enhance the visitor's recreation enjoyment and enhance their connection to the natural world along the Tuolumne River. At the same time, management of scenic vistas at these select locations must protect biological values (meadow/riparian complex), cultural values (archeological sites), water quality, and the free-flowing condition of the river. Management will involve removal of trees, and when done after careful review and attention to protection of river values, will ensure that all other biological and cultural values are minimally affected.

Providing and maintaining viewing areas at existing infrastructure (such as roadside turnouts) lessens the frequency of visitors creating or using social trails to see a view that they may have once experienced, or that is referred to in existing signs and publications. Many park visitors' (87%) primary purpose when visiting the park is to take a scenic drive (Littlejohn et al 2006). By removing a limited number of trees at locations that can support visitor use, the National Park Service gives many visitors an incentive to avoid walking in more sensitive areas, and thus better protect and enhance biological resources. The intention of the *Scenic Vista Management Plan* in the Tuolumne Wild and Scenic River corridor is to reestablish vistas that once existed in these locations without degrading other outstandingly remarkable values.

The Tioga Road east of Cathedral Creek was completed in 1934 and aligned to take advantage of views through the adjacent trees and other natural features. To maintain the experience of this historic roadway design, trees that were present along the road in 1934 will be preserved. Similarly, existing trees from 1915 or older, when Parsons Memorial Lodge was built, will not be removed.

What follows is a description of the proposed workplan for each of the viewpoints established for the Tuolumne River corridor if vista management is adopted under the chosen alternative. These work plans are consistent with enhancing and protecting the ORVs of the Tuolumne River. Each workplan provides:

- A description of the viewpoint (its specific location);
- Ecological considerations, particularly as they pertain to the outstandingly remarkable values of the Tuolumne River;
- A summary of the work to be performed;
- A schematic depicting the work area, which was compared to site analysis maps prepared for the *Tuolumne River Plan* (i.e., archeological sites, wetlands and meadows, rare plants, etc.).

In the initial management of a vista, some downed trees may be left –generally no more than one tree in twenty – and some debris would be chipped, with chips either remaining on site, outside of meadows, as mulch (no more than 1 inch deep), or hauled away. The small diameter vegetation is to be loped and scattered such that any saw marks are not visible from the vista. What woody debris may be left depends on conditions at the time

and must adhere to the guidelines of tons per acre of downed fuel levels as defined by the *Fire Management Plan*. Excess logs and greater diameter brush can be either used for traditional cultural purposes if there is a need, hauled to the nearest burn pile, chipped using a masticator, or removed from the park.

Once vista clearing has been completed, the work area will be restored. Any tracks left by machinery or workers will be decompacted, recontoured, and duffed. Stumps must remain in place to provide soil stability, so they will be flush cut and buried to preserve a natural aesthetic. Any plants that could be impacted by compaction must be removed before work begins and replanted afterward. Damage to trees and shrubs should be noted for replacement. Revegetation could occur on a later date with either seed or container plants at the appropriate season. Native seeds (of grasses and herbaceous plants) would be collected prior to work and dispersed within the work area during restoration.

Proposed Vista Points that Will Not Be Managed

A total of ten potential vista points were listed in the *Scenic Vista Management Plan* in or adjacent to the river corridor. Upon analyzing these vista locations within the context of the *Tuolumne River Plan* and considerations for river values (including free flow, water quality, and outstandingly remarkable values), two of these sites were removed, for the following reasons:

- The analysis of one site (number 175) revealed resources of a sensitive nature at this location. Vista management in the ecologically sensitive area would conflict with restoration goals.
- The second site (number 104) was eliminated due to its low assessment score. This turnout is in a densely forested area and with little potential for distant or unique vistas. Low priority sites in a subalpine zone are not maintained or managed under the *Scenic Vista Management Plan*.

It should be noted that the elimination of these two sites is consistent with the program in the *Scenic Vista Management Plan*. The intent of the plan is to identify potential vista points and conduct a more detailed review for sensitive resources as they are proposed to be managed. The remaining eight sites are summarized below and the proposed work actions analyzed regarding how management of scenic vistas will take place as described under the *Scenic Vista Management Plan*, and compatible with *Tuolumne River Plan* to protect and enhance river values.

Dana-Gibbs View

Dana-Gibbs view is located at a turnout on Tioga Road, 2.6 miles west of Tioga Pass. The turnout has an interpretive sign, and is part of the *Yosemite Road Guide* (marker T36) which describes it as having the best view of Mount Gibbs and Mount Dana. It is the vista of these peaks that is the primary scenic view. The Dana- Gibbs view is adjacent to and overlooks a pond, Dana Meadows, and the meandering Tuolumne River.



Figure I-1. Dana Gibbs Viewpoint.

This site was inventoried as part of the *Scenic Vista Management Plan* as site number 101. When evaluated with the Visual Resource Assessment (VRA, the process used in the *Scenic Vista Management Plan,* which is similar to

that proposed for monitoring of the scenic ORVs—the Visual Resource Management system, or VRM) and compared to other points in the park, this site rated as a high priority. All sites that score a 10.0 or higher on an 18 point scale are considered a high priority and the Dana-Gibbs views averaged 10.5 out of 18.

Description of River Values at this Location

- Biological: Dana Meadows, part of the extensive subalpine riparian and meadow complex for the Tuolumne River;
- Cultural: Part of the archeological landscape;
- Scenic: Exemplary views encompassing the meandering river, adjacent meadows backed by glacially carved domes, and rugged mountain peaks of the Sierra Crest;
- Recreational: Rare and easy access to high-elevation sections of the Tuolumne River through Tuolumne and Dana Meadows.
- This location is not proximate to the bed and banks of the river; therefore, the free-flowing condition would not be affected.
- Actions to protect water quality should be initiated through all phases of activity at this site.

Initial Management

This vista is located in a mixed conifer forest situated in the subalpine vegetation zone. Management recommendations include removal of trees that are obstructing the vista in the middle ground (60 – 1000 meters from turnout) as well as foreground (0 – 60 meters from turnout). Snags are of particular importance in these communities and no existing snags are recommended to be removed at this location. The vista is located proximal to a pond and riparian zone and additional protection measures as defined in the *Scenic Vista Management Plan* apply in determining which trees to remove, such as leaving in place trees that are adjacent to and overhang the water's edge. The Wilderness area is 60 m from the centerline of Tioga Road and no actions will take place in Wilderness for vista management. Because this is a high priority site, the viewing area can be up to 30 m wide, with 30 m of feathering to each side. In no way does this mean that all trees within this boundary are removed. Feathering edges and leaving mature trees within the viewing area are intended to leave a site with a more natural appearance.

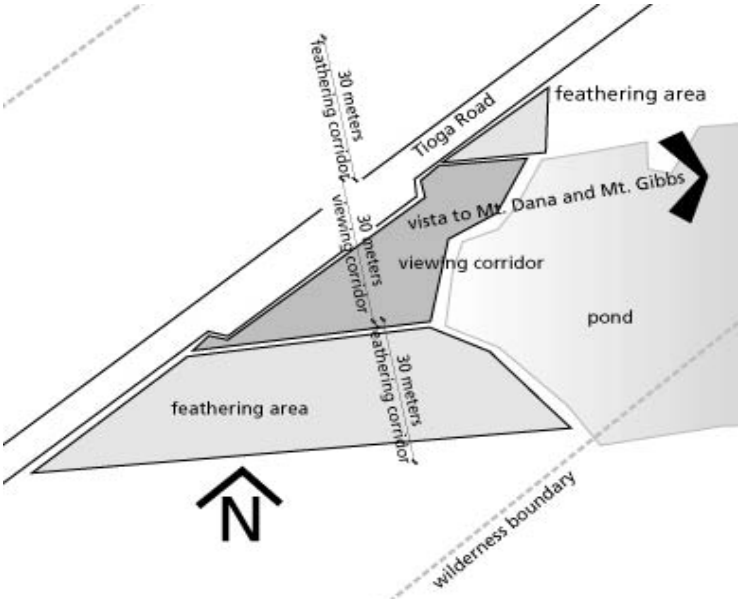


Figure I-2. Dana Gibbs view work area.

Tree Species	< 20" dbh	>20" and <30" dbh	Total
Lodgepole Pine	30	8	38
TOTAL TREES			**38**

Vista management activities will generally take place in September and October to avoid effects to nesting birds and hibernating bats. Compaction of soils will be avoided as well. The ideal time would be in September or October when the ground is frozen. However, the weather is more variable at that time of year, so the exact time will need to be weather dependent. Steps will be taken to avoid compaction if the ground is not frozen, such as using mats for equipment. If action is delayed later than October when the ground is frozen, a wildlife

biologist will inspect the site for habitat prior to action taking place. If the wildlife biologist locates habitat that would be negatively affected by actions at that time, action would be either modified to avoid any affect, or delayed until the following year and undertaken at a more preferable time. The trees to be removed for initial management are summarized in the table.

In addition, due to the steepness of the bank immediately beneath the viewing area, the area will be seeded and covered with local duff. Other erosion mitigation measures may be employed as needed. Check dams or wattles built out of logs, slash, should be positioned to catch eroding sediment and protect water quality in the pond.

Continued Maintenance

The site shall be evaluated and maintained on an annual basis. Such maintenance includes felling of trees less than 6" that encroach on the vista and revegetation of eroded slopes or any areas denuded by the initial clearing process. Trees larger than 6" that encroach on a vista would require an additional work plan and undergo resource review to minimize or eliminate any adverse effects.

Dana Fork of the Tuolumne

The Dana Fork of the Tuolumne vista is located at a turnout on Tioga Road, about 3.2 miles west of Tioga Pass. The primary view is of Mount Dana and Mount Gibbs, but Mammoth Peak and the Dana Fork and Tuolumne River can also be seen.

This site was inventoried as part of the *Scenic Vista Management Plan* as site number 102, and is a medium priority when evaluated with the Visual Resource Assessment (VRA) and compared to other points in the park. All sites that score a 10.0 or higher on an 18 point scale are considered a high priority and the Dana Fork of the Tuolumne vista averaged 9.5 out of 18.

This vista is located in the subalpine vegetation zone with mixed conifers and meadow next to the riparian area. At this time the vista is not obscured so no initial management actions are necessary.



Figure I-3. Viewpoint for Dana Fork of the Tuolumne.

Description of River Values at this Location

- Biological: Dana Meadows, part of the extensive subalpine riparian and meadow complex for the Tuolumne River;
- Cultural: Archeological landscape;
- Scenic: Exemplary views encompassing the meandering river, adjacent meadows backed by glacially carved domes, and rugged mountain peaks of the Sierra Crest;
- Recreational: Rare and easy access to high-elevation sections of the Tuolumne River through Tuolumne and Dana Meadows.
- This location is not within the bed and banks of the river; therefore, the free-flowing condition would not be affected.
- Actions to protect water quality should be initiated through all phases of activity at this site.

Continued Maintenance

Although no tree removals are recommended at this time, this site shall be evaluated and maintained as a medium priority vista. This means that the site will be reevaluated and maintained at least every three years. The viewing area is up to 20m wide and feathering 20m to each side, as shown in figure I-4. Such maintenance includes felling of trees less than 6" that encroach on the vista and revegetation of eroded soils. There are a very limited number of small lodgepole pines or new lodgepole pines that could obscure the view in the future. Trees larger than 6" that encroach on a vista would require an additional work plan and undergo resource review to minimize or eliminate any adverse effects.

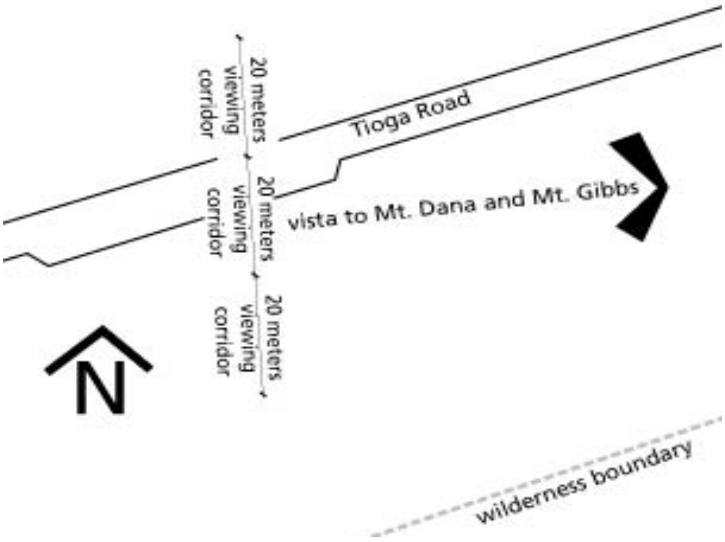


Figure I-4. Dana Fork of the Tuolumne work area.

Islands Above the Ice



Figure I-5. Viewpoint at Islands Above the Ice interpretive sign.

Islands Above the Ice is a vista located at a turnout on Tioga Road 3.6 miles west of Tioga Pass. The primary vista is of Unicorn Peak, Johnson Peak, and Cathedral Peak. The turnout has an interpretive sign title "Islands Above the Ice" that describes the mountain peaks that were above the glaciers as "islands." Currently, these peaks are difficult to see from the sign due to encroachment of trees. The site is also referenced in the *Yosemite Road Guide* (marker T35).

This site was inventoried as part of the *Scenic Vista Management Plan* as site number 103, and is a high priority when evaluated with the Visual Resource Assessment (VRA) and compared to other points in the park. All sites that score a 10.0 or higher on an 18 point scale are considered a high priority and this vista averaged 11.0 out of 18.

This vista is located in the subalpine vegetation zone among mixed conifer forest near the Tuolumne River and near a subalpine meadow. The tree species present include lodgepole pine and whitebark pine. Snags are of particular importance in these communities and none are currently obscuring the vista and do not need to be removed.

Description of River Values at this Location

- Biological: Dana Meadows, part of the extensive subalpine riparian and meadow complex for the Tuolumne River;
- Cultural: Part of the archeological landscape;

- Scenic: Exemplary views encompassing the meandering river, adjacent meadows backed by glacially carved domes, and rugged mountain peaks of the Sierra Crest;
- Recreational: Rare and easy access to high-elevation sections of the Tuolumne River through Tuolumne and Dana Meadows.
- This location is not within the bed and banks of the river; therefore, the free-flowing condition would not be affected.
- Actions to protect water quality should be initiated through all phases of activity at this site.

Initial Management

Tree Species	< 6" dbh	<20" dbh	Total
Lodgepole Pine	119 (+/- 10% are saplings)	116	235
TOTAL TREES			**235**

Management recommendations are that trees obstructing a vista should be cleared in the middle ground (60 – 1000 meters from turnout) and foreground (0 – 60 meters from turnout). The vista is located proximal to a riparian zone, so additional protection measures apply, such as not removing trees that are adjacent to and overhang the water's edge. The Wilderness area is 60m from the centerline of Tioga Road and no actions will take place in Wilderness for vista management. Because this is a high priority site, the viewing area can be up to 30 m wide, with 30m of feathering to each side. In no way does this mean that all trees within this boundary are removed. Feathering edges and leaving mature trees within the viewing area are intended to leave a site with a more natural appearance.

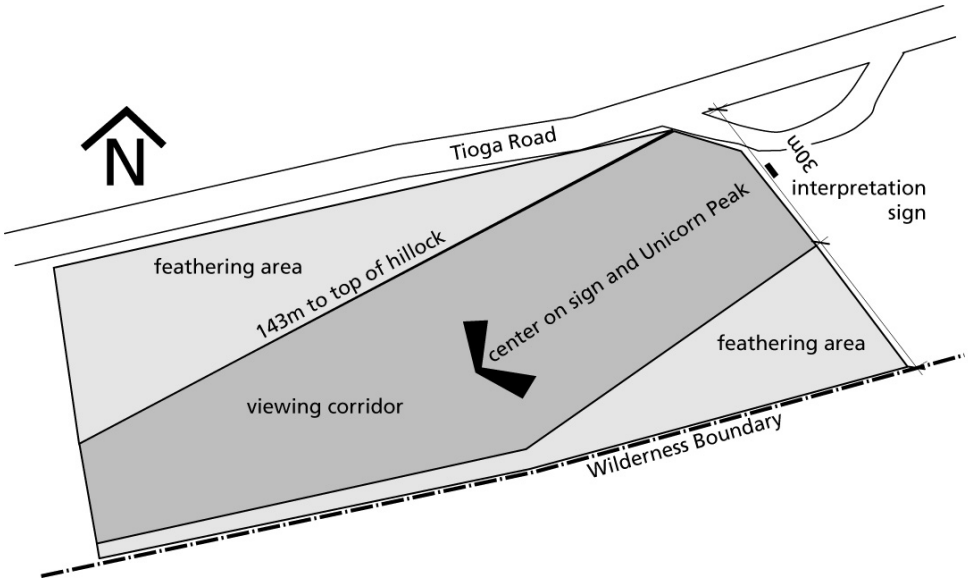


Figure I-6. Islands Above the Ice site work diagram. Not to Scale.

Vista clearing will generally take place in September and October to avoid effects to nesting birds and hibernating bats. Compaction of soils will be avoided as well. The ideal time would be in September or October when the ground is frozen, but the exact time will need to be weather dependent. Steps will be taken to avoid compaction if the ground is not frozen when action is taken. If action is taken after October when the ground is frozen, a wildlife biologist will inspect the site for habitat. If the wildlife biologist locates habitat that would be negatively affected by actions at that time, action would be either modified to avoid any affect, or delayed until the following year and undertaken at a more preferable time. The summary of trees to be removed for initial management is summarized in the table on the previous page.

Continued Maintenance

The site shall be evaluated and maintained on an annual basis. Such maintenance includes felling of trees less than 6" that encroach on the vista and revegetation of denuded areas. Trees larger than 6" that encroach on a vista would require an additional work plan and undergo resource review to minimize or eliminate any adverse effects.

Little Blue Slide

The Little Blue Slide vista is located at a turnout on Tioga Road, about 5.2 miles west of Tioga Pass. It is also a part of the *Yosemite Road Guide* as T33, which refers to the glacial moraine on the north side of the road. The primary view is to the Cathedral Range to the southwest. In addition there are great vistas to the south of Lyell Canyon, Mount Lyell and Amelia Earhart Peak.

This site was inventoried as part of the *Scenic Vista Management Plan* as site number 105, and is a medium priority when evaluated with the Visual Resource Assessment (VRA) and compared to other points in the park. All sites that score a 10.0 or higher on an 18 point scale are considered a high priority and the Dana Fork of the Tuolumne vista averaged 9.25 out of 18.



Figure I-7. Viewpoint from Little Blue Slide.

Description of River Values at this Location

- Cultural: Archeological landscape;
- Scenic: Exemplary views up Lyell Canyon, encompassing the meandering river, adjacent meadows backed by glacially carved domes, and rugged mountain peaks of the Sierra Crest;
- Recreational: Rare and easy access to high-elevation sections of the Tuolumne River through Tuolumne and Dana Meadows.
- This location is not within the bed and banks of the river; therefore, the free-flowing condition would not be affected.
- Actions to protect water quality should be initiated through all phases of activity at this site.

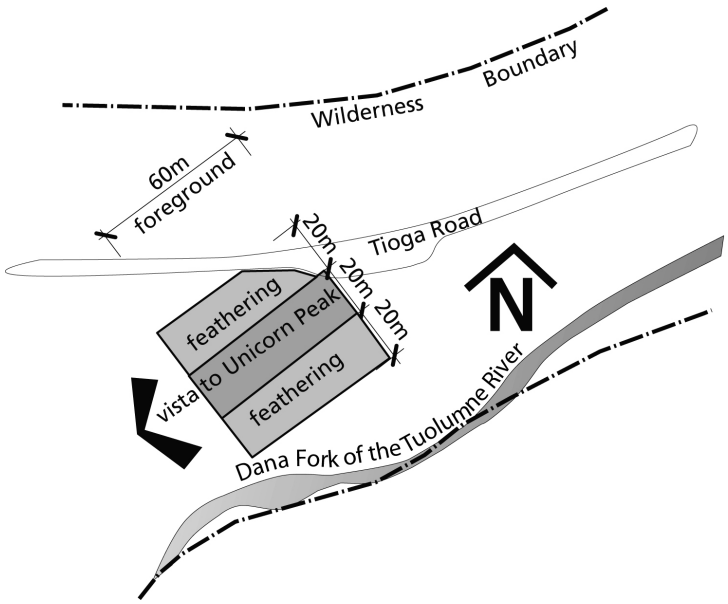


Figure I-8. Little Blue Slide work area.

Initial Management

Management of this medium priority site is recommended under the *Scenic Vista Management Plan*. At the present time, however, there have been rock slides from the moraine on the north side of the road and there is

concern that managing the vista at this site would likely encourage visitors to stop in the potentially hazardous area. The types of solutions to this rock slide hazard involve bank stabilization and site restoration as called for in chapter 5 and appendix H of the *Tuolumne River Plan*. The recommendation to manage the vista should be undertaken only after the issues of potential hazards are addressed.

This vista is located in the subalpine vegetation zone among mixed conifer forest. The tree species present include lodgepole pine and western white pine. Snags are of particular importance in these communities, but none are obscuring the vista, so none need to be removed. This is a medium priority site in a subalpine region so only trees in the foreground (60 meters from the turnout) shall be removed for vista management and the viewing area can be up to 20 m wide, with 20 m of feathering to each side. Due to the slope away from the turnout there are few trees beyond the foreground that could ever potentially obscure the vista. The Wilderness area is 60m from the centerline of Tioga Road and no actions will take place in Wilderness for vista management.

Tree Species	<20" dbh	Total
Lodgepole Pine	34	34
TOTAL TREES		**34**

In addition, due to the steepness of the bank immediately beneath the viewing area, seeding and duffing will be done and erosion mitigation measures taken as needed. Check dams or wattles built out of logs, slash, should be positioned to catch eroding sediment.

Continued Maintenance

The site shall be evaluated and maintained at least once every three years. Such maintenance includes felling of trees less than 6" that encroach on the vista and revegetation of eroded slopes or any areas denuded by the initial clearing process. Trees larger than 6" that encroach on a vista would require an additional work plan and undergo resource review to minimize or eliminate any adverse effects.

Lembert Dome Parking



Figure I-9. Viewpoint from Lembert Dome Parking.

The Lembert Dome parking area on the eastern edge of Tuolumne Meadow, just north of Tioga Road at the base of Lembert Dome, has a great view of Unicorn Peak to the southwest. This site was inventoried as part of the *Scenic Vista Management Plan* as site number 106, and is a medium priority when evaluated with the Visual Resource Assessment (VRA) and compared to other points in the park. All sites that score a 10.0 or higher on an 18 point scale are considered a high priority and the Lembert Dome vista averaged 8.75 out of 18.

This vista is located in the subalpine vegetation zone with mixed conifers, next to a wetland and riparian area. At this time, the vista is not obscured so no management actions are necessary.

Description of River Values at this Location

- Biological: Tuolumne Meadows, part of the extensive subalpine riparian and meadow complex for the Tuolumne River. This location contains wetland and riparian habitat;
- Cultural: Part of the archeological landscape;
- Scenic: Exemplary views encompassing the meandering river, adjacent meadows backed by glacially carved domes, and rugged mountain peaks of the Sierra Crest;
- Recreational: Rare and easy access to high-elevation sections of the Tuolumne River through Tuolumne and Dana Meadows.
- This location is not within the bed and banks of the river; therefore, the free-flowing condition would not be affected.
- Actions to protect water quality should be initiated through all phases of activity at this site.

Continued Maintenance

The *Scenic Vista Management Plan* recommends a tree should be considered for removal if it will likely obscure the vista within the next five years. There are a number of lodgepole pines, seen in figure I-9, or new lodgepole pines, that will likely obscure the vista within the next ten years, but are not obscuring the vista at this time. These are immediately north and south of Tioga Road on the road embankment. Trees larger than 6" that encroach on a vista would require a work plan identifying the specific number of trees being considered for removal; the plan must undergo resource review to minimize or eliminate any adverse effects to ensure it preserves and enhances the ORVs of the Tuolumne River. As with other work plans for the

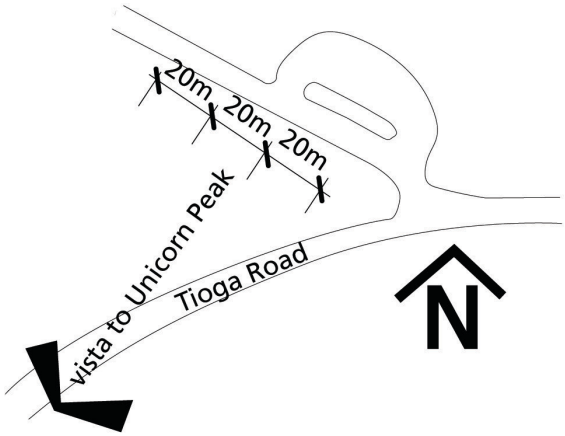


Figure I-10. Lembert Dome Parking work area.

Scenic Vista Management Plan, it will be posted for public review at that time.

Although no removals are recommended at this time, this site shall be evaluated and maintained at least every three years as a medium priority vista in a subalpine region. Only trees in the foreground (up to 60 meters away) may be removed, and the viewing area is up to 20 meters wide and feathering 20 meters to each side. Such maintenance includes felling of trees less than 6" that encroach on the vista up to 60 meters away and revegetation of eroded areas.

Tuolumne Meadow Trail to Parsons Memorial Lodge

The Tuolumne Meadow Trail to Parsons Memorial Lodge view area is located on the trail to Parsons Memorial Lodge just north of Tioga Road from the trailhead approximately one mile west of the Lembert Dome parking area. Lembert Dome to the east is the primary focal point of this vista, but the Cathedral Range can also be seen.



Figure J-11. Viewpoint from Tuolumne Meadow Trail to Parsons Memorial Lodge.

This site was inventoried as part of the *Scenic Vista Management Plan* as site number 107, and is a high priority when evaluated with the Visual Resource Assessment (VRA) and compared to other points in the park. All sites that score a 10.0 or higher on an 18 point scale are considered a high priority and the Tuolumne Trail to Parsons Memorial Lodge vista averaged 10.5 out of 18.

Description of River Values at this Location

- Biological: Tuolumne Meadows, extensive subalpine riparian and meadow complexes;
- Cultural: Parsons Memorial Lodge, a national historic landmark sited near the Tuolumne River, uniquely commemorates the significance of this free-flowing segment of the river in inspiring conservation activism and protection of the natural world on a national scale;
- Cultural: part of the archeological landscape;
- Scenic: Exemplary views encompassing the meandering river, adjacent meadows backed by glacially carved domes, and rugged mountain peaks of the Sierra Crest;
- Recreational: Rare and easy access to high-elevation sections of the Tuolumne River through Tuolumne and Dana Meadows.
- This location is not within the bed and banks of the river; therefore, the free-flowing condition would not be affected.
- Actions to protect water quality should be initiated through all phases of activity at this site.

This vista is located in a subalpine meadow vegetation zone near the riparian area. Additional protection measures apply in a riparian area, with no trees that are adjacent to and overhang the water's edge being removed. The views into meadows, and the broad and distant view allowed by meadows, are all important visual experiences for visitors. The *Scenic Vista Management Plan* recommends maintaining the meadow structure within the area for this vista for these reasons. Biological conditions are dynamic and conditions will

be assessed on an annual basis. As with all sites in the *Scenic Vista Management Plan*, management intensity is determined by the ecological conditions. Natural resources are dynamic and maintenance can change and adapt to the changing ecological conditions to best enhance and protect all the values of the Tuolumne River.

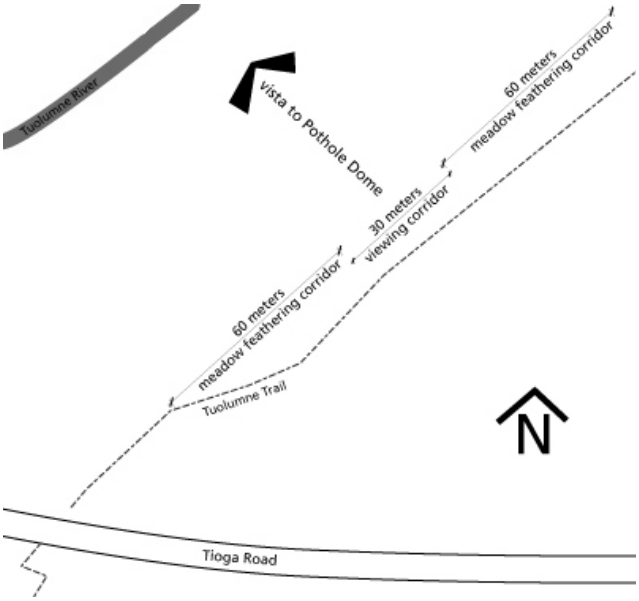


Figure I-12. Tuolumne Meadow Trail to Parsons Memorial Lodge site diagram. Not to Scale.

The trail that the vista point is on could be moved slightly under some alternatives of the *Tuolumne River Plan*. If this were to happen, this current vista point would not be maintained at its present location, but a comparable vista on the new trail would be found--one that would need little if any initial maintenance. That view point would be evaluated for initial treatment and maintenance. The likely outcome is that the trail could move to the east, and the boundary to maintain would shift east with the new point. As stated earlier, by maintaining vistas at areas with sufficient infrastructure to minimize visitor impacts, both the cultural and natural resources can be protected and impacts minimized.

Initial Maintenance

Management recommendations for a high priority site in a subalpine meadow allow for a viewing area up to 30 meters wide, with feathering of 60 meters, and removing trees up to 1 kilometer away. The relevant wilderness boundary to this vista is over 1 kilometer away, beyond the middle ground limits set by the *Scenic Vista Management Plan*. Lodgepole pines have matured along the meadow edges, although seedlings are scattered throughout. The initial management recommendations are to remove a limited number of trees larger than 6" dbh.

Tree Species	< 20" dbh	Total
Lodgepole Pine	10	10
TOTAL		**10**

Continued Maintenance

The site shall be evaluated and maintained on an annual basis. Such maintenance includes removal of conifers in the meadow within the defined viewing corridor less than 6" dbh, and revegetation of eroded slopes or denuded areas. Trees larger than 6" that encroach on a vista would require an additional work plan and undergo resource review to minimize or eliminate any adverse effects.

Pothole Dome Turnout

The Pothole Dome turnout is on Tioga Road at the west end of Tuolumne Meadows, immediately south of Pothole Dome. Although dominated by the nearby Pothole Dome, the primary vista is across the meadow to Lembert Dome and Mount Gibbs, Mammoth Peak, and ridges beyond. This vista point is not within the wild and scenic boundary for the Tuolumne River. However, the parking area is discussed within the *Tuolumne River Plan*. The Wilderness boundary is 60m from the centerline of the road and no actions to manage vistas will take place inside Wilderness.



Figure I-13. Viewpoint from Pothole Dome Turnout.

This site was inventoried as part of the *Scenic Vista Management Plan* as site number 108, and is a high priority when evaluated with the Visual Resource Assessment (VRA) and compared to other points in the park. All sites that score a 10.0 or higher on an 18 point scale are considered a high priority and the vista at the Pothole Dome turnout averaged 13 out of 18.

Description of River Values at this Location

- Biological: Tuolumne Meadows, extensive subalpine riparian and meadow complexes;
- Cultural: Part of the archeological landscape;
- Scenic: Exemplary views encompassing the meandering river, adjacent meadows backed by glacially carved domes, and rugged mountain peaks of the Sierra Crest;
- Recreational: Rare and easy access to high-elevation sections of the Tuolumne River through Tuolumne and Dana Meadows.
- This location is not within the bed and banks of the river; therefore, the free-flowing condition would not be affected.
- Actions to protect water quality should be initiated through all phases of activity at this site.

This vista is located in a subalpine meadow vegetation zone. Management recommendations for a high priority site in a subalpine meadow allow for a viewing area up to 30 meters wide, with feathering of 60 meters, up to the wilderness boundary. The vista is not obscured, so no removals are necessary for initial management.

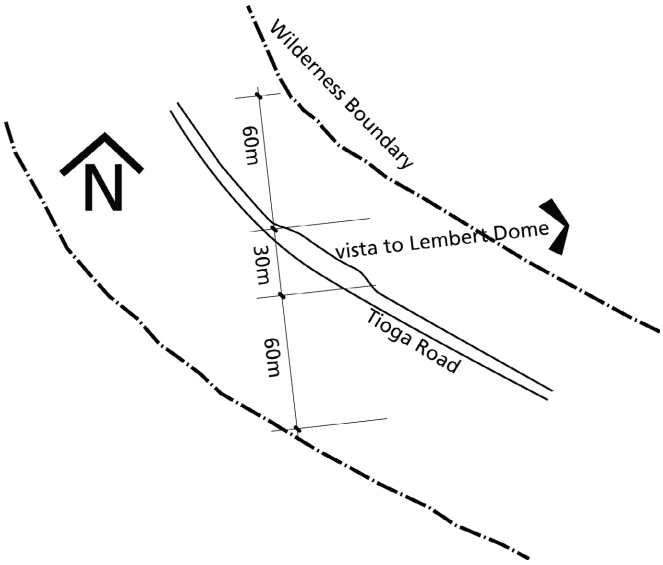


Figure I-14. Pothole Dome Parking work area.

Continued Maintenance

Although no removals are recommended at this time, this site shall be evaluated and maintained as a high priority vista. This means that the site will be reevaluated and maintained at least every three years. Such

maintenance includes removing trees less than 6" dbh that encroach on the vista and revegetation of eroded soils. Future maintenance will likely involve removal of lodgepole seedlings on the road embankment, within the boundary for this site.

Parsons Memorial Lodge



Figure J-15. Viewpoint from Parsons Memorial Lodge.

Parsons Memorial Lodge is a National Historic Landmark built by the Sierra Club in 1915 in the rustic style. The front door opens onto a great vista of Unicorn Peak.

This site was inventoried as part of the *Scenic Vista Management Plan* as site number 176, and is a medium priority when evaluated with the Visual Resource Assessment (VRA) and compared to other points in the park. All sites that score a 10.0 or higher on an 18 point scale are considered a high priority and the Parsons Memorial Lodge vista averaged 7.5 out of 18. This site scores high enough to be considered as a medium priority for management under the *Scenic Vista Management Plan*, and its importance to the Parsons Memorial Lodge and its association to the historic value of the Tuolumne River as noted in the *Tuolumne River Plan* make this a desirable vista to manage and maintain to enhance the ORVs of the river.

Description of River Values at this Location

- Biological: Proximity to Tuolumne Meadows, extensive subalpine riparian and meadow complexes;
- Cultural: Parsons Memorial Lodge, a national historic landmark sited near the Tuolumne River, uniquely commemorates the significance of this free-flowing segment of the river in inspiring conservation activism and protection of the natural world on a national scale;
- Cultural: Part of the archeological landscape;
- Scenic: Exemplary views encompassing the meandering river, adjacent meadows backed by glacially carved domes, and rugged mountain peaks of the Sierra Crest;
- Recreational: Rare and easy access to high-elevation sections of the Tuolumne River through Tuolumne and Dana Meadows.
- This location is not within the bed and banks of the river; therefore, the free-flowing condition would not be affected.
- Actions to protect water quality should be initiated through all phases of activity at this site.

Initial Treatment

This vista is located in the subalpine vegetation zone among mixed conifer forest on the edge of a subalpine meadow. Because this is a medium priority site, the viewing area can be up to 20 m wide, with 20 m of feathering to each side and only trees in the foreground (up to 60 m) may be removed. Snags are of particular importance in these communities, so none are recommended to be removed. The Wilderness boundary to the south is about 1 km away across Tioga Road, and there is a boundary to the west. No actions are to take place in wilderness.

Tree Species	<20" dbh	Total
Lodgepole Pine	40*	40*
TOTAL TREES		**40***

*Estimate based on photographs

NPS personnel working on the *Scenic Vista Management Plan* were not able to record potential tree counts for initial management at this location. The best estimate based on 2009 photographs is that 40 lodgepole pines under 20" dbh are necessary to remove and reestablish the view and feather the clearing. Revegetating the area is also recommended.

Continued Maintenance

The site shall be evaluated and maintained at least once every three years. Such maintenance includes felling of trees less than 6" that encroach on the vista and revegetation of eroded slopes or any denuded areas. Trees larger than 6" that encroach on a vista would require an additional work plan and undergo resource review to minimize or eliminate any adverse effects.

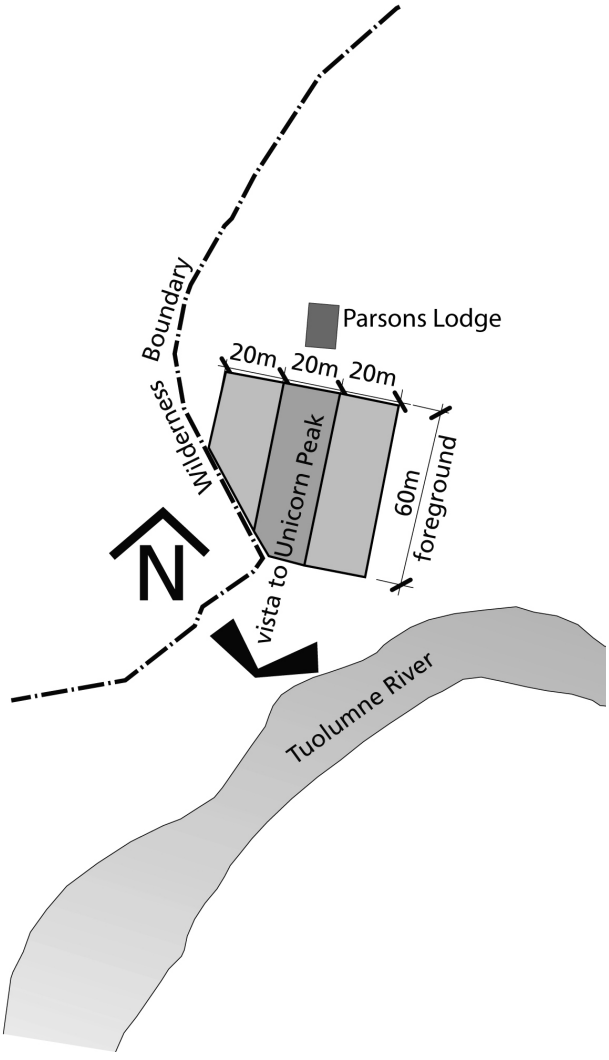
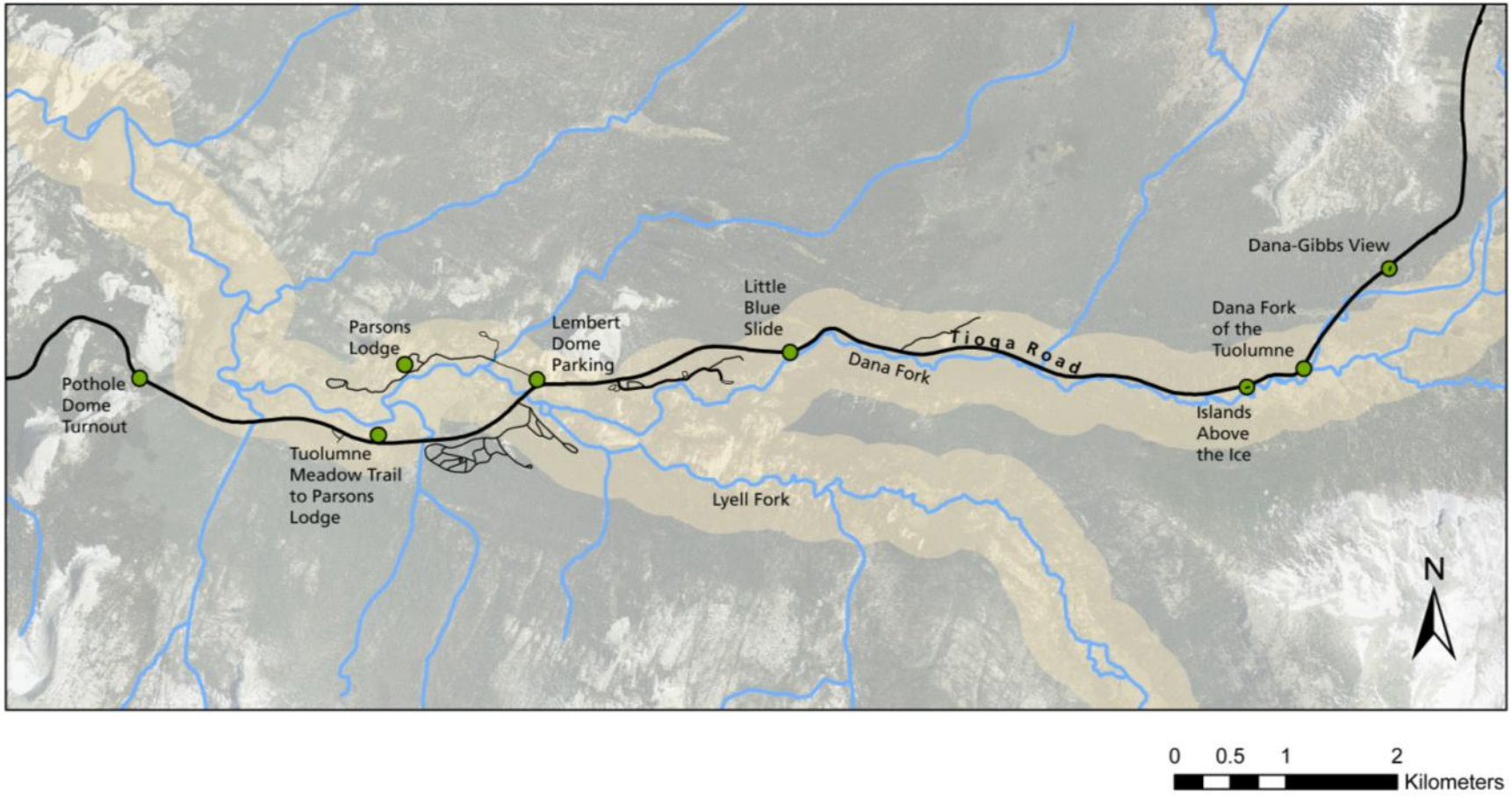


Figure I-16. Parsons Memorial Lodge work area.



Scenic Vista Points in the Tuolumne River Wild and Scenic River Corridor

Appendix J:
Characterizing Visitor Use of the Tuolumne Wild and Scenic River

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Introduction

The Tuolumne River passes through the northern, high-country portion of Yosemite National Park. Its setting is shaped by tall peaks, granite domes and meadows (Figure 1). The primary means of access to the river are by vehicle via the Tioga Road and on foot or horseback from other parts of the park and its surrounding backcountry areas. Visitor activities associated with the Tuolumne tend toward the wilderness end of the recreation opportunity spectrum with only some amenities provided in the Tuolumne Meadows area of the corridor. The following is a summary of visitors and their use of the Tuolumne River.



Figure 1. Backpacker in Tuolumne Meadows (NPS Photo)

Visitor Demographics

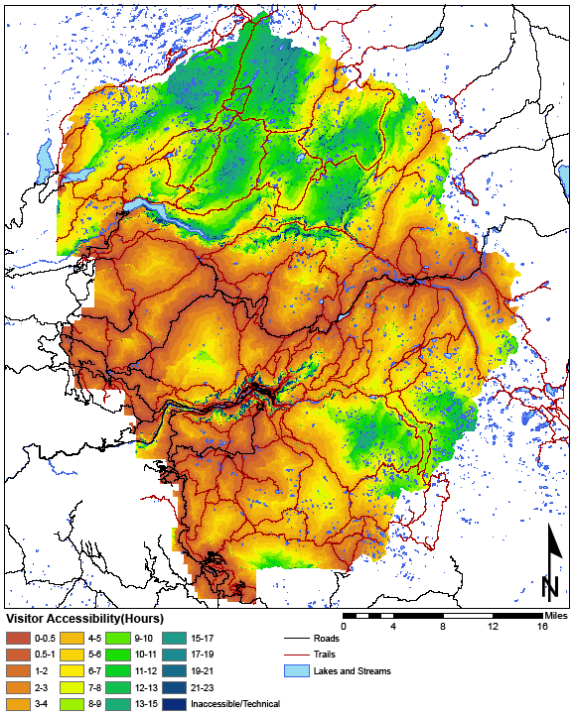
A park-wide, comprehensive study of visitor use in Yosemite was conducted in the summer of 2005 (Littlejohn, et al. 2005). This study provided a variety of visitor-related information including demographic and use characteristics. Data from this study were cut to draw a comparison between Tuolumne area visitors and overall park visitors. A summary of Tuolumne area visitor demographic and use characteristics is shown below (Table 1).

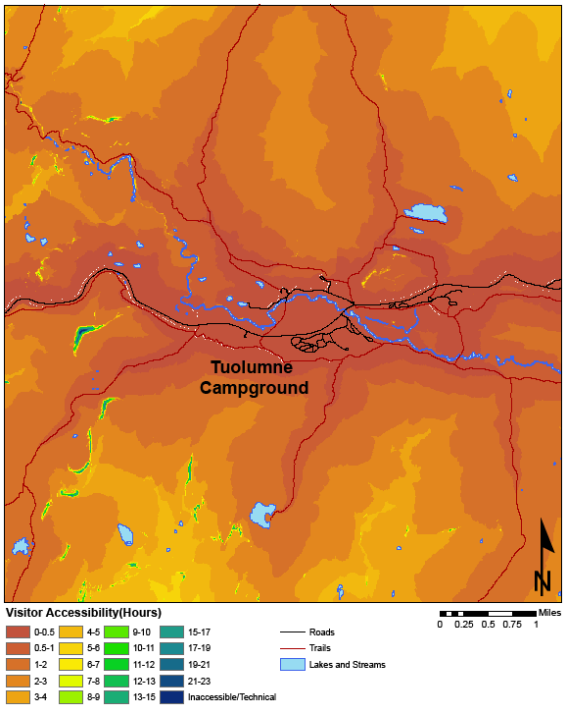
Table 1. Visitor Demographic and Use Characteristics
Gender = 51.5% Male and 48.4% Female
Average age = 32.8 years
Average group size = 3.4 (statistically significant from overall park users at 5.2)
First-time visitors = 51.7%
Average Length of Stay = 7.2 hours
Average Length of Stay in Days = 3.7 days

Visitor Access and Use Patterns

The Tioga Road provides direct visitor access by vehicle to the Tuolumne River corridor. Visitors can view the headwaters of the Tuolumne along the Dana and Lyell Forks easily from their vehicles as they pass along the road. For much of this route federally designated Wilderness lay a mere 200 feet from the centerline of the road. This ease of access to a remote, wilderness area is somewhat unique for the Sierra Nevada and shapes the character of visitor use to the area.

To further understand visitor access and resulting use patterns a model was developed using Geographic Information System (GIS) technology (Pettebone et. al 2007). In this model, visitor use intensity was depicted based on ease of visitor access (Figures 2a and 2b). Accordingly, those areas closest to roads, trails and other access points portray shorter travel times, and by extension suggest areas of potentially higher use intensity. While the model has not been validated with field data, professional experience and judgment indicate that use intensity follows a general pattern as indicated in Figure 2a, suggesting that Tuolumne Meadows is the location of the majority of visitor activities within the Tuolumne River corridor. Further, the model suggests that the majority of day use of Wilderness might extend approximately 4-hours travel time from trailhead areas, given time to return to the trailhead within the same day (Figure 2b). This information is useful in understanding the reaches of visitor day use in Wilderness. All other Wilderness use is overnight and is controlled by a permit system or special use authorization.





Figures 2a and 2b. Maps of Visitor Access and Use Intensity Based on-foot Travel Time

Visitor Activities

Visitors engage in a variety of activities throughout the Tuolumne River corridor. The 2005 study asked visitors which activities they participated in while visiting the park and which of these was their primary activity. Again, this data was split out for Tuolumne area visitors specifically and results are shown below. Visitors participated in a wide variety of activities with sightseeing, visiting the visitor center, leisure pursuits such as painting, drawing, and photography, and day hiking being the most common. Of these, sightseeing and day hiking were the most often reported primary activities participated in for Tuolumne area visitors.

Visitor activities specific to the Tuolumne Wild and Scenic River can be categorized as direct and indirect river recreation. The Secretarial Guidelines pertaining to Wild and Scenic Rivers further characterizes this distinction for designated rivers as primary and secondary contact recreation (DOI 1999). **Primary contact recreation** are those activities in which there is prolonged and intimate contact with the water, (e.g., swimming, water skiing, surfing, kayaking, "tubing," and wading or dabbling by children). **Secondary contact recreation** involves activities in which contact with the water is either incidental or accidental, (e.g., boating, fishing and limiting contact with water incident to shoreline activities). It is important to note that both primary and secondary contact recreational activities take place in the Tuolumne River corridor. Primary contact recreation activities include swimming and fishing. Secondary contact recreation activities are more common and numerous, including a variety of activities as shown below (Tables 2a and 2b).

Table 2a. Summer Activities	%
Sightsee/take a scenic drive	91.9
Visit visitor center	58.9
Paint/draw/take photographs	54.1
Day hike	51.6
View wildlife/bird watching	44.7
View roadside/trailside exhibits	44.3
Shop in park (other than park bookstore)	44.3
Eat in park restaurant	43.5
Picnic	37.8
Shop in park bookstore	33.3
Visit museum	26.4
Camp in developed campground	16.3
Other	14.6
Stay in park lodging	12.6
Attend ranger-led programs	8.9
Climbing	7.3
Overnight backpack	4.5

Table 2b. Primary Summer Activities	%
Sightsee/take a scenic drive	60.0
Day hike	18.7
Paint/draw/take photograph	4.4
Camp in developed campground	4.0
Other (not match with above answer)	4.0
Overnight backpacking	3.6
View wildlife/bird watching	1.8
Climbing	1.3
Other	0.9
View roadside/trailside exhibits	0.4
Attend ranger-led program	0.4
Picnic	0.4

Visitor Use Levels

The following section outlines the methods and assumptions used to estimate current visitor use levels for the Tuolumne River corridor in Yosemite National Park. Multiple estimates were generated each containing a specified set of assumptions, calculations, and corresponding results. Estimates range in scale from daily (per day) to people-at-one-time (PAOT).

Vehicle-based Use Estimates

Yosemite National Park is more than 700,000 acres in size and includes several dispersed sub-districts each containing notable attraction sites. These areas include Yosemite Valley, Wawona, Tuolumne Meadows, Mather, Glacier Point and Hetch Hetchy (Figure 3). More than 95% of the park is designated wilderness. Due to its size and remote landscape, estimating visitor use levels can be challenging.

Nevertheless, vehicle based estimates represent an efficient and effective method for documenting visitor use levels. Two facts are integral to conducting such estimates: 1) the primary means of access to the park is by automobile, and 2) the vast majority of visitors to the park arrive in personal vehicles (Gramman 1992; ORCA 1999; Littlejohn et al. 2005, Le et al. 2008).

Inductive traffic counters are in place at each of Yosemite's five entrance stations including Big Oak Flat, South Entrance, Arch Rock, Tioga Pass, and Hetch Hetchy (Figure 3). These counters have been in place for many years providing the park with estimates of park-wide visitor use levels. Data from these counters are managed by the National Park Service's public statistics office (www.nature.nps.gov/stats). A report is generated from this office each month detailing the park's visitation by entrance station, by month, and by year accumulations. Both recreational and non-recreational visits are estimated. **Estimates included in this document pertain to recreational visits only.**

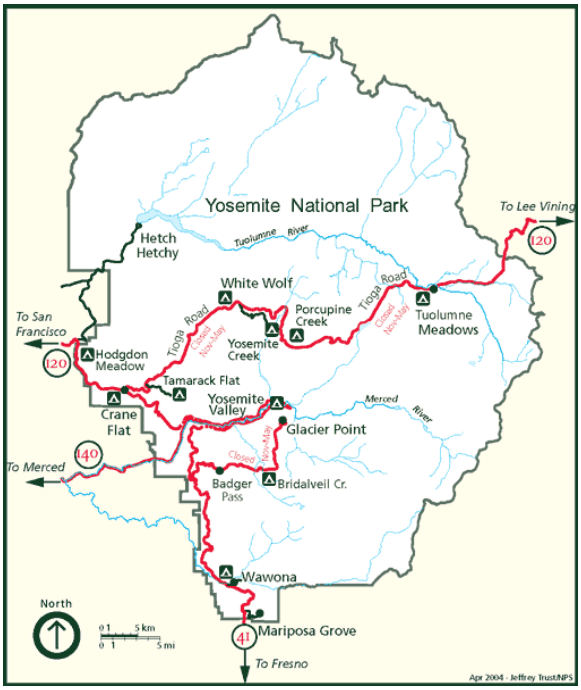


Figure 3. Map of Major Travel Routes in Yosemite National Park

As mentioned above, Tuolumne Meadows and the majority of the Tuolumne River are accessible via Tioga Road/Highway 120. This is a seasonal highway and is closed during winter months. Typically the road is open from approximately May to November representing an average summer season of 174 days per year. Very little backcountry use occurs in the Tuolumne area during the winter. **Estimates included in this document reflect summer season use only.**

Transit and Bus-Based Use Estimates

While the vast majority of visitors to Yosemite National Park arrive by private vehicle, estimates of the total number of people-at-one-time within the Tuolumne River Corridor must also account for those arriving by regional transit service, shuttle bus service within the park, and by privately operated tour buses. Yosemite Area Regional Transit (YARTS) operates a regularly-scheduled, fixed-route transit system providing service into Yosemite National Park and gateway communities located in Merced, Mariposa, Inyo and Mono Counties. During the summer months, YARTS operates a bus along the Highway 120 corridor from Mammoth Lakes to Yosemite Valley and back, stopping at Tuolumne Meadows, with a capacity of 45 passengers. Additionally, the Tuolumne Meadows Tour and Hiker's Bus, operated by the park's concessioner, provides a daily shuttle from Yosemite Valley to Tuolumne Meadows between July and September with a capacity of 45 passengers. The concessioner also operates a Tuolumne Meadows shuttle bus with frequent daily service to destinations and trailheads along Tioga Road between Olmsted Point and Tuolumne Meadows. This shuttle generally serves as an intra-park shuttle and few visitors will use the service to access the Meadows from other destinations along Tioga Road.

Private tour buses also bring visitors to Tuolumne Meadows and park at the Visitor Center, which can only accommodate two buses at a time with a maximum capacity of 45 passengers each. When the private tour bus maximum (90) is combined with the park shuttle (45) and regional transit maximums (90), a maximum of 225 people-at-one-time in Tuolumne Meadows can potentially arrive from outside the corridor by bus.

Trends in Visitor Use Levels

Based on entrance station counts Yosemite National Park has received an average of approximately 3.4 million visitors per year between 1979 (Tuolumne Wild and Scenic River designation) and 2011 (Figure 4 and Table 3). The highest recorded annual visitation occurred in 1996 with a steady decline following the 1997 Merced River flood. However, park-wide use is again on the rise with sharp increases experienced in recent years. Peak visitation generally occurs between May and October with August being the busiest month of the year (approximately 17% of annual visitation alone).

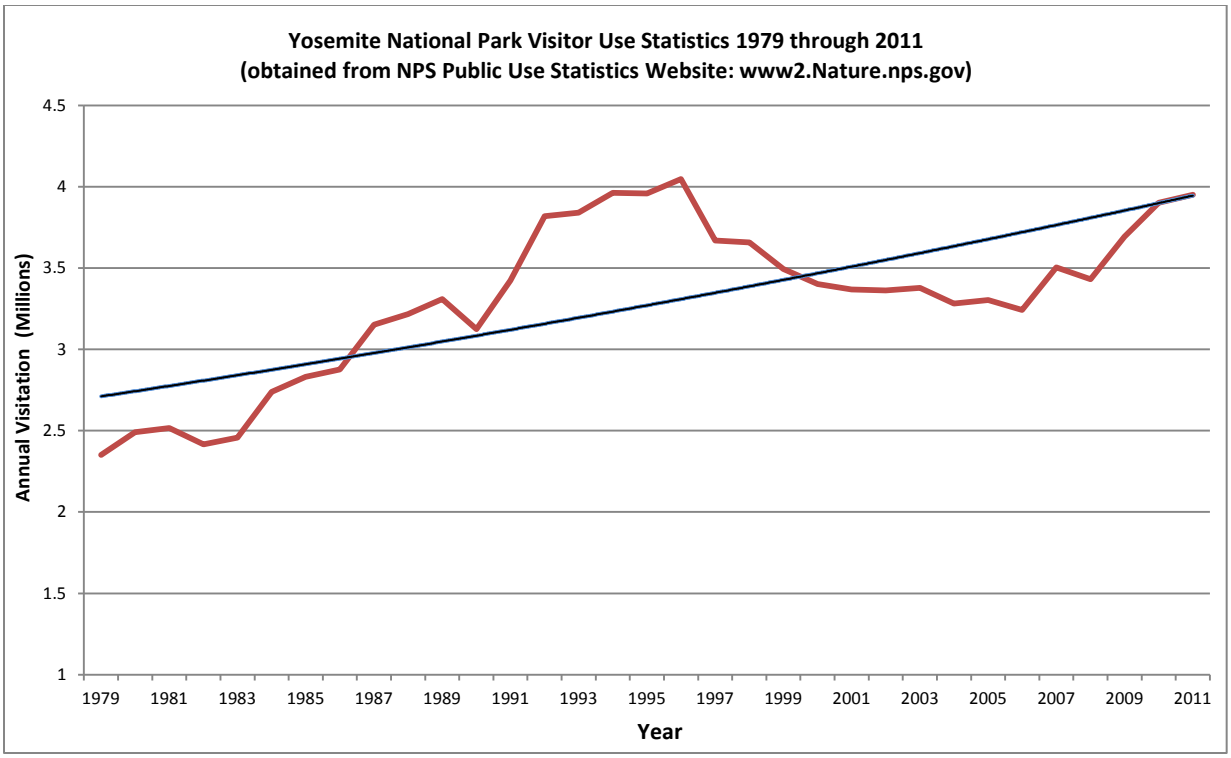


Figure 4. Overall Park Visitation by Year 1982-2011

Yosemite National Park Visitor Use Statistics 1982 through 2011 (obtained from NPS Public Use Statistics Website: www2.Nature.nps.gov)													
Year/Month	January	February	March	April	May	June	July	August	September	October	November	December	Total
1982	60,817	68,307	70,702	73,259	254,169	363,303	425,198	432,776	303,673	206,821	85,193	71,369	2415587
1983	64,748	64,554	85,104	90,376	214,870	266,832	441,436	473,638	350,841	242,778	87,561	74,726	2457464
1984	75,894	83,589	102,049	147,755	276,877	363,876	414,711	494,860	370,899	217,730	101,528	88,699	2738467
1985	84,266	86,738	101,035	158,974	314,386	375,841	447,936	498,319	344,277	230,095	105,532	84,553	2831952
1986	92,835	74,133	114,441	152,019	291,811	362,173	439,823	522,908	340,843	245,733	151,081	88,917	2876717
1987	94,639	98,799	109,617	192,048	373,894	419,479	487,915	526,850	328,866	281,719	146,909	91,540	3152275
1988	94,583	109,552	153,436	190,484	362,008	404,321	477,167	502,674	385,509	292,886	144,254	99,807	3216681
1989	102,646	96,527	143,858	204,102	377,940	413,068	511,957	524,395	390,364	264,670	163,939	114,693	3308159
1990	99,686	101,236	145,037	237,815	364,549	424,933	482,066	367,502	364,838	276,025	162,254	98,998	3124939
1991	104,673	111,073	117,735	187,607	354,908	396,841	521,822	587,904	441,553	320,769	164,072	114,144	3423101
1992	126,603	120,908	149,651	251,872	425,555	486,890	568,070	586,868	470,798	356,333	163,364	112,606	3819518
1993	101,503	105,315	151,472	246,136	378,548	446,235	604,248	634,588	503,629	368,978	171,108	127,885	3839645
1994	131,216	127,303	186,008	247,425	384,114	495,097	585,940	666,555	511,954	336,448	146,675	143,382	3962117
1995	123,844	151,102	124,710	250,592	279,575	449,511	663,052	656,064	551,886	409,319	210,295	88,456	3958406
1996	104,086	135,115	180,709	253,532	347,364	527,284	622,855	679,862	517,934	365,313	172,037	140,116	4046207
1997	12,520	64,201	136,476	200,212	319,108	460,459	595,059	697,060	516,567	372,171	168,533	127,604	3669970
1998	114,143	109,163	157,257	231,495	307,331	345,916	603,790	672,966	480,941	384,428	142,002	107,700	3657132
1999	100,857	102,345	136,795	169,517	335,374	448,560	558,114	625,405	433,178	330,334	150,843	102,285	3493607
2000	93,633	103,444	136,523	216,087	317,009	454,638	548,440	546,981	388,707	324,484	144,958	125,999	3400903
2001	102,455	101,897	142,141	192,936	315,897	434,014	528,849	591,196	448,519	264,465	137,876	108,486	3368731
2002	108,906	113,695	141,766	186,682	295,511	436,862	513,789	570,914	426,684	300,919	149,828	116,311	3361867
2003	116,984	111,506	137,550	174,337	280,335	445,887	536,683	604,093	405,605	316,366	136,390	112,928	3378664
2004	100,020	106,258	146,876	228,212	326,017	449,566	531,864	508,094	393,437	272,200	121,622	96,745	3280911
2005	91,238	103,756	143,335	195,385	304,552	413,124	554,567	485,643	430,134	318,508	152,671	111,231	3304144
2006	104,591	101,194	125,556	189,472	309,387	382,972	510,932	528,254	421,502	298,771	165,499	104,514	3242644
2007	99892	100941	135925	219854	374184	466054	543235	550172	417882	298122	178846	118321	3503428
2008	95124	107729	153735	199592	361193	473186	539874	543799	416918	295547	146837	97,979	3431513
2009	101484	78795	132711	230828	399683	438382	586591	643300	471530	346826	151297	110,545	3691972
2010	96089	100379	149651	224461	382414	521059	643566	659857	520210	356370	148459	98,893	3901408
2011	100718	93588	100433	231372	356588	503741	704553	699749	533502	360449	139079	127,621	3951393
Average	96,690	101,105	133,743	199,148	332,838	429,003	539,803	569,442	429,439	308,519	147,018	106,902	3,393,651
	January	February	March	April	May	June	July	August	September	October	November	December	Total
TOTAL	2,703,886	2,839,175	3,762,210	5,518,605	9,246,149	11,845,304	14,845,983	15,723,640	11,829,468	8,538,758	4,123,004	2,980,539	93,956,721
%	2.9	3.0	4.0	5.9	9.8	12.6	15.8	16.7	12.6	9.1	4.4	3.2	100
% of Annual Visitation - May to October							76.7						
% of Annual Visitation - June to September							57.7						
% of Annual Visitation - July and August							32.5						

Table 3. Yosemite National Park Recreational Visits by Month 1982-2011

In order to further understand trends in Tuolumne visitation over time a comparison of recreational visits as recorded by the Tioga Pass Entrance Station traffic counter from 2006 thru 2011 is shown in Table 4 below. This shows that use levels have recently increased when compared to previous years. In particular, use levels have significantly increased in 2009, 2010 and 2011. The highest use has occurred in 2011 at 466,188 recreational visits.

Recreational Visits Thru Tioga Pass Entrance Station 2006-2011 (from NPS public use statistics office at: www.nature.nps.gov/stats)								
Month	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**07-11 AVG**	**MAX**
July	132,938	117,999	122,065	131,191	132,325	137,058	128,128	137,058
Aug	119,478	125,722	133,268	189,062	189,394	190,931	165,675	190,931
Sept	98,298	94,095	102,095	136,810	136,022	138,199	121,444	138,199
Total	**350,714**	**337,816**	**357,428**	**457,063**	**457,741**	**466,188**	**415,247**	**466,188**

Table 4. Annual Recreational Visits thru Tioga Pass 2006- 2011

Table 5 shows the percent difference in recreational visits from 2006 thru 2011. The percent difference in visitation was calculated and averaged for each month of the core summer season of July to September. The percent difference was also calculated comparing 2006 visitation against 2011 levels directly ("Total %Diff 06-10) resulting in a 24.8% increase in visitation. In order to account for annual variations in use levels, the average % difference was calculated for use increases between the years 2007 thru 2011 and compared against the base year of 2006, resulting in an average increase in visitation over this time period of 15%.

July %Diff 06-11	August %Diff 06-11	September %Diff 06-11	Total %Diff 06-11	%Diff 06 to 07-11 AVG
3.0	37.4	28.9	**24.8**	**15.5**

Table 5. Comparison of Recreational Visits thru Tioga Pass 2006- 2011

Table 6 presents a comparison of the two-way traffic volumes at Tioga Pass for the peak use season in 2009, 2010 and 2011. Overall, the comparison of daily traffic volumes over this three year period shows slowed, but continued increase in visitation in the Tuolumne area. 2010 saw an increase of 8.2% over the previous year and 2011 showed only a 3.7% increase in traffic volumes. For all three years, there has been an average daily traffic volume of 2,939 and a maximum of 4,039 vehicles per day over this period.

YEAR:	2009			2010			2011		
DIRECTION:	Eastbound	Westbound	Combined	Eastbound	Westbound	Combined	Eastbound	Westbound	Combined
SUM:	122,619	129,283	251,902	135,405	138,913	274,318	139,895	144,969	284,864
MEAN:	1,333	1,405	2,738	1,472	1,510	2,982	1,521	1,576	3,096
STDEV:	365	364	697	318	348	618	312	352	609
MAX:	2,053	2,254	3,976	2,151	2,410	4,303	2,280	2,403	4,277
% CHANGE:	-	-	-	9.4	6.9	8.2	3.2	4.2	3.7

Table 6. Comparison of Daily Traffic Volumes at Tioga Pass 2009 - 2011

People-At-One-Time (PAOT)

The maximum number of day users that can be received in the river corridor is expressed as *people at one time* (PAOT). Because day users above Hetch Hetchy Reservoir access the river corridor between Tioga Pass and Tuolumne Meadows, the number of day users depends largely on the number of people entering the river corridor via Tioga Road (the number of visitors who access the river corridor below the reservoir is minimal).

As noted above, the vast majority of visitors to the Tuolumne River corridor arrive by private vehicle. Therefore, the NPS has selected a vehicle-based measure of the maximum PAOT, specifically the number of visitors who could be parked and out of their vehicles, to express the number of day users who are in the Tuolumne River corridor. In addition, the NPS has estimated how many visitors are arriving in the corridor by in-park shuttle, regional transit, and tour buses (see 'Transit and Bus-Based Use Estimates,' above). The current maximum number of day users is calculated by 1) determining the maximum number of vehicles parked in the river corridor, 2) multiplying by an average vehicle occupancy rate, and 3) determining the maximum number of visitors who may arrive by means other than private vehicle.

Parking Supply and Demand

Two parking studies have been conducted in support of this planning effort, 1) a parking study conducted from August 11-13, 2006 and 2) a parking study conducted from July 24-August 20, 2011 (DEA 2007 and DEA 2012). Among other data collected, the 2006 study established the location and type of parking facilities along Tioga Road in within the Tuolumne Meadows area. The two studies also counted the number of parked vehicles in the corridor, from Pothole Dome to Tioga Pass, at various times of day. The parking areas counted in 2006 and 2011 were similar; the primary difference was that some of the roadside pullouts that were separate from one another in 2006 were merged into larger pullouts by 2011 due to increased use.

Based on data collected in 2006 and subsequent analysis by NPS staff, there are 533 designated parking spaces in the river corridor at Tuolumne Meadows (not including the Tuolumne Meadows campground): 340 for day use and 193 for overnight (see Table 7, below). However, the 2006 study did not include overnight parking at the Tuolumne Meadows campground, an overnight facility managed by a reservation system. There is a maximum of two vehicles allowed at each site in the campground. The theoretical maximum parking capacity would therefore be the number of campsites multiplied by 2 vehicles per site, or 651 vehicles.

Table 7. Designated Parking Areas at Tuolumne Meadows (based on DEA 2007)

Parking Location	Parking Type	Primary Use	Number of Designated Spaces
Visitor Center – Oversize Lot	**Lot**	**Day**	**19**
Visitor Center – Main Lot	**Lot**	**Day**	**31**
Gas Station**	**Lot**	**Day**	**15**
Tuolumne Store and Grill	**Lot**	**Day**	**51**
Campground Office	**Lot**	**Day**	**11**
Lembert Dome	**Lot**	**Day**	**29**
Concessionaire Stables	**Lot**	**Day**	**58**
Mono Pass Trailhead	**Lot**	**Day**	**16**
Gaylor Peak Trailhead / Tioga Pass	**Lot**	**Day**	**11**
Dog Lake Trailhead	**Lot**	**Day**	**25**
Elizabeth Lake Trailhead**	**Lot**	**Day**	**11**
Treed parking areas east of Pothole	**Lot**	**Day**	**-**
Pothole Dome Scenic Pull-out and Parking	**Roadside**	**Day**	**16**
Ranger Station**	**Roadside**	**Day**	**7**
Roadside pullouts (13) to Mono Pass	**Roadside**	**Day**	**22**
Dana Meadows Pull-out at Tioga Pass	**Roadside**	**Day**	**18**
Road to Parsons	**Roadside**	**Day**	**-**
Pull-out south of Pothole	**Roadside**	**Day**	**-**
Roadside in front of Visitor Center	**Roadside**	**Day**	**-**
Roadside trail across meadows to Parsons	**Roadside**	**Day**	**-**
Roadside in front of gas station	**Roadside**	**Day**	**-**
Roadside campground office to bridge	**Roadside**	**Day**	**-**
Roadside Lembert to Wilderness Office	**Roadside**	**Day**	**-**
Roadside Wilderness Office to Gaylor Pit	**Roadside**	**Day**	**-**
Roadside Dana Meadows	**Roadside**	**Day**	**-**
Gaylor Pit	**Roadside**	**Day**	**-**
Cathedral Lakes Trailhead	**Roadside**	**Day**	**-**
Tuolumne Meadows Lodge	**Lot**	**Overnight**	**102**
Wilderness Office	**Lot**	**Overnight**	**58**
Dog Lake Trailhead	**Lot**	**Overnight**	**33**
Road to Parsons	**Roadside**	**Overnight**	**-**
Cathedral Lakes Trailhead	**Roadside**	**Overnight**	**-**
Total Day			**340**
Total Overnight*			**193**
Total designated parking spaces at Tuolumne Meadows			**533**
* Tuolumne Campground has a maximum overnight parking capacity of 651 vehicles at 2 per site - this figure is not included in this analysis.			
** These locations were not included in the DEA 2007, and were subsequently estimated by the NPS.			

The parking study conducted August 11-13, 2006, found parking use was highest from mid-morning through late afternoon, with the exception of the use of the Tuolumne Meadows Lodge parking lots which had their peak occupancy of 115 vehicles at 8 a.m. Most areas had peak use from noon to 2 p.m. During the day, parking occupancy was greatest from the visitor center to the Tuolumne Meadows Lodge. The parking use in this area peaked at 687 vehicles at 1 p.m. (DEA 2007).

The most recent parking study conducted July 24 – August 20, 2011, also found parking use the highest from mid-morning through late afternoon. Again most areas had peak use from noon to 2 p.m. During this study the highest number of parked vehicles, excluding the campgrounds, was 870 at noon on August 13. The two-way daily traffic volume on August 13 was 4,161. There were only two days in 2011 with two-way traffic volumes higher than 4,161: 4,202 on August 5 and 4,277 on August 7. Parking counts were not conducted on those days, but it is likely that more than 870 vehicles were parked during the peak hours on these two days.

A comparison of the designated parking supply in Table 7 and estimated parking demand (based on parking in counts in 2011) suggests that about 40% of the parking in the Tuolumne area is in undesignated or user-created locations. The supply of undesignated parking is generally found in roadside areas and can be primarily associated with visitor day use.

Vehicle Occupancy

The average vehicle occupancy for vehicles traveling along Tioga Road during the three-day collection period in August 2006 was 2.1 (DEA 2007). It is expected that the actual average vehicle occupancy is somewhat larger than this value, because it is assumed that some occupants of vehicles were not visible from the video used to collect the data and were not included. Other visitor studies conducted over the past 20 years have found the average vehicle occupancy to range from 2.6 to 3.4 (Van Wagtendonk and Coho 1980; FHWA 1982; ORCA 1999; Littlejohn et al. 2005; Le et al. 2008). The most recent surveys conducted in Tuolumne during 2010 found an average group size of 2.74 persons (White 2010). Based on this range, an average of 2.9 persons per vehicle is used for estimating visitor numbers for planning purposes in this document.

Visitor Day Use Capacity Calculations

The NPS estimated current peak day use by starting with an actual vehicle count on a peak day during summer 2011 (DEA 2012) and multiplying the number of parked cars attributed to day users by 2.9 persons per vehicle. The maximum number of visitors who currently arrive by tour bus, in-park shuttle, or regional transit was added to this number to reflect the current maximum number of day visitors in the river corridor.

As noted above, both the 2006 and 2011 parking studies (DEA 2007 and DEA 2012) indicate that more cars currently park in the Tuolumne Meadows area than can be accommodated in the available designated parking spaces. A maximum of 870 cars were parked at Tuolumne Meadows on Saturday, August 13, 2011 at the height of the summer season. This includes cars parking in the 340 designated day and 193 designated overnight parking spaces listed above in Table 7, and an additional 337 cars that were crowding into established parking areas and along roadsides. Not including the campground, it is estimated that 340 spaces are needed to accommodate existing overnight users at the lodge, Glen Aulin High Sierra Camp, and wilderness permit holders. Because only 193 spaces are currently designated for overnight users, it is estimated that 147 vehicles belonging to overnight users are currently parking in undesignated areas. The remainder of the cars parked in undesignated areas (190) were assumed to belong to day users.

Therefore, current maximum day use in the Tuolumne Meadows area and adjacent wilderness is estimated at 1,717 people at one time. This estimate is based upon the data described above as well as the factors described below:

(1) the most current (2011) observed maximum number of parked cars counted on a peak day, presumed to belong to day visitors (530 total vehicles parked at the peak of the summer season) multiplied by an average of 2.9 persons per car, for 1,537 maximum people at one time, plus the maximum number of day visitors who can arrive by in-park shuttles, tour bus, and regional public transportation (225 people per day)

(2) The current maximum day use corridor-wide is estimated to be 1,774: the sum of the Tuolumne Meadows area maximum day use (1,762 people at one time) and the estimated maximum number of vehicles parked below O'Shaughnessy Dam (4 vehicles * 2.9, or 12 people at one time).

Visitor Overnight Use Capacity Calculations

Overnight capacity is calculated by multiplying the number of units by the maximum occupancy of each unit. For camping this is the number of campsites times 6 people per site. For Tuolumne Meadows Lodge and the Glen Aulin High Sierra camp this is the number of tent cabins times 4 people. For overnight wilderness use this equates to the total of all backcountry zone capacities as managed by the trailhead quota and permit system. Collectively, these calculations provide an overall maximum overnight capacity of the river corridor.

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Appendix K:
The Process Used to Develop the Alternatives

The Tuolumne River Planning Framework

The National Environmental Policy Act (NEPA) requires federal agencies to rigorously explore a range of reasonable alternatives when planning for a major federal action. NEPA also mandates an early and open process to determine the scope of issues surrounding the proposed action, to develop options for addressing those issues, and to provide for public review and comment on the environmental analyses presented in the project's Draft Environmental Impact Statement (Draft EIS). The *Tuolumne River Plan/Draft EIS* was released for public review and comment in January 2013.

Using a full complement of park personnel, including experts in park operations, facilities, and cultural and natural resources, the Tuolumne River planning team (planning team) devoted several years of effort, from 2005 to 2012, to develop four action alternatives for managing the river corridor. In building the alternatives, the team worked within a planning framework that included eight major steps, which are explained below. Although this framework is described as a series of sequential activities, planning is fundamentally iterative. At each step, new information is uncovered and new insight is gained that can trigger changes to prior decisions. In the case of the Tuolumne, some of these steps were revisited almost yearly. Although time-consuming, this process of review and revision ultimately lead to a stronger end product, both in form and content.

The National Park Service (NPS) began the Tuolumne Wild and Scenic River Comprehensive Management Plan (*Tuolumne River Plan*) process in 2005, following the release of the *Revised Merced River Plan* (2005). The NPS had initiated the park's first comprehensive river management planning process for the Merced Wild and Scenic River corridor with the *Merced River Plan* (2000) and *Revised Merced River Plan* (2005). An outstanding lawsuit against the NPS in response to these plans was settled, and a legally binding settlement agreement was executed between National Park Service and former plaintiffs, in September 2009. The Settlement Agreement, and its preceding court decisions, provided direction on wild and scenic river planning not only for Yosemite and the NPS, but for all agencies managing wild and scenic rivers—direction that caused NPS to revise the alternatives development process.

Additionally, extensive internal review and public input affected the process, occasioning still more revisions to it. Additional steps were added while some other earlier steps were eventually found to be unnecessary (such as management zoning in the Tuolumne River corridor). In the end, the key steps taken to develop the *Tuolumne River Plan* alternatives mirrored those for the *Merced River Plan* (which was released for public review in January 2013), with the steps below revisited several times in both plans. As noted previously, however, it was not so much the order of the steps to be followed that was critical so much as it is that all steps be taken, with revisions to other steps taken as needed—so long as protection and enhancement of river values always be ensured. Each of the *Tuolumne River Plan* alternatives accomplishes this requirement. The following sections describe the objectives for each step in the Tuolumne River planning process and NPS actions to meet those objectives.

Step 1. Define River Values to be Protected and Enhanced

The Wild and Scenic Rivers Act (WSRA) mandates that each wild and scenic river "…shall be administered in such manner as to protect and enhance the values which caused it to be included in said system" (WSRA,

Section 10 (a)). The values to be protected include the river's free-flowing condition, water quality, and those values that are "outstandingly remarkable." The Interagency Wild and Scenic Rivers Coordinating Council (Interagency Council) criteria for outstandingly remarkable values (ORV) state that the value must be river related and rare, unique, or exemplary in a regional or national context.

The NPS began the process of identifying the ORVs for the Tuolumne River in 2005. After completing other steps in the alternative development process (below), park planners revisited the ORVs several times (every year since 2005). Each time, park planners revised and updated the list, with further definitional clarification from the Interagency Council.

The planning team conducted internal ORV workshops using available research and monitoring information, subject-matter expertise, peer review, government partners, management input, and expert guidance from other wild and scenic river professionals. As detailed on Table 10-2, park planners also accepted public comment and comments from culturally associated tribes and groups on the ORVs numerous times between 2005 and 2010. The park reviewed the ORVs again after the Draft EIS public comment period in winter-spring 2013. The final ORVs are listed in chapter 5, and their evolution over time is detailed in appendix G.

Because river values are a foundational element of the plan, they remain constant across all alternatives.

Step 2. Assess Baseline Condition of River Values

Once river values have been identified, it is critical to assess their condition, so that any problems can be remedied in the plan (if possible). Park planners assessed the condition of the Tuolumne River ORVs beginning in 2006. Information used to evaluate the baseline condition of the Tuolumne River ORVs included research studies and models of natural systems developed specifically for this planning effort; historic photos, maps, and archival materials; and the professional judgment of subject matter experts with extensive experience in their field. Park managers sought external peer reviews of specific research findings and the conclusions for overall river conditions where appropriate. The public also identified potential areas of concern related to the ORVs, during project scoping and in later public outreach efforts (see again chapter 9).

The planning team consolidated all of this information into the *Tuolumne River Values and Baseline Conditions,* which was released to the public in spring 2011. The assessment was also incorporated into chapter 5 of the *Tuolumne River Plan/Draft EIS*, which was released for public review in January 2013 and was subsequently revised pursuant to public comment. To the extent information was available, the report contains an assessment of river values at the time of designation (1984) and today. This important step in the planning process provides a baseline for comparison with the expected outcome of the actions described in the management alternatives. It was also essential for identifying areas where immediate action must be taken to improve conditions in the river corridor.

Although the initial baseline conditions assessment report was not completed until 2011, the evaluation of baseline conditions began in 2005 and preliminary results were shared with the public as early as 2006, with associated opportunities for public input. Park planners were aware of river value conditions early in the planning process and structured and revised the alternatives to address management concerns currently found in the report.

Step 3. Define Desired Condition, Adverse Impact and Degradation for River Values

In concert with assessing river values, park managers determined what the desired condition should be for those values, based on guiding legislation, available research and monitoring information, best professional judgment of subject matter experts, and current trends in the relevant academic and public land management fields. Further, a comprehensive river management plan must contain provisions designed to prevent any adverse impacts or degradation from occurring to the river values. Specific thresholds must be stated for mandatory management action that will occur ahead of any such impacts or degradation, to keep river value conditions at or above the desired condition state.

For each river value, desired conditions are called *Management Standards*, as discussed in chapter 5. NPS subject matter experts determined management standards attainable under current trends, given the most up-to-date understandings from their respective fields and implementation of all the actions discussed in this final EIS. The management standard is an aspirational state, the condition to which park managers aspire to bring the value if its condition is diminished (step 4 in the process applies these definitions to the assessment of conditions detailed in step 2). If a river value is within its management standard, it is considered to be both protected and enhanced.

If a river value exhibits conditions that do not meet the management standard, it may be suffering adverse impacts, degradation, or management concerns. The severity of such declines in river condition may vary, so it is critical to develop benchmarks of river condition that quantify the deterioration (which can help to guide restoration efforts; see step 4 below). *Adverse impacts* under WSRA are defined as a substantial reduction in the condition of a river value in relation to the management standard as a result of public use or development. An adverse impact is a segment-wide effect and requires immediate attention by the agency. *Degradation* is worse; it is defined as the state in which a river value has been fundamentally altered by public use or development, to the point that its value is lost for at least a decade. Degradation is a long-term, segment-wide condition. A river value has been degraded when recovery would only be possible through a sustained change in park management and a significant investment of financial and natural capital. Other reductions in river value condition may not be as severe as adverse impact or degradation, yet may still drop river value condition down to a point at which management action is warranted (the trigger points identified in chapter 5). Such reductions in river value are considered *management concerns*. Management concerns are correctable and do not necessarily bring the river value condition to the level of adverse effect or degradation. They may be indicative of a downward trend in river condition that is occurring so slowly that the river condition has not fallen below the management standard but might do so if the downward trend is not arrested and reversed. For all river values, it is essential to quantitatively define these terms to the extent possible, so that future protection and enhancement of their conditions can be assured.

Along with these terms, park managers also developed indicators of river value condition that are sensitive to change, along with monitoring protocols. Such indicators and protocols are intended to accurately reflect river value condition and are easily repeatable. By following such protocols, park managers will have early warnings should any river value condition begin to exhibit a downward trend. In some cases, a river value may not lend itself easily to monitoring, such as stairstep river morphology, which is affected only by massive geologic forces well outside of human control. Consequently, park managers did not define these terms for that river value. Most river values, though, had indicators developed.

For the Tuolumne Wild and Scenic River values, these terms were defined in 2011. As planning is an iterative process, park planners promptly and thoroughly reassessed all alternatives once these terms were defined, to

confirm that all action alternatives identified any river values experiencing adverse impact, degradation, or management concerns. Planners then revised the alternatives accordingly. This reassessment also ensured that the alternatives would reverse any downward trends and provide protection and enhancement of the river values.

Step 4. Identify Management Concerns and Corrective Actions

This step involves applying the definitions of river condition (management standard, adverse impact, degradation, and management concern, from step 3) to the existing river value conditions identified in step 2. By comparing the actual river condition to the management standard from step 3, park managers obtain a clear picture of which values need remedial action to bring them up to the management standard.

This step involved a systematic review of the river corridor to identify management concerns related to the free-flowing condition of the river, water quality, hydrologic/geologic, cultural, biological, recreational, and scenic ORVs. The planning team used scientific and geospatial data such as floodplain maps, visitor use surveys, and other monitoring information to support this review. The team also reviewed all of the public comments received during scoping to ensure that location-specific concerns were identified and paired with corrective measures. Finally, subject matter experts used their personal knowledge of the river system to supplement and clarify the findings of the baseline conditions report.

Using this information, managers then devised corrective actions, using the expertise of NPS subject matter experts, current research and monitoring information, the latest restoration techniques, and best professional judgment. The ecological restoration program (detailed in appendix H) forms the centerpiece of such restoration actions in the *Tuolumne River Plan/ Final EIS*, though there are others (such as removing some structures from riparian areas). Such actions must also correct past impacts, to the extent possible (some earlier impacts can be irreversible—it is possible that some of the effects of historic sheep grazing on Tuolumne Meadows may never be reversed, for example).

By identifying management concerns and corrective actions, managers ensured that all alternatives would protect and enhance river values. Indeed, such actions form the core of the alternatives.

Step 5. Determine Location and Size of Necessary Facilities

The WSRA 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, the National Park Service evaluated all existing major facilities and services within the river corridor for their necessity and relocation potential. A summary of the evaluation is provided in chapter 7: *Site Facility Analysis for the Tuolumne Wild and Scenic River Corridor*. This evaluation consisted of, first, examining facilities to determine if any were absolutely not essential (not directly related to the park mission). As explained in chapter 7, at least one facility met this description (the mountaineering shop), so it was removed across all alternatives. The second part of the examination consisted of determining whether facilities were necessary within the context of the visitor experience desired in an alternative (this part of the examination, then, can only be done after alternatives have been roughed out). In this case, several structures would be removed under alternative 1 to provide the self-

[1] 47 *Federal Register* 173: 39459, Sept. 7, 1988.

reliant experience envisioned in that alternative; similarly, the gas station would be removed in alternatives 3 and 4 to provide additional space to accommodate the parking amounts envisioned in those alternatives.

As part of this step, park planners also evaluated the effects of existing facilities and services on river values. Any structures found to have negative effects were identified for removal, alteration to eliminate the effect, or mitigation.

Also, extensive studies and site analyses were conducted at the primary visitor service areas (visitor center, Tuolumne Meadows campground, and Tuolumne Meadows Lodge) to identify other 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. Park planners analyzed all existing structures to determine if they were causing impacts to such resources, and proposed mitigation measures or alterations to the structures to eliminate such effects. For example, the concessioner housing behind the store and grill is proposed for removal in all alternatives as it is located in a wetland.

Step 6. Solicit Public Input on Organizing Themes for Alternatives

From the outset of the alternatives development process, park managers solicited public input into the scope of the plan. While such input is mentioned in some of the foregoing steps, it is singled out here because it was such a fundamental part of the alternatives development in this process. Public input was regularly sought throughout the project, from public scoping in 2006 through the public comment period on the draft EIS in 2013. Major topics discussed included outstandingly remarkable values, their conditions, and indicators for their monitoring; other planning issues the alternatives needed to address (such as water treatment at Glen Aulin High Sierra Camp); and organizing concepts or themes for the alternatives, site plan concepts, and the preliminary alternatives themselves.

Once a set of draft alternatives was developed, park managers specifically sought public input on those alternatives through two planning workbooks and several "Planner for a Day" workshops utilizing those workbooks. The first workbook, the *Tuolumne Planning Workbook (2007),* described a set of four draft management alternatives. The workbook provided room for the public to comment on the draft alternatives and to create their own alternative plans. Following input received from the public, the planning team further refined these draft alternatives to develop a set of five action alternatives, presented in a second Tuolumne Planning Workbook in 2008. With the workbooks in hand, planners conducted more "Planner for a Day" Public workshops from 2007 and 2010 in Tuolumne Meadows, Yosemite Valley, El Portal, Lee Vining, and Groveland to discuss the alternatives and to provide an opportunity for the public to work with the same data being utilized by the planning team to move through incremental steps in the process of developing alternatives for the *Tuolumne River Plan*. Planners hosted site visits and webinars during the same timeframe. For a complete description of the public involvement history, please refer to chapter 10.

As noted above, early in the planning process, park planners were developing the alternatives around management zones that addressed the various concerns raised by the public and in the river value condition assessment. As the planning process progressed, the concept of organizing alternatives around zoning concepts was discontinued, with the river values becoming the focus of planning attention and alternatives development. Still, some of the original zoning concepts presented to the public in 2007 and 2008 remain in the alternatives; for example, park employee housing is still clustered in certain zones (Bug Camp, Ranger Camp, Road Camp, and Tuolumne Meadows Lodge), with NPS and concessioner housing segregated from each other.

Step 7. Evaluate Operational and Implementation Feasibility of Draft Alternatives

Once draft alternatives were completed, park planners put them through several rounds of review and critique by park managers, field staff, resource experts, and the public. Planners examined all site proposals and management actions, ensuring that no conflicts were present within individual alternatives. Through this analysis, planners realized, for example, that excessive housing was called for by one of the alternatives, so the housing levels were adjusted accordingly. Also, planners occasionally had to revise the draft alternatives to reflect new information or evolving on-the-ground situations. For example, a 2011 transportation study at Tuolumne Meadows indicated that many more cars were parking in undesignated locations than during the 2006 season, when the last parking study was conducted, so park planners adjusted the estimates of parking supply and demand accordingly.

Planners also developed cost estimates for the alternatives, subjecting those estimates to scrutiny as well. Through this analysis, planners realized that one draft alternative would be economically and operationally infeasible to implement. Consequently, the NPS eliminated it from further consideration (which dropped the number of action alternatives back down to four).

Most importantly, planners compared the preliminary alternatives to the constraints to which all alternatives were subject—wilderness boundaries, wild and scenic segment classification directives, site constraints like the presence of wetlands or rare plants, water withdrawal limits (for domestic consumption), and wilderness experience. Through this reanalysis, for example, planners realized that one iteration of alternative 2 would withdraw too much water from the Dana Fork of the Tuolumne River. Consequently, planners adjusted the proposals within that alternative to bring water consumption down to the water withdrawal constraints common to all alternatives (an estimated 65,000 gallons per day).

Step 8. Establish User Capacities Consistent with Protection of River Values

The Wild and Scenic Rivers Act and Secretaries' Guidelines direct managing agencies to address user capacity and "the kinds and amounts of public use which the river area can sustain without impact to the values for which it was designated." Consequently, the last of the steps described herein—but again, not the last step completed; all steps were taken concurrently and iteratively—is to establish the user capacities consistent with river value protection and enhancement, and the parameters of each alternative.

As with the other steps above, public input was a fundamental part of this step. During the scoping period for the *Tuolumne River Plan*, the NPS asked the public to describe what activities they enjoy in the Tuolumne River corridor, to help define the recreational ORV and begin to address the issue of kinds and amounts of use the river can sustain. The public scoping report (NPS 2006m) summarized public interest in different recreational uses, both those that members of the public would like to preserve as well as those that some would prefer to reduce or restrict. This feedback was complemented by contemporary research, constraint maps, and best professional judgment, all of which provided up-to-date information into the types of activities and experiences visitors preferred.

User capacity experts developed a step-by-step process to address user capacity mandates (see chapter 6). They integrated that process into this alternative development process, which helped define the estimates of the maximum use levels sustainable in the Tuolumne River corridor, given the constraints present therein (wilderness boundaries and experience, water supply, and other resource constraints). Adjusting those use

levels to the experiences envisioned within each alternative, planners produced a range of user capacities and recreation types, all within the existing constraints and all protective of river values. In one alternative, visitor use levels are much lower than current conditions, and some commercial activities would be reduced or removed. In other alternatives, the kinds and amounts of visitor use proposed requires expanding recreational opportunities and facilities, such as campgrounds and parking areas.

Conclusion

Park managers and the public developed the four alternatives evaluated in this document by performing the tasks under each of the above steps, reviewing findings, and repeating the tasks as other steps were completed (necessitating revisions to earlier steps). The NPS has identified its preferred alternative, but all alternatives protect and enhance river values while providing for kinds and amounts of visitor use that are protective of river values. The alternatives represent a wide range of choices for future management of the Tuolumne Meadows area, from dramatically reduced use to expansion of use to the limits of the domestic water supply at Tuolumne Meadows (as explained in chapters 5, 6, and 8).

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Appendix L:
Cumulative Actions

This appendix presents a summary of the past, present, and reasonably foreseeable projects used in the analysis of cumulative effects in the *Final Tuolumne River Plan/EIS* (chapter 9). The Council on Environmental Quality (CEQ) describes a cumulative impact as follows (Regulation 1508.7):

> *A "Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.*

The cumulative projects listed below include past and present actions, as well as planning or development activity currently being implemented or planned for implementation in the reasonably foreseeable future. The *Final Tuolumne River Plan/EIS* evaluated these actions in conjunction with the impacts of an alternative as part of the cumulative analysis to determine if they have any additive impacts on a particular resource. For additional information regarding the plans and projects in Yosemite listed below, visit the National Park Service Planning, Environment and Public Comment website at: *http://parkplanning.nps.gov/*.

Summary

Reasonably Foreseeable Actions

National Park Service

- Concessioner Prospectus
- Wilderness Stewardship Plan

Current Actions

National Park Service

- Commercial Use Authorization for Commercial Activities
- High-Elevation Aquatic Ecosystem Recovery and Stewardship Plan
- Invasive Plant Management Plan Update
- Merced Wild and Scenic River Comprehensive Management Plan
- Restoration of the Mariposa Grove of Giant Sequoias
- Scenic Vista Management Plan
- Tenaya Lake Area Plan
- Tioga Road Rehabilitation Project
- Tioga Trailheads Project
- Tuolumne Meadows Transit and Trail Sign Improvements
- Tuolumne Meadows Water Treatment System Upgrade
- Vegetation Management Plan
- Wilderness Sierra Nevada Yellow-legged Frog Reintroduction and Trout Eradication Project
- Yosemite National Park Annual Fire Management Plan (Operational Fire Management Plan)
- Yosemite Valley and Pate Valley Invasive Velvet Grass Control

Other Agencies

- Inyo National Forest Travel Management Plan and Forest Plan Revision (U.S. Forest Service)
- Recreational Facility Analysis (U.S. Forest Service)

- Upper Tuolumne River Ecosystem Project - O'Shaughnessy Dam Instream Flow Evaluation Study Plan (San Francisco Public Utilities Commission)

Past Actions

National Park Service

- Cathedral Peak Route Delineation
- Fire Management Plan
- Gaylor Pit Lead Abatement
- Hetch Hetchy Communication System Upgrade
- Improve Parkwide Communications Data Network
- Informal Trail Removal and Ecological Restoration Actions at Tuolumne Meadows
- Restoration of Disturbed Areas at Tuolumne Meadows Lodge
- Sierra Nevada Bighorn Sheep Environmental Assessment (Sequoia and Kings Canyon National Parks)
- Tioga Road Corridor Campground Accessibility Improvements
- Tuolumne Meadows Concessioner Stables Fence Modification
- Tuolumne Meadows Service Station Soil Gas Survey
- Tuolumne Meadows Service Station Vapor Recovery Installation
- Tuolumne Meadows Water Treatment Facility Regulatory Upgrade
- Tuolumne Meadows Winter Ranger Residence Install Alternative Power Sources
- Yosemite Environmental Education Campus

Other Agencies

- Grazing Allotment Permit Renewals (U.S. Forest Service)
- Water System Improvement Program (San Francisco Public Utilities Commission)

Reasonably Foreseeable Actions

National Park Service

Agency Name: National Park Service, Yosemite National Park

Project Name: **Concessioner Prospectus**

Description: The National Park Service (NPS) has continued the contract with Delaware North Companies (DNC) Parks and Resorts at Yosemite, Inc. to provide visitor services within the park from October 1, 2011 through January 31, 2015. The previous contract extension expired on September 30, 2011. The park is continuing the process of developing a new prospectus for visitor services. The continuation of the contact was deemed necessary to ensure that there is no disruption of visitor services while the park works on several planning efforts. The provisions of the current contract will not change. DNC Parks and Resorts at Yosemite, Inc. will continue to provide existing services from October 1, 2011 through January 31, 2015 or until such time as a new contract regarding the visitor services provided under the contract is awarded, whichever comes first.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Wilderness Stewardship Plan**

Description: The NPS will be updating the 1989 Yosemite National Park Wilderness Management Plan. The objective of updating the plan is to provide guidance to park operations for the protection of Yosemite's wilderness character, which comprises over 95% of the park. The plan will address land management issues within the wilderness including visitor use, vegetation associations, air resources, noise issues, watershed, soils, cultural landscapes, and other natural, cultural, and social resource variables. The plan update will also address the use of the five High Sierra Camps within the Yosemite Wilderness. Public scoping for this plan is scheduled for 2014.

Current Actions or Plans

National Park Service

Agency Name: National Park Service, Yosemite National Park

Project Name: **Commercial Use Authorizations for Commercial Activities**

Description: The purpose for the issuance of these Commercial Use Authorizations (CUA, previously titled Incidental Business Permit) is to regulate and oversee operations of permit holders involved in conducting commercially guided day hiking, overnight backpacking, fishing, photography workshops, stock use (pack animal trips and pack support trips for hikers), and Nordic skiing activities in Yosemite National Park. In addition to the base CUA, additional uses and activities may be allowed depending on the holder's request and compliance with all applicable laws, regulations and guidelines. Conditions for these additional activities are stipulated in the body of the individual permit for each activity. The permitted activities are to be conducted only in those areas of Yosemite National Park open to the public and authorized by the permit. The permit holder is required to obtain any additional permits or licenses as required by law. Permits are renewed annually.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Hetch Hetchy Communication System Upgrade**

Description: The San Francisco Public Utilities Commission in cooperation with the National Park Service and The US Forest Service is planning a communication system upgrade project. The purpose of the upgrade project is to 1) vacate the 2GHz band per Federal Communications Commission requirements; 2) replace and upgrade the obsolete and aging communication system with an improved system; 3) provide the video and radio bandwidth to allow for future installation of voice radio system; 4) provide the foundation infrastructure for housing NPS and USFS communication equipment associated with their individual communications systems.

Project implementation and construction began in summer 2011.

Agency Name: National Park Service, Yosemite National Park

Project Name: **High-Elevation Aquatic Ecosystem Recovery and Stewardship Plan**

Description: The National Park Service is preparing a High-Elevation Aquatic Resources Management Plan to guide management actions to protect Yosemite's diverse high-elevation aquatic ecosystems and to restore natural composition, structure, and function to systems that have been disturbed by past or ongoing human activities. The plan is needed to provide a framework for restoring and maintaining high-elevation aquatic ecosystems in the park; to halt the decline of native amphibian populations and to restore species within their natural range; and to prepare for new challenges that may threaten these systems. The plan will include the lakes, ponds, wet meadows, and streams located above 6,000 feet in elevation and the diverse plants and animals that inhabit these environments.

The plan will consider: 1) Removal of non-native fish from targeted areas of the park to restore natural biodiversity in critical basins (chemical removal of non-native fish is not currently being considered in this plan); 2) Restoration of Sierra Nevada yellow-legged frogs and Yosemite toads to suitable locations within their historic range; and 3) The development of Best Management Practices for recreational and administrative use of high-elevation aquatic ecosystems to ensure that park resources and values remain unimpaired. These would include preventative measures to avoid the introduction or spread of non-native species or pathogens that may threaten native species or habitats, and evaluation of human use within these environments to ensure that use does not result in the loss of ecological function.

Project planning and preparation of an environmental assessment is underway and is scheduled for public review in 2014 or 2015.

This project is supplemented by the Wilderness Sierra Nevada Yellow-legged Frog Reintroduction and Trout Eradication Project (see below).

Agency Name: National Park Service, Yosemite National Park

Project Name: **Invasive Plant Management Plan Update**

Description: This plan is based upon the principles of integrated pest management and describes the tools and methods use to protect Yosemite's natural and cultural resources from degradation or displacement by non-native invasive species. This plan update was written to comply with the Wild and Scenic Rivers Act, including protection of outstandingly remarkable values and water quality. A methodology will also be created for assessing the efficacy and impacts of new herbicides, and assessing various management guidelines and tools.

An environmental assessment completed for this project and released for public review in 2010. A finding of no significant impact was approved by the NPS Regional Director in August 2010. Project implementation is underway.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Merced Wild and Scenic River Comprehensive Management Plan**

Description: The NPS has begun developing a new Comprehensive Management Plan and associated Environmental Impact Statement for the Merced Wild and Scenic River (Merced River Plan/EIS). In this plan, the agency will address resource protection and restoration; development (and/or removal) of lands and facilities; user capacities; and specific management measures that will be used to protect and enhance the river's outstandingly remarkable values. The Merced River Plan/EIS will address the quantity and mixture of recreation and other public uses that may be permitted without adverse impact to the river's outstandingly remarkable values, including a discussion of the maximum number of people that may be received in the river corridor.

The Final EIS is expected to be released to the public in February 2014.

Agency Name: National Park Service

Project Name: **Restoration of the Mariposa Grove of Giant Sequoias**

Description: Nearly 150 years after U.S. Congress passed landmark legislation preserving both the Mariposa Grove of Giant Sequoias and Yosemite Valley, comprehensive actions are needed to ensure that the Mariposa Grove ecosystem continues to thrive and provide inspiration and enjoyment for future generations. The primary goals of this project are to restore degraded habitat and natural processes critical to the long-term health of the Grove and improve the overall experience for visitors. The park began public scoping for this project in fall of 2011.

A Record of Decision was signed in December 2013.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Scenic Vista Management Plan**

Description: The Scenic Vista Management Plan is a comprehensive strategy to prioritize viewpoints for management, identify which methods of vegetation clearing area appropriate at what times and in which places, and describe what trees and brush may need to be removed to restore the view at high priority vistas. Proposed vista management methods could include fire, mechanical thinning, and trimming.

An environmental assessment was completed for this project and released for public review in winter 2010-2011. A finding of no significant impact was approved by the NPS Regional Director in August 2011. Project implementation began in 2012.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Tenaya Lake Area Plan**

Description: The purpose of this plan is to guide management of the Tenaya Lake Area. Because of its remarkable scenic qualities, its inviting blue water, and its proximity to Tioga Road, Tenaya Lake is one of the most popular destinations for summer visitors in Yosemite. Problems associated with visitor use, visitor safety, and resource impacts have been occurring for decades. The selected alternative includes ecological restoration of 9.7 acres within areas currently affected by visitor use, creation of volunteer trails, and stormwater erosion control. The trail systems around the lake and north of Tioga Road will be realigned to avoid sensitive natural and cultural resources and support protection and restoration, and pedestrian bridges and boardwalks over waterways and wetland habitat will be used to restore hydrological function of major waterways.

The Selected Alternative (Tenaya Confluence) includes the following modifications:

- Adjustments to and realignment of parking areas
- Creation of an accessible trail along the northern edge of the lake between East Beach and Murphy Creek and within the East Beach, Murphy Creek, and Sunrise Trailhead areas
- Removal and restoration of existing trails located within ecologically and culturally sensitive areas
- Removal of existing culverts and construction of a box culvert at the Tioga Road/Murphy Creek crossing, which will allow Murphy Creek to flow unimpeded under the roadway and into the lake
- Provision of interpretive materials and improved connections to the trail along the southern edge of the lake and Sunrise and Murphy Creek trailheads to facilitate wayfinding, minimize visitor confusion, and reduce the potential for volunteer trails and subsequent adverse effects to natural and cultural resources.

An environmental assessment was completed for this project and released for public review in 2010-2011. A finding of no significant impact was approved by the NPS Regional Director in April 2011. Project implementation began in summer 2011.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Tioga Road Rehabilitation Project**

Description: The Tioga Road Rehabilitation project in Yosemite analyzes rehabilitating approximately 41 miles of the Tioga Road. This road provides access to Tuolumne Meadows, Tioga Pass, U.S. Route 395 and numerous

popular trailheads including: John Muir, Pacific Crest, Yosemite Creek, Lukens Lake, and others. The following goals guided development of alternatives for the proposed Tioga Road rehabilitation:

- Improve the safety of visitors and employees traveling on Tioga Road.
- Maintain the character of the road corridor, including significant cultural landscape characteristics such as the curvilinear alignment, grade, and road features including culverts, retaining walls, and turnouts.
- Restore drainage features to control erosion and to protect natural and cultural resources.
- Increase accessibility for park visitors and reduce confusion regarding designated roadside turnouts.
- Manage roadside parking and traffic flow through improved turnouts.
- Reduce rockfall potential along Tioga Road by scaling rock at select locations.
- Manage and improve the Tuolumne Grove parking area.

At Tuolumne Meadows, the *Tuolumne River Plan* will determine what specific actions will be taken along the road corridor. If a Record of Decision for the *Tuolumne River Plan* is not available when construction is ready to start, then this proposed project will solely address the resurfacing and repaving of the current road at Tuolumne Meadows.

An environmental assessment was completed for this project and released for public review in 2011. Implementation will begin in 2014.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Tioga Trailheads Project**

Description: The Tioga Pass Road provides access to many High Sierra trailheads. Some of the trailheads lack designated parking, requiring backcountry users to park their vehicles on roadsides. Dozens, sometimes hundreds, of vehicles can be parked alongside the road in this manner in July and August, leading to congestion and detracting from scenic views for other park users. This project addresses the site maintenance and design elements that would improve visitor safety and experience, while also protecting natural and cultural resources, at eight formal trailheads: Gaylor Lakes at Tioga Pass, Mono Pass, Snow Creek, May Lake/Weston Pond, Porcupine, Yosemite Creek/Ten Lakes, Lukens Lake, and Tamarack Flat/Aspen Valley. Actions proposed vary according to the specific issues and concerns of each trailhead site. In general, categories and types of actions include the following:

- Site Delineation - curbing, split rail fencing, and adding boulders/logs to delineate parking areas.
- Way finding and Circulation - adding trailhead signs along roadways, adding trail signs, realigning or adding short trail segments, adding walkways.
- Visitor Safety - adding crosswalks to select trailhead areas, removing small vegetation or trees at ingress/egress to parking areas to improve sight lines.
- Visitor Experience - adding log rounds for seating at shuttle bus stop waiting areas, basic picnic facilities, adding or reinstalling some wayside interpretive exhibits, adding or expanding restroom facilities, providing appropriate parking capacity including overflow areas where needed, and adhering to the Americans with Disabilities Act regulations to promote visitor accessibility.
- Site Maintenance - repaving parking surfaces, replacing concrete curbing, trail reconstruction.
- Ecological Restoration - decompacting soils, revegetating, and allowing natural recovery where appropriate

Project planning and environmental compliance for this project were completed in 2010. Implementation began in 2011.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Tuolumne Meadows Transit and Trail Sign Improvements**

Description: This project will design and install seven porcelain maps to improve wayfinding in Tuolumne Meadows and complete minor improvements to trailhead and transit areas, designate day use and overnight parking; compile a staff reference notebook containing area and park information; and prepare printed maps with information for day and overnight visitors. In the most problematic areas, unendorsed parking will also be delineated as "no parking" or blocked through placement of wood and/or rock materials. The project will also remove and/or replace excessive or redundant signage.

Screens inside the existing sedimentation basin and within the existing intake will be replaced. Implementation is expected to begin in 2014.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Tuolumne Meadows Water Treatment System Upgrade**

Description: This project will upgrade of the existing water treatment system serving the Tuolumne Meadows area. The key features of this treatment system are the intake structure; the sedimentation/screening basin, a treatment building, and key filtration equipment contained within the treatment building.

The major portion of the work will be inside the building. The building's electrical system will be removed and replaced in its entirety. Other work inside the building will include water filtration system upgrades and replacement of critical filtration components. The treatment building will remain within its current footprint. Control systems will be added to improve efficiencies and reduce impacts.

Screens inside the existing sedimentation basin and within the existing intake will be replaced. Implementation began in 2013.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Vegetation Management Plan**

Description: The Vegetation Management Plan is an addendum to the Yosemite National Park Resource Management Plan (RMP) (1993) and is guided by the 1980 General Management Plan. The purpose of the plan is to:

- Delineate the legislative and administrative requirements that guide development of vegetation management objectives;
- Refine the goals and objectives for vegetation management that are established in the RMP;
- Describe the dynamic environment of vegetation within the park and the social, cultural and natural processes that influence the vegetation;

- Discuss the current vegetation management issues, define management objectives, management techniques and strategies for achieving objectives, and information needed; and
- Provide a summary of vegetation management planning needs to be addressed in the future, including the roles and responsibilities for planning and implementation.

The framework of the plan provides guidance for specific implementation plans to be developed for vegetation management in Yosemite. Vegetation management projects are ongoing.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Wilderness Sierra Nevada Yellow-legged Frog Reintroduction and Trout Eradication Project**

Description: In Yosemite, there are as few as six populations of Sierra Nevada yellow-legged frogs with 50 or more individuals, 24 populations with 10 to 49 individuals, and 164 populations with one to nine individuals. The decline of the Sierra Nevada yellow-legged frog is being driven primarily by the introduction of non-native fish and the emerging infectious disease, chytridiomycosis. This project will increase the amount of high quality aquatic habitat for the Sierra Nevada yellow-legged frog and improve the success rate of Sierra Nevada yellow-legged frog reintroductions.

This project entails: 1) eradicating fish from 10 to 18 lakes, ponds, and marshes using gill nets, electrofishers, and fish traps; 2) transporting equipment and gear to restoration sites using pack stock; 3) temporarily installing bear boxes at restoration sites at the beginning of each season and packing them out at the end of the season; 4) conducting experimental translocations including augmenting 2 existing translocation sites and conducting one new translocation; 5) transporting translocated frogs by helicopter; 6) treating frogs prior to translocation with antifungal drug Itraconazole; 7) experimenting with bioaugmentation using the naturally occurring bacteria, *Janthinobacterium lividum*; 8) continuing long-term monitoring at approximately 130 sites annually and approximately 450 sites during summer 2012 using VES, continuing to PIT tag and swab individuals at 13 long-term mark-recapture sites, temporarily installing 1 digital recording device at each of two sites; and 9) salvaging egg masses and tadpoles from populations threatened by drought.

This project will occur over the course of five years, ending in December 2016.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Yosemite National Park Annual Fire Management Plan (Operational Fire Management Plan)**

Description: Yosemite National Park's fire management program employs a variety of methods to accomplish and support fire and resource management objectives and to reduce the risk of wildfire in and adjacent to the park. Strategies in this plan are based on knowledge gained from fire and fuels research and monitoring. Federal fire policy has changed in the past 30 years from suppression of all wildfires to a policy allowing a single fire to be used as a tool to meet multiple land management and public safety objectives. Fuel reduction and prescribed burning have increased since the 1990 A-Rock Fire, and the fuels management program focuses on the wildland-urban interface to protect developed areas from uncontrolled wildfires. Yosemite National Park's 2008 Operational Fire Management Plan serves to utilize the new fire management guidelines in outlining

procedures for managing fire in Yosemite National Park; for restoration and maintenance of ecosystems, for reduction of hazard fuels, for protection of natural and cultural resources, and for protection of wildland urban interface communities.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Yosemite Valley and Pate Valley Invasive Velvet Grass Control**

Description: Highly-invasive non-native velvet grass (*Holcus lanatus*) is a new serious threat to intact mid-elevation riparian, meadow, and fen communities in Yosemite. It has not reached the point of no return in Yosemite, but if left unchecked, velvet grass will continue its spread throughout moist or disturbed areas throughout mid-elevations in the park. This project proposed to control velvet grass in three top-priority sites- the fen at Happy Isles, Mirror Lake, and Pate Valley (located in the Tuolumne Wild and Scenic River corridor, below the Grand Canyon of the Tuolumne). The goal of the project was to reduce velvet grass at these sites to a maintenance level, and to gather information and make informed decisions on the best management of velvet grass in the future.

This project was implemented in 2006 and is ongoing.

Other Agencies

Agency Name: U.S. Forest Service, all California national forests

Project Name: **Inyo National Forest Travel Management Plan and Forest Plan Revisions**

Description: The U.S. Forest Service will be developing travel management plans and forest plans for all national forests in California over the next few years. Travel management plans specify which forms of travel are allowed in which areas of the national forests. Forest plans guide where and under what conditions an activity or project on national forest lands can generally proceed. The Inyo National Forest has begun work toward a new forest plan, slated to be completed in 2016.

Agency Name: U.S. Forest Service, Sierra, Stanislaus, and Inyo National Forests

Project Name: **U.S. Forest Service Recreational Facility Analysis**

Description: In 2007, the U.S. Forest Service completed an analysis of its public recreation sites. The analysis examined existing demand for the recreational resources, the need to update or change the sites to meet the demand (including closing some sites that no longer have demand for them), and the agency's ability to make the recommended changes. The analysis concluded with a program of work to reduce the deferred maintenance on the sites by 20% in the ensuing five years. The work will include everything from improvements at some sites to closure of others.

The project is ongoing.

Agency Name: San Francisco Public Utilities Commission

Project Name: **Upper Tuolumne River Ecosystem Project - O'Shaughnessy Dam Instream Flow Evaluation Study Plan**

Description: The San Francisco Public Utilities Commission (SFPUC) initiated the Upper Tuolumne River Ecosystem Project with the goal of conducting a set of long-term, collaborative, science-based investigations designed to (1) characterize historical and current river ecosystem conditions, (2) assess their relationship to Hetch Hetchy Project operations, and (3) provide recommendations for improving ecosystem conditions on a long-term, adaptively managed basis. The Ecosystem Project will provide data and analyses to (1) support implementation of the Water Enterprise Environmental Stewardship Policy on the Upper Tuolumne River, (2) support ongoing Yosemite National Park Tuolumne Wild and Scenic River planning and management efforts, (3) provide the scientific basis for resolving outstanding issues with the U.S. Department of the Interior related to the 1987 Stipulation under the Raker Act, and (4) implement mitigation and monitoring requirements specified in the Final Programmatic Environmental Impact Report for the Water System Improvement Program (WSIP PEIR). Primary partners include the SFPUC, Yosemite National Park, Stanislaus National Forest, and the U.S. Fish and Wildlife Service.

This plan was published in 2009.

Past Actions

National Park Service

Agency Name: National Park Service, Yosemite National Park

Project Name: **Cathedral Peak Route Delineation**

Description: Cathedral Peak has long been a popular destination for both climbers and adventure hikers. After decades of consistent use, severe erosion, extensive informal trail networks, gullies caused by "scree skiing," loose footing, and major vegetation loss characterize the final quarter-mile of the approach, as well as the descent back to the base. These impacts have only accelerated over the last few years as several new guidebooks promote the peak as a "classic," "easy" introduction to Sierra climbing.

This project proposes to delineate one path from the junction of the Budd Lake Fisherman's trail to the base of the south east face of Cathedral Peak, as well as a single descent path from the north ridge of the summit back to the base. By delineating one path and using extensive ecological restoration, the multiple social trails would be restored to natural conditions.

Project implementation began in 2010 and is complete.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Fire Management Plan (2004)**

Description: This plan guides a complex fire management program, including wildland fire suppression, wildland fire used to achieve natural and cultural resource benefits, fire prevention, prescribed fire, fire ecology research, and the use of mechanical methods to reduce and thin vegetation in and around communities. The

plan calls for the use of prescribed fire and passive fuel reduction techniques to achieve protection and ecosystem restoration goals. More aggressive treatment strategies are prescribed in developed areas, if needed. Managed wildland fires (lightning-ignited fires) are allowed to burn where practicable, if specific conditions are present.

The Final Yosemite Fire Management Plan/Environmental Impact Statement was completed in 2004 and guides current park fire policy.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Gaylor Pit Lead Abatement**

Description: During the construction of the new Tioga Road, Gaylor Pit was created as a borrow pit and quarry for road material. Since the 1950s the pit and surrounding area was used by the NPS for various administrative uses. In 1984, the California Wilderness Act designated 95% of Yosemite National Park as wilderness. Once the wilderness boundary near Gaylor Pit was validated, the entire Gaylor Pit area was decommissioned in 2003; ceasing such uses as storage, dumping, temporary native plant nursery, wood yard, staging, and shooting range.

In 2004, a three year project began to restore the area in both wilderness and non-wilderness to a more natural setting. Completed in 2006, the project proposed to restore the morphology and hydrology of the area, and to revegetate it in a manner that would reestablish wilderness character. Additionally, the project aimed to modify the slope edge of the helipad (which is in non-wilderness and still in use), fill the old barrow pit, and revegetate it to reduce erosion. The shooting range (0.15 acre), due to possible lead contamination, was not part of this effort.

The site contains approximately forty cubic yards of contaminated soil along with twenty logs used as a backstop for the range. Soil samples were collected from the range and surrounding area and analyzed for lead content in 2004. All samples except those from the backstop contained lead concentrations below 100 ppm. Samples from the backstop contained lead concentrations of 150-3600 ppm. The EPA's standard for lead in bare soil in playground areas is 400 ppm by weight and 1200 ppm for non-playground areas. This regulation applies to cleanup projects using federal funds. Measured lead solubility at the shooting range of 400 mg/l is 1,000 times higher than native lead solubility. The Dana Fork of the Tuolumne, which is federally protected as wild and scenic and also provides drinking water to the Tuolumne Meadows area, is 0.2 miles from the wooden backstop.

The goal of this project was to mitigate environmental lead contamination while protecting wilderness values at the abandoned Gaylor Pit shooting range. The objective of this project was to remove the wooden backstop, the litter of bullets and casings, and all soil contaminated with lead from bullets and casings. After removal, the area was restored to its wilderness appearance.

This project was completed in 2006.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Hetch Hetchy Communication System Upgrade**

Description: The San Francisco Public Utilities Commission in cooperation with the National Park Service and The US Forest Service conducted a communication system upgrade project. The purpose of the upgrade project was to 1) vacate the 2GHz band per Federal Communications Commission requirements; 2) replace and upgrade the obsolete and aging communication system with an improved system; 3) provide the video and radio bandwidth to allow for future installation of voice radio system; 4) provide the foundation infrastructure for housing NPS and USFS communication equipment associated with their individual communications systems.

Project implementation and construction began in summer 2011 and is complete.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Improve Parkwide Communications Data Network**

Description: Yosemite National Park performed a Communications Data Network (CDN) infrastructure upgrade utilizing available, commercial off-the-shelf technology supporting a single "hybrid communication backbone" employed throughout the park -- to maximize existing equipment use, minimize current and planned costs, to fulfill the park's future operational and security needs. This "backbone" is a microwave and fiber optic pipeline used to transfer computer LAN data, radio communications, security and safety video systems, telephony, burglar/intrusion, fire alarm systems, traffic collection data, and telemetry throughout Yosemite. Upgrading the network also serves to enhance compliance and utilization of the narrowband and digital P25 compliant radio infrastructure as well as providing enhanced LAN connectivity for remote areas such as Wawona, Crane Flat, Hodgdon Meadows, and Tuolumne Meadows.

The CDN is designed to serve six geographic areas of the park as well as the five park entrance stations. The geographic areas include El Portal, Yosemite Valley, Wawona, Crane Flat, Hodgdon Meadows, Tuolumne Meadows, and Hetch Hetchy. The final installation was a hybrid infrastructure, based around proven microwave technology that linking the geographic areas with multiple T-3 level bandwidth managed as necessary by park staff. There will be no need to rely on an independent service provider for maintenance of the system, as the backbone will be maintained by park staff.

An environmental assessment completed for this project and released for public review in 2010. A finding of no significant impact was approved by the NPS Regional Director in April 2010. Project implementation is complete.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Informal Trail Removal and Ecological Restoration Actions at Tuolumne Meadows**

Description: This project proposes to protect the meadow through restoring trampled areas of the meadow, removing informal trails and delineating trails and trailheads using logs, rocks, or fencing. Cultural resources will be documented for future restoration projects. The following actions for 2012 were scheduled in portions of the meadows (not all of the meadows were treated):

- Remove informal trails in Tuolumne Meadows (the section from the Tuolumne Store and Grill to the bridge/Soda Springs area will not be removed) to restore hydrologic conditions and native plant communities
- Close sections of Tuolumne Meadows to protect restoration areas and prevent additional informal trailing.
- Delineate trails with logs or rocks around the Soda Springs area to reduce meadow fragmentation and damage to rare plant habitat
- Delineate trail and parking at the Soda Springs trailhead with logs, rocks or fencing
- Conduct site visits with subject matter experts of several divisions to prioritize, identify data gaps and develop methods for future work
- Develop interpretive materials to inform visitors of the project and the importance of protecting meadow habitat
- Conduct preliminary vegetation, wildlife, hydrology and visitor use monitoring to measure efficacy of proposed future restoration actions

A categorical exclusion for this project was completed in spring 2012 and project implementation occurred in summer 2012.

Agency Name: Delaware North Companies Parks and Resorts at Yosemite

Project Name: **Restoration of Disturbed Areas at Tuolumne Meadows Lodge**

Description: The park's primary concessioner, Delaware North Companies Parks and Resorts, performed restoration work at Tuolumne Meadows Lodge in 2008 and 2009. The restoration work included soil decompaction, trail delineation, planting of indigenous vegetation, correcting site drainage and improving the existing service road through camp.

This project was completed in 2009.

Agency Name: National Park Service, Sequoia and Kings Canyon National Parks

Project Name: **Sierra Nevada Bighorn Sheep Environmental Assessment**

Description: Sequoia and Kings Canyon National Parks, in cooperation with California Department of Fish and Game (CDFG), the US Geological Survey (USGS), and Inyo National Forest, is conducting a scientific study of Sierra Nevada Bighorn Sheep (*Ovis canadensis sierrae*), a federally endangered subspecies endemic to the parks. This study will provide scientific data needed to inform development of a new Wilderness Stewardship Plan (and environmental impact statement) for Sequoia and Kings Canyon National Parks and to implement key tasks of the Recovery Plan for Sierra Nevada Bighorn Sheep (USFWS 2007). An environmental assessment was completed for this project and released for public review in June 2011. A finding of no significant impact was approved by the NPS Regional Director in August 2011. Project implementation began in 2012.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Tioga Road Corridor Campground Accessibility Improvements**

Description: This project corrected accessibility deficiencies at 20 campsites along the Tioga Road corridor as outlined in Yosemite National Park's Self Evaluation and Transition Plan. Sites improved included 12 Tuolumne Meadows sites, four Tamarack Flat sites, two White Wolf sites, one Yosemite Creek site, and one Porcupine Flat site.

Preparation of environmental compliance documents was completed in 2010 and implementation is complete.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Tuolumne Meadows Concessioner Stables Fence Modification**

Description: The San Francisco Public Utilities Commission (SFPUC) identified the drainage at the east side of the concessioner corrals at Tuolumne Meadows as an area of concern in 2009. Inspection indicated that the corrals are cleaned daily and there is no significant manure buildup within the corrals. However, potential water contamination by manure being washed downstream may occur during severe summer thunderstorms (defined as 2" or more of rainfall).

To address the SFPUC's concern, the National Park Service and the park concessioner relocated the water trough from the eastern edge of the existing fenceline to the side of the barn so that the animals congregate in an area well away from the drainage/depression. The fenceline was moved slightly to the west and a permeable retaining wall was built along the east side of the corral to allow water during significant rain events to drain more gradually, permitting better percolation into the soils. There were no archeological concerns with excavation in this already impacted corral area. The SFPUC approved the concept.

This project was completed in 2011.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Tuolumne Meadows Service Station Soil Gas Survey**

Description: The purpose of the soil gas survey at the Tuolumne Meadows Service Station (TMSS) was to characterize the presence or lack of Volatile Organic Compounds (VOC) within the shallow soil zone to support underground clean-up activities related to the 1998 removal and replacement of underground fuel tanks. The Regional Water Quality Control Board was interested in this characterization because remediation at the site was nearing conclusion and the agency requires this type of data at sites such as this before they will grant official closure.

This project was completed in 2008.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Tuolumne Meadows Service Station Vapor Recovery Installation**

Description: The purpose of this project was to comply with California air quality environmental regulations for fuel dispensing systems at the Tuolumne Meadows Service Station. California Air Resources Management set April 30, 2009 as the final date to convert to a new vapor recovery system in order to improve California air quality. The existing dual-hose fuel dispenser units were removed and replaced with the approved single-hose dispenser having the Healy Vapor Recovery System. Concrete islands and pads were be demolished and replaced with new double contained dispenser pans, piping, and an upgraded electronic monitoring system. Excavation occurred in existing trench lines and pre-disturbed areas from a 1998 project to upgrade the underground tank systems at the Tuolumne Service Station.

This project was completed in 2008.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Tuolumne Meadows Water Treatment Facility Regulatory Upgrade**

Description: This project added a flocculation process to ensure adequate cryptosporidium removal compliance and meet the increased regulatory requirements. Adding an engineered 4,100 gallon pressure detention tank allows proper time, flow baffling and particle collision for polymer reaction, ensuring proper pathogen removal. The Department of Health services approved this process addition. The new tank is 10' long and 8' wide and is located on the south side of the water treatment building in a currently disturbed area containing underground water piping. No vegetation or trees were removed in this process addition. This area is not visible to the public.

This project was completed in 2010.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Tuolumne Meadows Water Line Replacement**

Description: The purpose of this project was to restore sufficient water pressure at the Tuolumne Meadows Lodge (TML) shower house. The project involved "hot tapping" a new water valve into the 4" water main that services Tuolumne Meadows. Park utility staff performed the valve installation in the existing Tuolumne utility corridor. The work involved excavating approximately 30" deep to the main water line, installing the valve and backfilling with the excavated materials. In addition, a 250' above ground temporary water line was installed from the new valve to the TML shower house for water service at the showerhouse/restroom. The temporary line was replaced with a permanent solution in 2008.

This project was completed in 2008.

Agency Name: National Park Service, Yosemite National Park

Project Name: **Tuolumne Meadows Winter Ranger Residence Alternative Power Sources**

Description: Numerous power outages occur in Tuolumne Meadows due to winter storms. Southern California Edison also preemptively cuts off power when wind is predicted, and they have indicated that they will not fix power lines that come down in Lee Vining Canyon in the winter. Winter rangers are necessary at Tuolumne Meadows to prevent resource damage and give information to winter backcountry users. They also shovel roofs and prevent damage to structures from snow loading in addition to collecting snow survey data monthly.

To support winter rangers and convert the ranger residence to a power system independent of the electrical grid, the National Park Service installed an alternative power system on this cabin. This system involved installation of solar panels on the south facing roof of the ranger residence, and installation of a propane tank to fuel a propane generator to augment the solar power. This project was completed in 2007.

Agency Name: National Park Service

Project Name: **Yosemite Environmental Education Campus**

Description: NatureBridge, an NPS nonprofit park partner, has provided environmental education programs in Yosemite National Park since 1971 at the NPS facility at Crane Flat. Most of the campus structures and utilities are more than 60 years old, energy inefficient, and difficult to retrofit to achieve modern standards for health, safety, and accessibility. In addition, the facility can accommodate only a fraction of the students in the program; the remainder must be based elsewhere in the park, in expensive commercial lodging. To address these issues, NatureBridge and the NPS considered options to provide better facilities by redeveloping the existing campus (Crane Flat) or constructing a new education center at a different location (and restoring the Crane Flat campus to natural conditions). The draft environmental impact statement (EIS) was released in May 2009, proposing to develop a new educational facility at Henness Ridge, near Yosemite West, and to restore Crane Flat to natural conditions and provide habitat for sensitive species. The Record of Decision, formalizing the agency's decision to develop the Henness Ridge site and restore the Crane Flat site, was signed by the Regional Director on April 2, 2010. Construction has begun.

Other Agencies

Agency Name: U.S. Forest Service, all national forests in the Yosemite area.

Project Name: **Grazing Allotment Permit Renewals**

Description: When grazing allotments on the national forests are close to expiration, the agency examines the environmental impacts of continued grazing allotment by allotment. Based on this examination, the agency will then adjust allotments as needed. For example, the Inyo National Forest closed an area to continued cattle grazing to protect bighorn sheep populations. Another management change the agency may require is for the permit holder to construct fencing along creeks or around riparian areas to protect these sensitive areas from trampling by cattle.

The Inyo National Forest Mono Basin Grazing Allotments Environmental Assessment (EA) was available for comment in October 2010. The proposed action would authorize continued livestock grazing on the Dexter Creek, June Lake, and Mono Mills sheep and goat allotments, along with the Mono Sand Flat cattle and horse allotment. The proposed action is designed to maintain or improve trends in vegetation, watershed conditions,

and ecological sustainability relative to livestock grazing by incorporating adaptive management strategies on the allotments. The decision document was signed in 2011.

Agency Name: San Francisco Public Utilities Commission

Project Name: **O'Shaughnessy Diversion Tunnel Flap Gate Clearing Project**

Description: In 2006, the SFPUC restored the Tuolumne River streambed within 200 feet downstream and 200 feet upstream of the O'Shaughnessy Diversion Tunnel. The commission removed about 5,000 cubic yards of material (gravel, cobbles, and boulders) from the channel, disposing of it on nearby lands within Yosemite National Park granted to the commission under the Raker Act. This project was completed in 2006.

Agency Name: San Francisco Public Utilities Commission

Project Name: **Water System Improvement Program**

Description: The SFPUC approved its Water System Improvement Program (WSIP) in 2008, which limits water deliveries from all water sources to Bay Area water customers to 265 million gallons per day through 2018 (with the goal of no more than 223 million gallons per day as a five year running average from the Tuolumne River itself). By 2018, SFPUC and its wholesale customers in the San Francisco Bay Area will be required to meet additional demands by conservation and recycling. The SFPUC water supply program includes up to a 20% reduction in water service system wide during extended droughts. This program was approved in 2008. The WSIP includes an associated mitigation measure, which directs the SFPUC to study Poopenaut Valley meadow and wetland vegetation and modify spring snowmelt spill releases to provide higher magnitude and/or prolonged inundation of Poopenaut Valley wetlands. This mitigation measure is being implemented via the instream flow management plan for O'Shaughnessy Dam, currently being prepared by the SFPUC in collaboration with the NPS and other stakeholders as part of the Upper Tuolumne River Ecosystem Program.

Appendix M:
Design Guidelines Specific to the Tuolumne River Corridor

Employee Housing Design Guidelines

Campground Design Guidelines

Developed Areas at Tuolumne Meadows

Despite the presence of a built environment, the stunning, expansive, and dramatic natural landscape at Tuolumne Meadows rightfully dominates the scene. Over the last several decades, permanent and semi-permanent structures arose in relatively small clusters tucked into the lodgepole forest at the edge of the meadows. Building character in Tuolumne Meadows ranges from large, boulder-faced, historic park Rustic architecture to seasonal, light, canvas-roofed structures. Relatively simple and understated wood-frame structures make up most of the buildings throughout the district. Most structures are rustic and their scale, materials, and massing are meant to blend unobtrusively into their natural settings (NPS 2007b).

A number of buildings in Tuolumne Meadows are significant examples of the park Rustic style. Designed by NPS staff to minimize the visual impact of constructed development, these include the old visitor contact station, the three original campground comfort stations, and the original Road Crew Camp complex. Another example is Parsons Memorial Lodge — a National Historic Landmark — designed by the Maybeck and White office for the Sierra Club in 1915 (NPS 2007a). All of these sites or structures are individually listed on the National Register of Historic Places and are contributing features of the Tuolumne Meadows Historic District.

The Civilian Conservation Corps (CCC) built some of the most distinctive and architecturally significant structures in Tuolumne Meadows, often using materials from the site. This Rustic style was perfectly suited for the patient handiwork of the corps and benefited from such labor being readily available during the Depression. Many of the finest examples of the park Rustic style in Tuolumne Meadows would be difficult to replicate under modern conditions. These buildings thus reflect a unique moment in time as much as they embody this distinctive architectural style. (NPS 2007b).

Much of the early history of the meadows is related to pioneering conservation activism in the late 19th and early 20th centuries. The predominance of the Rustic style of architecture, the concentration of development in limited areas, and the absence of modern improvements attest to the intense concern for and love of the meadows maintained by the conservation community over the decades. (NPS 2007a).

In 2007 Tuolumne Meadows was determined eligible for listing on the National Register of Historic Places as a historic district. The district encompasses the visitor facilities of the developed areas, the Soda Springs Historic District, and the adjacent natural resources of the broad meadow flanking the river to the west of its junction with the Dana and Lyell forks. To the east it includes the drier, more broken terrain between the Dana Fork and the Tuolumne Meadows Lodge. The northern and southern limits of the historic district are defined by Yosemite Wilderness boundaries (NPS 2007b).

Four areas within the Tuolumne Meadows Historic District are slated to continue providing employee housing: Ranger Camp, Bug Camp, Tuolumne Meadows Lodge, and Road Camp. Each of these areas –described in

detail below– contains structures, architectural patterns, or other features that contribute to the significance of the Tuolumne Meadows Historic District. Therefore, projects in these areas should first and foremost follow the Secretary of the Interior's *Standards for the Treatment of Historic Properties* (NPS 1995 and NPS 1996a).

Ranger Camp (Administrative Area) and Bug Camp

Ranger Camp is between the Old Tioga Road and the modern Tioga Road at the eastern end of Tuolumne Meadows. Ranger Camp was constructed to provide maintenance and administrative services for the Tuolumne Meadows area. Historically known as the Government Administrative Area, or simply the Administrative Area, it has since become known more commonly as Ranger Camp (NPS 2007b).

Cabins and hard-sided tent cabins sit in a randomly scattered pattern among sparse pine and occasional boulder and granite outcroppings. This results in a random "ad hoc" character reminiscent of the small-scale encampments found in the foothills and other parts of the High Sierra. Each unit contributes to the historic patterns of massing and scale at Ranger Camp. Contributing structures to the Tuolumne Meadows Historic District include the five original buildings built in 1924: ranger station, naturalist cabin, patrol cabin, barn, and shower house. Over the years, other buildings and structures have been added, including additional tent cabins for park employee housing. The ranger station, NPS stable, and other historic structures are at the western end of the cluster.

The ranger station was erected in 1924 and served as the original park entrance and ranger station on the Tioga Road. The 525-square-foot, single-story building has an exposed peeled log frame structure with vertical plank infilling and a gable roof with log framing and brackets. The roofing material is corrugated metal. The building is painted Wosky brown, a color named for landscape architect John Wosky in the 1930s and used widely throughout the park.

During the winter, three buildings are in use in Ranger Camp: the ranger's cabin, the snow survey cabin, and the ranger office (the ranger station). The canvas for the tent cabins is removed at the end of the summer season, contributing to the camp's seasonal character.

Bug Camp was constructed in response to a needle miner infestation that occurred during the 1950s. It is located adjacent to and east of Ranger Camp. Aside from a slightly steeper south-facing slope, the terrain and subalpine forest of the Bug Camp area is similar to that of Ranger Camp. Tent cabins and other 1950s structures are tightly clustered among pines and boulders and are accessed through narrow unpaved driveways and a paved parking lot off the Old Tioga Road. Of the original camp, the mess hall, comfort station, and research shed are considered historic and date back to the period of significance (NPS 2007b).

During the winter, none of the buildings at Bug Camp are used. Similar to Ranger Camp, the canvas for the tent cabins is removed at the end of the summer season, contributing to the camp's seasonal character.

GUIDELINES FOR RANGER CAMP AND BUG CAMP

- New, or replacement, structures should maintain the general spacing, scale, massing, and color of the existing structures.
- New structures should be laid out in a way consistent with historic patterns, which were based on proximity to natural features such as boulders or tree groupings.
- New parking areas should minimize visual impacts on the housing. Refer to Unifying Elements in *A Sense of Place: Design Guidelines for Yosemite National Park* (NPS 2011) for guidelines on parking and vegetative screening.

- New design should incorporate measures to ensure protection of existing vegetation. Use appropriate barriers to prevent trampling of such areas. Refer to Unifying Elements in *A Sense of Place: Design Guidelines for Yosemite National Park* (NPS 2011) for guidelines on pathways, circulation and barriers.

Road Crew Camp

Road Crew Camp is an enclave 400 feet south of Tioga Road at the western end of the Tuolumne Meadows Historic District. Built in 1934 by the Civilian Conservation Corps to provide maintenance and administrative facilities for the higher elevations of Yosemite, the development cluster still retains its original six structures. These include the CCC mess hall, the shower house, and four bunkhouses.

The CCC mess hall is on a lightly forested ridge, surrounded by lodgepole pines. The CCC mess hall is an excellent example of 1930s park Rustic architecture. This wood-frame structure measures roughly 33 feet x 60 feet. The foundation, main fireplace chimney, and front porch floor and steps were constructed of rubble stone masonry. The roof is sheathed in wood shingles. The lower portion of the walls has horizontal bevel siding, and the upper portion has vertical redwood board siding, originally finished with a coat of clear linseed oil (NPS 2007b).

The mess hall historically served as the kitchen, dining room, and social hub for the Road Crew Camp. It was listed in the National Register in 1978. In 1980 it was converted to a visitor center.

Four identical bunkhouses and a shower house are clustered in the trees to the east of the visitor center. These were the first structures to be built in the Road Crew Camp area and are fine examples of park rustic architecture. Built during the CCC era, all are wood-frame structures with rubble masonry foundations and redwood board and batten siding. A large rubble masonry chimney distinguishes the shower house. The bunkhouses are still in use as housing for seasonal NPS employees and retain most of their original materials and details of workmanship. These structures were all listed in the National Register in 1978.

GUIDELINES FOR ROAD CREW CAMP

- The character of new structures should be compatible with the architectural vocabulary of the historic Rustic structures at Road Camp. They should, in addition, be of a scale, form, massing, materials, and color that blend with the immediate natural and historical surroundings.
- Cluster employee parking in small groups, screened with native vegetation.
- New design should include measures to ensure protection of existing vegetation. Use appropriate barriers to prevent trampling of such areas.
- The openness of the approach to the CCC mess hall is a character-defining aspect of the site and new construction should not occur within this area.
- Maintain the pattern and spacing of the CCC mess hall with the other buildings and structures on the moderate forested slope, regardless of future use. Do not allow temporary or permanent structures to encroach into the spaces surrounding the buildings, in particular the foreground when viewed from the parking lot and the pedestrian approach routes to the immediate north. Any new development, including alterations to the wastewater treatment buildings and surroundings should be done in a manner that is obscured from trails, roads, and public view; and acoustically buffered. Lighting should be limited (refer to Yosemite Lighting Guidelines) to avoid polluting the dark night sky.

Tuolumne Meadows Lodge

Tuolumne Meadows Lodge is sited on the north bank of the Dana Fork of the Tuolumne River. It consists of a tent reception/dining room, kitchen, bathhouse, storage buildings, and tent cabins.

Tuolumne Meadows Lodge is one of two High Sierra Camps accessible by automobile, the other being White Wolf. The large paved parking area west of the dining hall and downslope of the tent cabin area is expansive and highly visible from the tent cabins. Its size dominates the setting and the arrival experience. To the east, tent cabins are disbursed on an uneven upslope among boulders, granite outcrops, and lodgepole pines. A group of exposed, highly visible propane tanks, along with other supplies, is clustered adjacent to the bathhouse. Intensive foot traffic has obliterated most pathways, leaving extensive areas of unvegetated and in some areas eroding, barren soils.

At the time of publication, employee tent cabins, permanent service buildings, and the canvas-roofed reception and dining hall were aligned in a row facing the river. Beyond these buildings to the south is a popular view of Miller Rapids, where intensive foot traffic has all but eliminated riparian bank vegetation.

Buildings and structures are simple in the tradition of the High Sierra Camps. Except for kitchen, storage, and bathhouse, most of the structures are roofed with canvas stretched over permanent wood or metal frames.

The reception/dining room structure has a timber frame with canvas walls and roof set upon a slightly elevated concrete slab. The framing members are painted white to blend with the canvas. Double-hung windows provide ventilation. On the east side, a canvas awning extends from the structure to provide a protected seating area adjacent to a fire pit. At the end of each summer season, canvas roofs, walls, and windows are removed, leaving the concrete floor and framing exposed to the elements in winter when the camp is closed.

Adjacent to the tent dining area, permanent kitchen and storage structures are built of conventional wood-frame construction. The exterior of the kitchen is sheathed in board and batten siding painted brown.

The typical tent cabin measures 12 feet x 14 feet. It is constructed by stretching heavy duck canvas over an open framework of wood or metal to create a simple shelter with an entrance on the gable end. All of the cabins have small iron stoves that vent through the sidewall thimble to the metal flue. Tent cabins at all high camps are for seasonal occupancy and are disassembled at the end of summer.

The *Tuolumne River Plan* calls for the removal of employee tent cabins along the bank of the river, and replacing them in the area just north of the Lodge parking area—east of the entrance road. In addition to Tuolumne Meadows Lodge employees, this area is also slated to accommodate housing for all other Tuolumne Meadows concessioner employees such as those who work at the store and grill.

GUIDELINES FOR TUOLUMNE MEADOWS LODGE

- Because the new employee housing will be visible on the arrival road to the Lodge, it is important that it help set the architectural tone—enhancing, and not diminishing the sense of arrival to this historic lodge.
- New structures along the arrival road should maintain the general spacing, scale, and color of the existing tent cabins at Tuolumne Meadows Lodge.
- New structures should be sited and spaced in a way consistent with historic patterns, which were based on proximity to natural features such as boulders or tree groupings.
- In the new employee housing area, pedestrian pathway network should be well-delineated to protect vegetation. Use appropriate naturalistic barriers such as partially buried boulders or lodgepole logs to prevent trampling of such areas.
- New parking for the employee housing area, should be clustered in small groups and, screened with native vegetation or natural features, and should be sited so it is obscured from the main road.
- New exterior storage, service areas, utilities, and equipment should be out of public view. If this is not feasible, then these areas should be screened with vegetation and/or fencing to ensure that the historic and

natural scenes are minimally impacted. This guideline applies to the arrival experience along the road leading up to the lodge as well as within the lodge area itself. Refer to the Unifying Elements chapter for guidelines on vegetative screening and fencing.

- Any redesign of the existing parking area should incorporate natural features such as boulders, trees, and meadow grasses to soften the visual expanse of large areas of asphalt.

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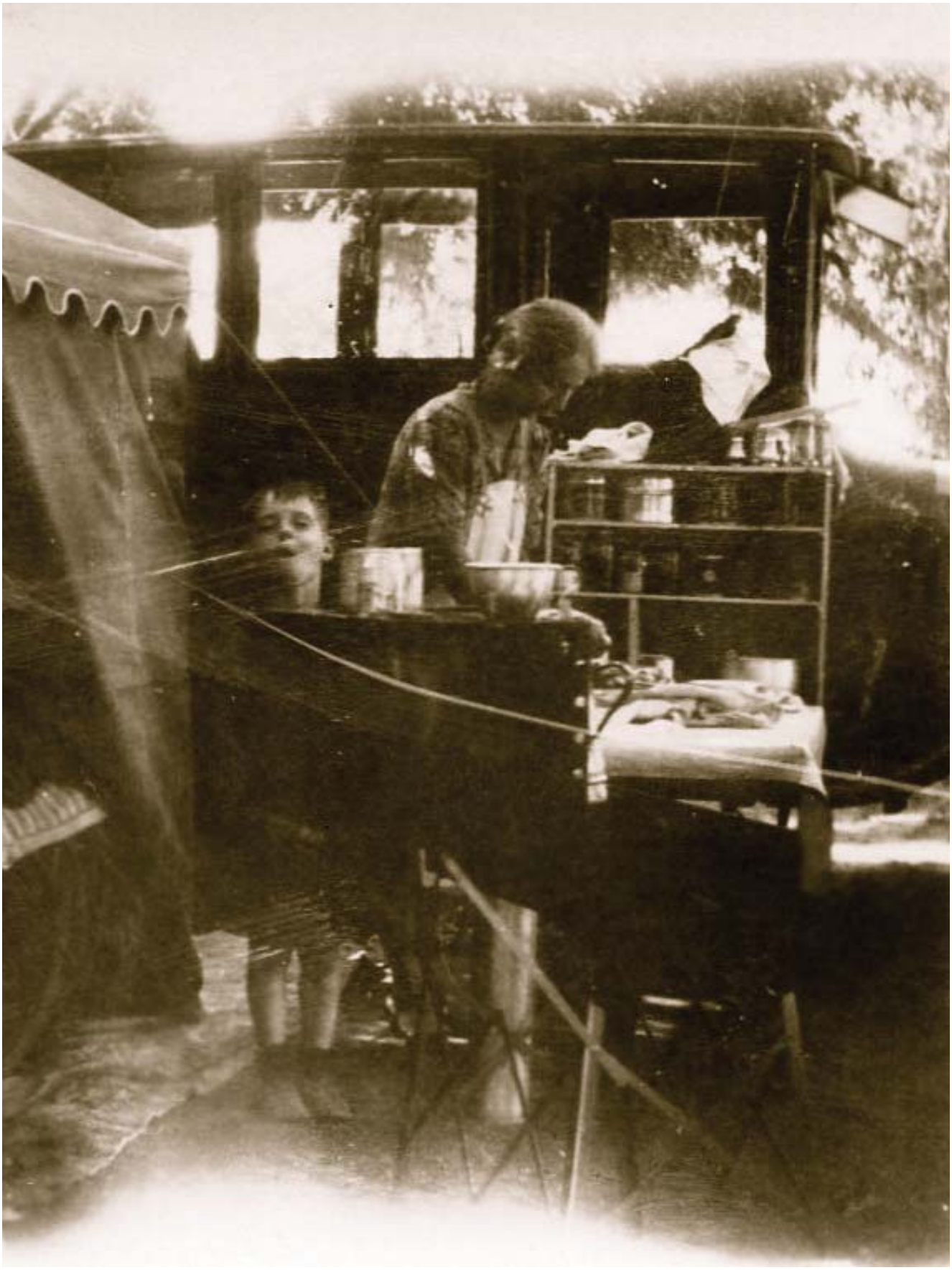
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National Park Service
U.S. Department of the Interior

Yosemite National Park
Tuolumne River Plan

Tuolumne Meadows Campground Design Guidelines - Draft July 2009





1 Tuolumne Meadows Campground Design Guidelines

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Photo 1 (cover). Tuolumne Meadows Campground campsite, 2008.

Photo 2 (left). Camping in Tuolumne Meadows, 1928.



3 Tuolumne Meadows Campground Design Guidelines

History

Tuolumne Meadows campground, with 304 sites, is one of the largest campgrounds in the National Park System. The campground was built in the early 1930s by the Civilian Conservation Corps (CCC). Prior to campground construction, camping in Tuolumne Meadows was unrestricted over an area of approximately four square miles.

In 1961, the original 250 campsites were supplied with new picnic tables, grills, and trash receptacles. In the same year, an amphitheater ("campground circle") and new comfort stations were added, and a 100-site camping area for groups was developed along a spur road leading from the main campground road. Later, a portion of the original group camping area was converted to campsites for visitors with horses.

Over time, the overall number of individual campsites in the campground has fluctuated. There were reportedly between 600 and 700 sites in the 1960s. In the 1980s, a few hundred campsites were removed and restored to natural conditions because they were so densely spaced that visitor experiences were compromised and vegetation and soils were being impacted. The campground originally had two entry/exit points. However, the westernmost entry/exit, which connected Loop D to Tioga Road east of Unicorn Creek, was reportedly closed in the 1970s, when the NPS started charging fees for camping. The main campground roads were probably last repaved in the early 1960s.

Campground Setting, Condition, and Current Management

General Description: Campsites are organized into seven areas or "loops", labeled A – G. There are 304 sites, including 300 standard sites that accommodate up to six people and four horse campsites that accommodate up to six people and six horses. Additionally, there are seven group sites that accommodate between 13 and 30 people. There is also a designated area for backpacker camping (26 sites). Campsites are allocated 50% by reservation, and 50% first-come, first-served. Eight comfort stations are distributed throughout the campground.

There is no designated area within the campground for recreational vehicles (RVs). The official campground map (see next page) illustrates which sites can accommodate RVs of various sizes. However, none of the campsites have electrical hook-ups, which means that some RV campers run on-board generators to produce electricity.

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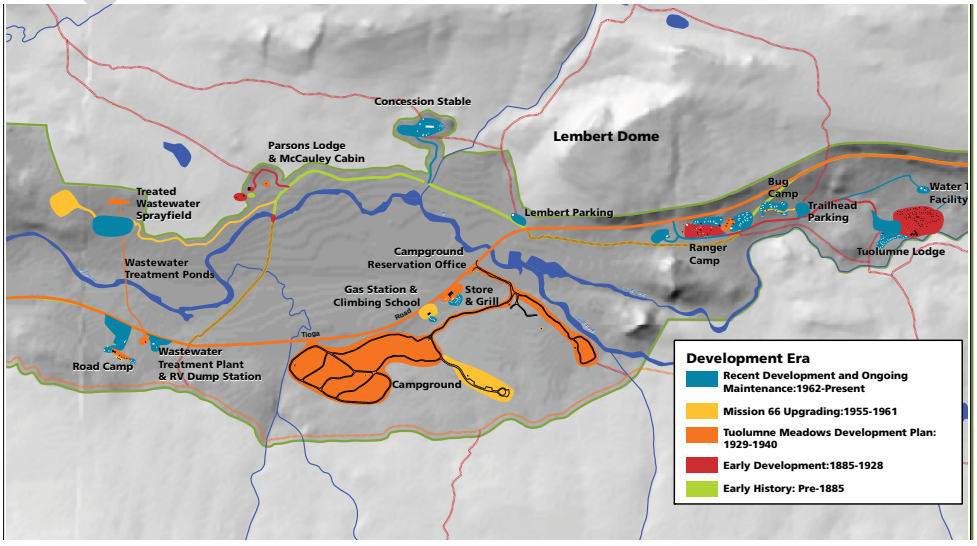


Photo 3 (left). Main campground road in the vicinity of Loop B.

Map 1. Development stages in Tuolumne Meadows.

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Vehicular Circulation: Asphalt pavement on the campground's narrow primary roads has degraded over time (photo 3) so that these roads look similar to the unpaved secondary routes that access individual clusters of campsites. For this and other reasons, visitors easily become disoriented within the large campground; many end up driving in circles before eventually finding their destination.

Loop A campsites that are closest to the campground entrance/exit experience considerable vehicular traffic and congestion when the campground is busy. This is because (a) all vehicles entering or exiting the campground must pass by those sites, and (b) vehicles entering the campground tend to stack up at the campground entrance kiosk.

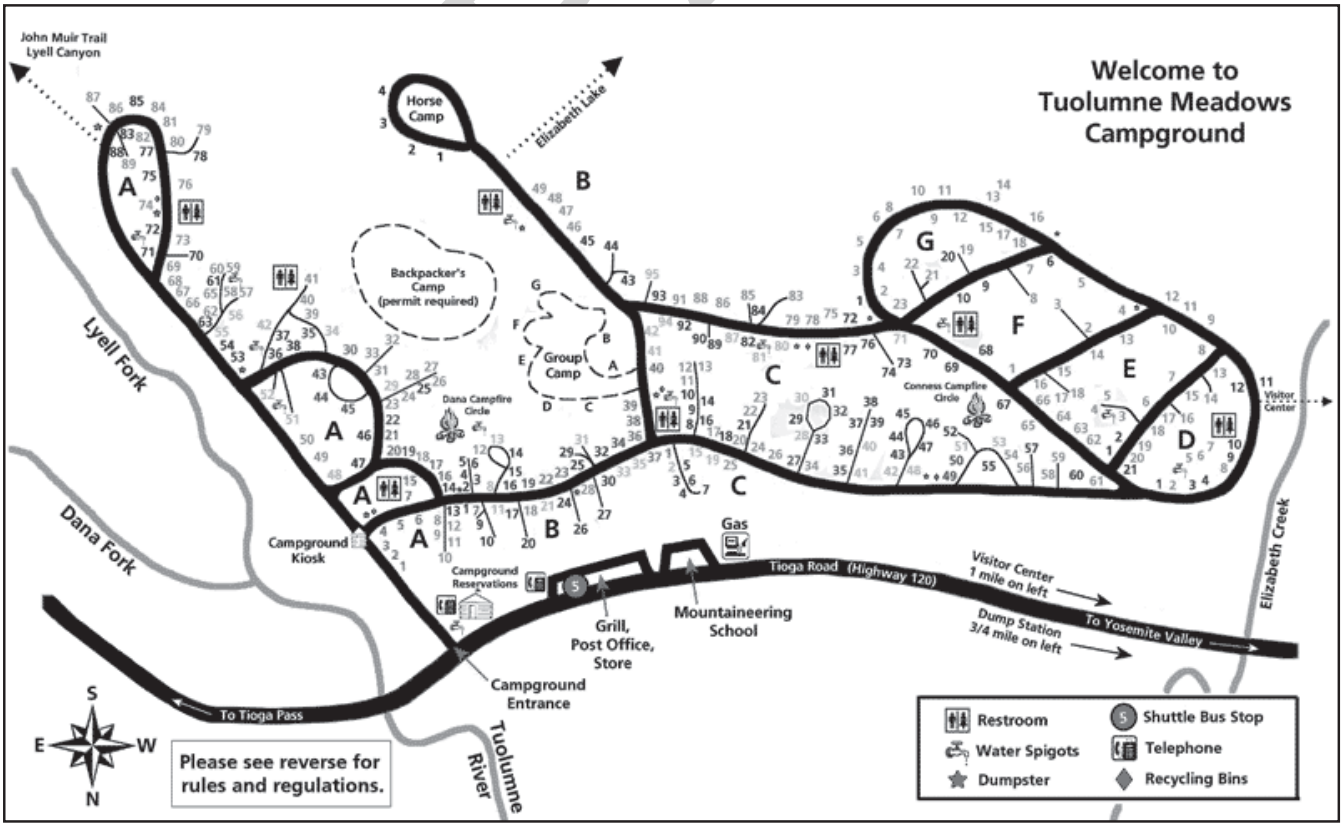
Condition: Because parking areas and vehicular access areas within the campground are not well defined, visitors in vehicles can drive virtually anywhere within a campsite. Many areas in the campground, including the terrain around comfort stations, are bare of vegetation because they are repeatedly run over by vehicles (photos 4,5,6). Some visitors drive deep into the heart of campsites to minimize the distance they have to haul food or equipment from their vehicle, often driving directly up to picnic tables. Cumulatively over time, vehicles compact soil and damage tree roots; crush and kill understory plants, seedlings, and saplings; and make campground soils prone to wind and water erosion. This has diminished the scenic quality of the campground and the privacy of campsites because screening vegetation has been lost.

The practice of placing tents in various locations within individual campsites has had a similar effect; understory plants within campsites have been damaged and few young trees are present to replace those that die from natural causes or human impacts.

Loop D - The westernmost portion of Loop D is currently reserved for use by Yosemite Association volunteers and participants in Yosemite Association's Outdoor Adventure programs. This loop has better vegetative cover and fewer compacted and denuded areas than other parts of the campground.

Group camping area - Group campsites are located in the trees, around a large central expanse that consists of decomposed granite and is devoid of vegetation and natural cover (photo 7). This barren area is confusing to visitors and detracts from the area's natural scenery.

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5 Tuolumne Meadows Campground Design Guidelines









Map 2 (left). Official campground map given to campground visitors.

Photo 4 (above). Heavily impacted area near Conness Campfire Circle, loop C.

Photo 5 (above). Heavily impacted area between the main campground roads and Loop C comfort station.

Photo 6 (above). Campground area heavily impacted by vehicles.

Photo 7 (above). Large barren area in the center of the group camping area.

Backpacker camping area. The backpacker camping area is used by wilderness permit holders for one-night stays while either departing for or returning from trips into the backcountry. This area is visually separated from main portions of the campground and parking is not permitted. Campers must park their vehicles, if any, outside the campground.

Pedestrian Circulation: Pedestrian circulation is largely un-delineated throughout the campground. As a result, a network of social trails has formed leading to several issues of concern: 1) many social trails through wetland areas creating vegetation damage and soil loss; 2) several social trails pass in close proximity to, or directly through individual campsites, disrupting those campers' experiences; 3) other social trails connect the campground with the store and grill; these trails take pedestrians past the rear service and employee tent cabin areas, which is an undesirable approach from both the visitors' and employees' perspectives.

Comfort Stations: Comments from visitors and campground hosts suggest that the number and condition of comfort stations is a concern. Eight campground comfort stations buildings are often shared by more than one thousand people. According to campground hosts, campers commonly complain that there are too few comfort stations and that their condition is poor because the toilets do not always function properly. As a result, some campers choose to use the woods instead. Campground rules require campers to dump used dishwater into toilets because there is no designated sink area for washing dishes. Each comfort station is divided in half by gender, and each half has three to four toilet stalls and one or two sinks (cold water only). The comfort stations offer only basic facilities with no showers, lighting, or heat. Lighting is not used in the comfort stations to minimize effects on natural night skies.

Accessibility for Persons with Disabilities: All campsites have wheelchair accessible picnic table, but no campsites are designed to be fully accessible to persons who use wheelchairs. At least one of the comfort station is wheelchair accessible.

Desired Conditions for Tuolumne Meadows Campground

- The campground's original rustic setting is restored and maintained.
- The campground is predominated by natural sounds and scenery.
- The campground is safe and easy to navigate.
- Users understand where it is allowed and not allowed to drive and park, and can easily discern the hierarchy of circulation routes.
- A representative portion of campsites and comfort stations are accessible to persons with mobility disabilities, including those who use wheelchairs.
- Campers rarely must wait to use a comfort station.
- Campers travel less than 300' to use a comfort station.
- Campground water fixtures function well and are water-efficient.
- Views of the campground from Tioga Road and surrounding peaks and domes are largely obscured by vegetation.
- Reasonable visual separation between campsites.
- Trash, bear box, and recycling collection areas are properly sized and sited.
- Campers travel within the campground and to neighboring destinations by foot using camp roads and/or designated paths.
- Use is focused within well delineated campsites and pedestrian paths.

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7 Tuolumne Meadows Campground Design Guidelines

Design Guidelines and Concepts

The intent of the following section is to provide managers and future designers with tools for achieving the desired conditions at Tuolumne Meadows Campground.

New Development to be Sustainable, Safe, and Consistent with the Campground's Historic, Rustic Character

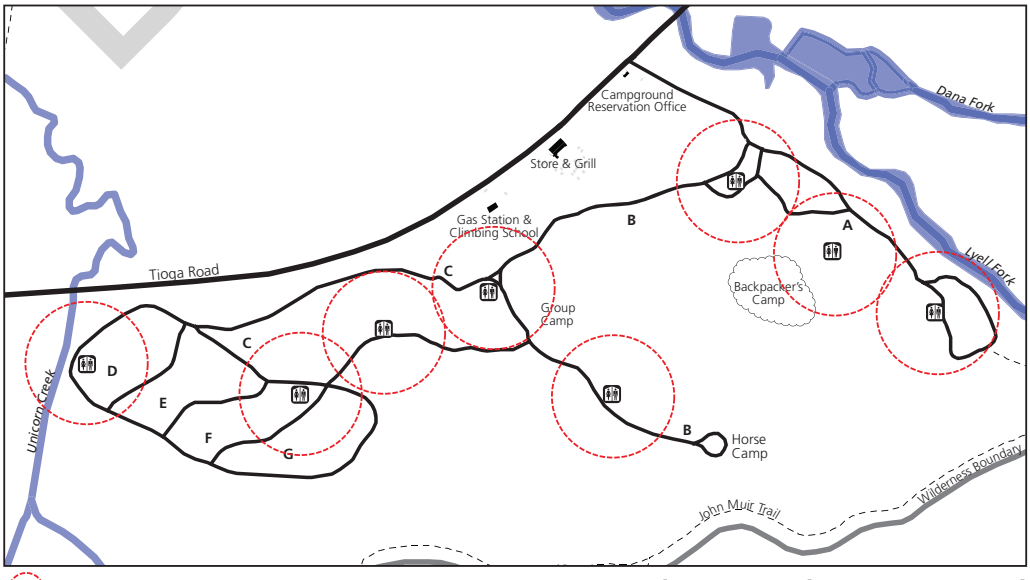
- When replacing or adding comfort stations, use the same architectural scale, style, construction techniques, and building materials used in the original CCC-era Tuolumne Meadows campground comfort stations (e.g., shake gable roof, large cobble masonry, and natural colors (photo 8: original CCC-era comfort station).
- When replacing the entry kiosk, use the same architectural style, construction techniques, and building materials used in the original CCC-era comfort stations and other buildings found within Tuolumne Meadows.
- Vernacular construction techniques and locally available building materials should be used as long as they do not adversely affect the natural and cultural resources of the area. The methods and techniques should ensure that there are no residual signs of construction or environmental damage.
- Building products and materials should be non-toxic renewable or recyclable, and environmentally responsible.
- New facilities should be subordinate to the ecosystem and cultural context. They should conform to the constraints of existing landforms and tree locations to the greatest extent possible.
- Site trash/recycling stations and new comfort stations around natural features such as trees and boulders in order to minimize their visual impact in the landscape.
- When replacing campsite furnishings such as fire grates and picnic tables, use rustic furnishings that fit with the historic character and meet ADA requirements.

Improve Comfort Station Distribution and Amenities

- Comfort stations should be located to achieve a 300' maximum travel distance from campsites (map 3).
- Locate dishwashing basins at new comfort stations.

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Photo 7 (left). CCC-era comfort station.



Map 3. 300' travel distance from existing comfort stations.





Photo 9. Example of defined small parking area.

Photo 10. Example of defined edge of parking and path to walk-in campsite.

Improve Access for Persons with Disabilities

- Provide some campsites that are fully accessible to people who have mobility disabilities and/or use wheelchairs. Sites should be located in a variety of loops to provide a range of experiences. Moderately accessible paths (natural-material or well-maintained natural soil) to primary elements such as comfort stations and spigots should be provided, where appropriate.
- Provide a minimum of two ADA parking spaces at comfort stations at a representative proportion of comfort stations.
- Bear-proof trash and recycling receptacles should be offset a minimum of three feet from the road. An asphalt or other slip-resistant natural material platform should provided for the receptacle area.
- All new picnic tables, fire rings, and grills should meet accessibility requirements.
- All new storage lockers should be accessible.

Road Design and Existing Road Upkeep – New Roads

- Design new roads (primary and secondary) to have similar widths, crowns, and paving as existing historic campground roads while allowing for large vehicles (RV) and two-way circulation (designed for low travel speed) where appropriate.
- A curvilinear alignment should be designed to lay lightly upon the existing topography to the greatest degree possible.
- Crossing unstable or steep slopes should be avoided.
- Roads should have low design speeds (with frequent and tight curves and a narrower width to minimize/avoid cut-and-fill disturbance).

Road Design and Existing Road Upkeep – Existing Roads

- Repave the primary circulation roads with asphalt, retaining their narrow width and center crown. This will help distinguish these roads from secondary connector roads and spurs so that visitors can more easily find their way in the campground.
- Discourage travel on user-created road spurs (unofficial) by restoring natural conditions and using natural materials such as vegetation, downed trees, granite boulders, berms, and logs.

Delineate Vehicular Access and Parking Areas (Photos 9-10)

- Define parking and circulation routes for vehicles near campsites, comfort stations, and trash/recycling bin areas, to ameliorate soil impacts, encourage regrowth of screening vegetation, and improve campground naturalness.
- Selectively define the road edge with granite boulders or logs to discourage vehicles from parking along the side or the road, while still allowing places for two cars to pass on the narrow roadway.
- Use materials that blend with the natural environment and cultural landscape, such as granite boulders and logs.
- Confine vehicular impacts by providing parking areas adjacent to primary or secondary access routes rather than in the center of campsites or campsite clusters. (Campers may have to trade off some measure of convenience for increased naturalness and privacy at campsites.)
- Depending on site constraints and opportunities, provide parking either for individual campsites, or for clusters of several campsites.
- Provide small overflow parking areas for campgrounds guests (many sites will only have one parking space).

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Provide Pedestrian Links Between Visitor Areas

- Provide designated unpaved trails to link the campground with the store/grill or shuttle system.

Improve Campground Entry and Provide Secondary Exit

- To improve vehicular circulation, reduce congestion, and provide an alternate emergency exit, reestablish a second campground exit in the vicinity of the one that was closed in the 1970s.
- Retain the one existing entry point to allow entrance kiosk staff to efficiently allocate campsites and orient new campers.
- The existing entry kiosk should be replaced. This facility is poorly aligned within the intersection and therefore vulnerable to vehicle impact. The replacement structure should be aligned with entry/exit traffic. The structure should reflect the campground's historic, rustic character; provide a landscape island with natural elements (rocks) to protect the structure and native plants.

Restore/Rehabilitate/Reuse Heavily Impacted Areas

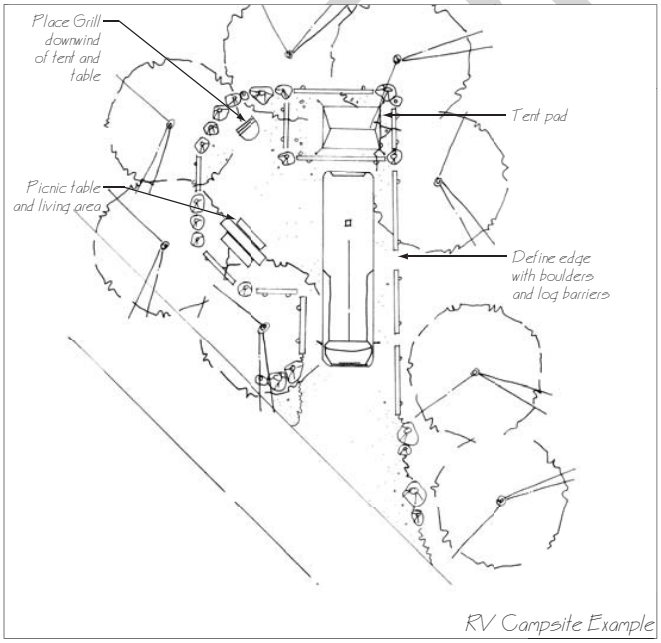
- Restore and re-vegetate heavily impacted areas that are not needed for vehicular access or parking, to improve naturalness, scenic quality, and privacy within the campground.
- Focus development in previously impacted areas.
- Additional information is needed to understand the cause of the large central barren area at the existing group camp area. Based on this research, the park should consider the appropriateness of rehabilitating, restoring, and/or reusing the large central barren area.

Redistribute/Relocate Selected Campsites

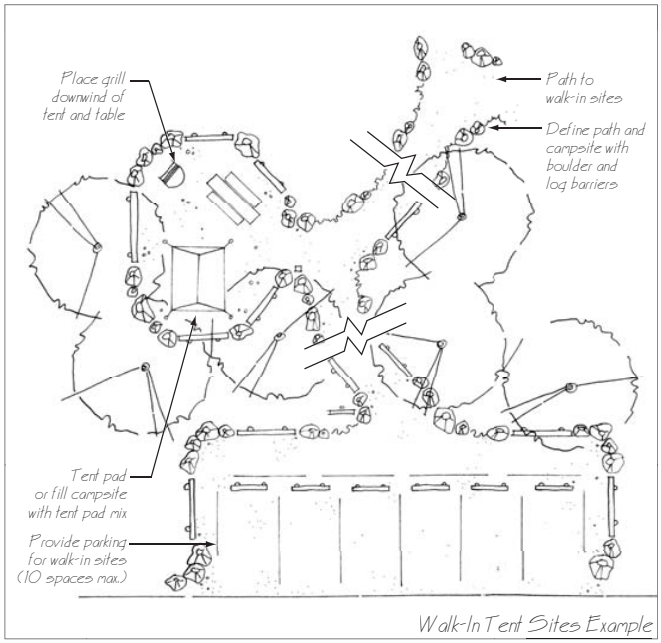
- Remove/relocate selected Loop A campsites from the heavy traffic zone near the campground entrance.
- Consider relocating the backpacker camping area further to the south so that it's closer to the John Muir Trail and further from the busier main part of the campground.

Diagram 1 (below). Example of RV campsite layout.

Diagram 2 (below). Example of walk-in tent site layout.



RV Campsite Example



Walk-In Tent Sites Example

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11 Tuolumne Meadows Campground Design Guidelines









Photo 13 (left). Campground registration office.

Photos 11 and 12 (above). Examples of campsite with boundaries delineated.

Photos14 and 15 (above). Examples of tent pads.

Diagram 3 (right). Example of tent site layout.

Provide an Appropriate Range of Rustic Camping Experiences (Diagrams 1-3)

- Consider designated RV camping.
- Consider "tents only" areas that are more natural appearing due to the absence of RVs and the ability to situate tents further into the campsite.
- Consider walk-in tent camping areas with pod parking for more rustic camping experiences.

Delineate Campsites (Photos 11-12)

- Define campsite boundaries with natural materials, such as logs and granite boulders to reduce soil impacts, encourage regrowth of screening vegetation, and improve campground naturalness.

Screening and Boundary Delineation for Facilities

- Selection and spacing of vegetation and/or granite boulders for screening should be modeled after and integrated with the surrounding natural patterns.
- Plant native vegetation around existing Mission 66-era comfort stations to minimize their visual impact on the landscape.
- Use vegetation, downed trees, and/or granite boulders to provide boundaries between camp sites.
- Plant native vegetation and use granite rocks or curbing to define and secure new entry station kiosk.

Install Tent Pads (Photos 14-15)

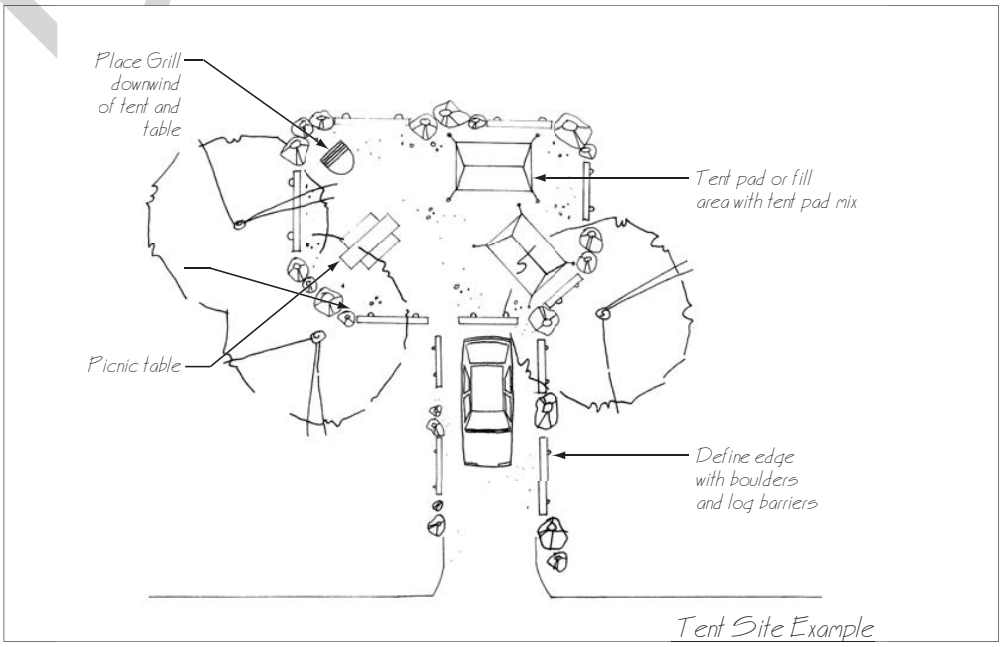
- Install tent pads that blend with the natural environment in texture and color to reduce impacts from tents and foot traffic on soils and vegetation and to improve drainage.

Minimize and Design Artificial Lighting to Reduce Impacts on Night Skies

- Outdoor lighting for comfort station facilities should be the minimum amount required to provide for personal safety. Lights should also be shielded and/or directed downward to minimize impacts to the night sky.

Take Measures to Reduce Visitor-Caused Noise to Protect Natural Soundscapes and Improve the Visitor Camping Experience

- Maintain quiet hours between 10:00 p.m. and 6:00 a.m.
- Generator use is permitted sparingly between 7 a.m. and 7 p.m.



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13 Tuolumne Meadows Campground Design Guidelines

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Photo 16 (left). Camping at the Tuolumne Meadows Campground.

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Appendix N: Cost Estimates and Phasing for the Tuolumne Wild and Scenic River Comprehensive Management Plan

Class C construction cost estimates are conceptual cost estimates prepared with "big-picture" scopes of work. They are general in nature, representative of a broad-based vision rather than focused on specific details. The National Park Service typically creates Class C construction cost estimates for large-scale planning efforts such as general management plans and wild and scenic river comprehensive management plans. These Class C construction cost estimates are based on a combination of detailed installation analysis, typical assembly costs, lump sum and unit costs derived from similar projects.

The Class C net construction cost estimates for the *Final Tuolumne River Plan/EIS* (table N-1) were prepared by professional cost estimators from the National Park Service, Denver Service Center, Technical Services Branch in 2011. Cost data was compiled from *RS Means 2011 Building Construction Cost Data, Site Work and Landscape Cost Data, and Square Foot Costs Data*. In addition, some cost information was derived from recently completed Yosemite National Park projects and similar projects at other parks. Cost estimates for each individual phase will be refined (i.e., Class B and Class A) in tandem with the design development process.

For detailed information pertaining to cost estimating standards, refer to the National Park Service *Cost Estimating Requirements Handbook* (NPS 2011): *www.nps.gov/dscw/upload/CostEstimatingHandbook_2-3-11.pdf*

Implementation of the selected alternative for the *Tuolumne River Plan* would occur in phases over a period of several years as proposed in Figure N-1. Following Figure N-1 is a more detailed table of what elements of the *Tuolumne River Plan* could be implemented with no further environmental compliance, and which elements of the plan would require additional compliance prior to implementation (table N-2).

Table N-1.
Class C Net Construction Cost Estimates (in U.S. dollars) for Implementing the *Tuolumne River Plan*

Location	Alternative 1	Alternative 2	Alternative 3	Alternative 4 (NPS preferred)
1. Pothole Dome	228,903	465,316	382,418	382,418
2. Tioga Road through Tuolumne Meadows area	6,060,950	6,991,446	6,138,950	6,991,446
3. Existing Cathedral Lakes trailhead	246,394	246,394	246,394	246,394
4. Existing wastewater ponds and sprayfield	2,686,444	365,873	365,873	571,853
5. Area east of Budd Creek and west of existing visitor center	210,927	5,576,759	210,927	210,927
6. Existing visitor center and Road Camp	1,441,607	1,951,630	1,907,888	1,436,538
7. Existing wastewater treatment plant	4,392,455	5,015,304	9,180,709	5,432,953
8. Parsons Memorial Lodge	628,411	95,427	95,427	95,427
9. Area west of Unicorn Creek	323,160	1,295,836	315,676	6,451,083
10. Tuolumne Meadows Campground area	11,938,248	16,365,915	13,943,866	17,646,918
11. Existing commercial services core	3,170,567	12,065,015	1,510,801	3,320,284
12. Existing concessioner stable	1,870,888	1,163,897	203,495	2,081,381
13. Lembert Dome	955,539	1,247,303	1,357,736	958,249
14. Old Tioga Road/Great Sierra Wagon Road	763,641	763,641	763,641	763,641
15. Existing wilderness center and NPS stable	6,155,974	1,118,770	851,420	1,105,270
16. Existing ranger station and Ranger Camp	2,353,064	2,695,225	2,612,997	5,338,665
17. Bug Camp, Dog Lake/John Muir Trail parking	1,534,011	1,472,918	3,853,670	3,198,194
18. Tuolumne Meadows Lodge	1,161,617	232,090	4,156,879	4,666,537
19. Gaylor Pit	112,122	9,587,798	218,515	765,000
20. Glen Aulin High Sierra Camp	912,862	1,106,774	1,152,525	1,152,525
21. Ecological Restoration*	2,776,993	2,776,993	2,776,993	2,776,993
PROJECTED TOTAL COST	**$49,924,777**	**$72,600,324**	**$52,246,800**	**$65,592,696**

* Includes meadow and riparian restoration not otherwise funded by projects in the Class C Cost Estimates for the first five years of plan implementation. Restoration will be as described in the Ecological Restoration Plan (Appendix H) and Chapter 5.

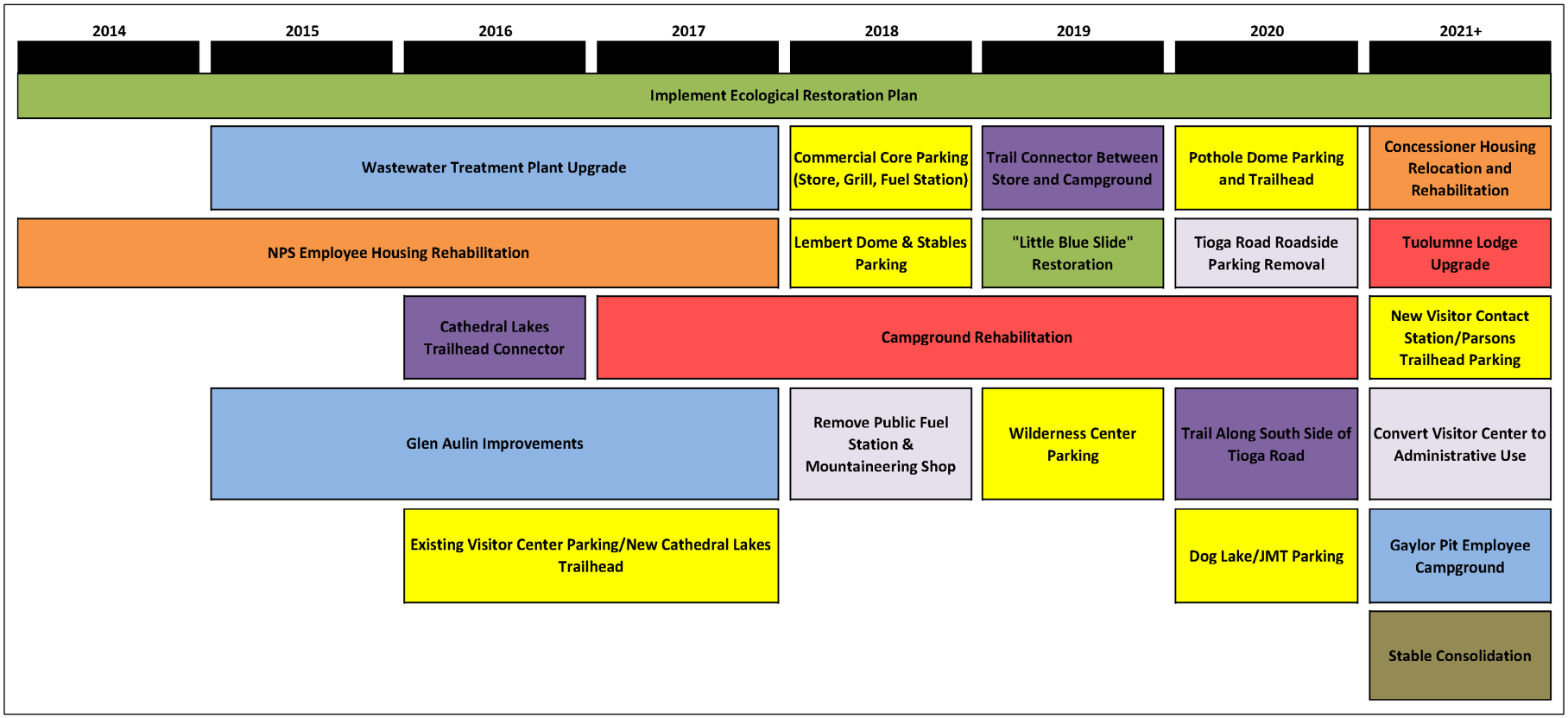


Figure N-1. Project Phasing-Major Actions. Actual years of implementation may be adjusted based on park-wide planning priorities and funding availability. The project coloring corresponds with the colors used in the Tuolumne Meadows Site Plan in Chapter 8, Alternative 4, Scenic Segment

Table N-2.
Project phasing and compliance requirements for major actions in the *Tuolumne River Plan*

Action	Year Scheduled	Location[a]	Historic Property Affected	Compliance Completed by TRP/FEIS ROD	Additional Compliance Required
Implement the Ecological Restoration Plan for Tuolumne Meadows and Remove Threats to Water Quality and Impediments to Free Flow.	2014 - ongoing				
Restore riparian vegetation along riverbanks.	2014 - ongoing	Throughout the river corridor	--	X	
Mitigate hydrologic effects of Tioga Road culverts and historic Great Sierra Wagon Road bed.		Throughout Tuolumne Meadows	Tuolumne Meadows Historic District, and Soda Springs Historic District (segments of the Great Sierra Wagon Road contribute to both districts). Tioga Road Historic District; contributing culverts.	X	
Stabilize the road cut east of Tuolumne Meadows along Tioga Road to reduce erosion into the Dana Fork.	2019	Tioga Road east of Tuolumne Meadows	Tioga Road Historic District	X	
Modify the Tuolumne River bridge and abutments to mitigate a ponding effect at the meadows.		10	Tuolumne Meadows Historic District and Tioga Road Historic District: Tuolumne River Bridge (1937) is a contributing feature to both historic districts.		X
Remove the boulder riprap from approximately 150 feet of riverbank near the campground A-loop road to restore natural river flow.		10	--	X	
Remove nonhistoric structures inappropriately sited near the riverbank or in wet areas	2021	11, 18	--		X
Expand designated parking and eliminate undesignated roadside parking.					
Construct new Cathedral Lakes trailhead, parking, and trail segment connecting the main trail to the new trailhead; restore existing Cathedral Lakes trailhead to natural conditions.	2016	3, 5, and 6	Tuolumne Meadows Historic District circulation features; new development within the historic district	X	
Demolish the historic public fuel station/mountaineering shop building; redevelop site for day parking.	2018	11	Tuolumne Meadows Historic District; historic gas station (1959)		X
Widen road between the turnoff to the stable and the stable to accommodate designated parking.	2018	12	--	X	
Expand parking at the wilderness center.	2019	15	--	X	

a Location numbers correspond with the Tuolumne Meadows Site Plan in chapter 8, figure 8-11.

Action	Year Scheduled	Location[a]	Historic Property Affected	Compliance Completed by TRP/FEIS ROD	Additional Compliance Required
Expand designated parking and eliminate undesignated roadside parking, (continued)					
Expand parking at the Dog Lake/JMT trailhead.	2020	17	--	X	
Formalize parking at Pothole Dome: Designate day parking with trailhead on north side of road; improve trail to Pothole Dome; construct new parking area east of Pothole Dome.		1	Tioga Road Historic District contributing parking area	X	
Prohibit parking along Tioga Road; add roadside curbing or other barriers to prevent illegal parking; construct approximately four viewing turnouts (four vehicles each; no parking).	2021	2	Tioga Road Historic District contributing turnouts	X	
Construct a foot trail paralleling the south side of Tioga Road.	2020	2	Tuolumne Meadows Historic District circulation features; new circulation feature within the district.	X	
Upgrade utilities					
Upgrade the wastewater treatment plant.	2015	7	--		X
Implement water conservation measures, including installation of low-flow figures.		Throughout Tuolumne Meadows	--	X	
Repair/replace water and wastewater lines		Throughout Tuolumne Meadows	--		X
Convert pit toilet for winter skiers to a vault toilet.		10	--	X	
Upgrade ventilation systems in the existing vault toilets at Lembert Dome		13	--	X	
Replace vault toilets at Lembert Dome with flush toilets if water capacity is available after implementation of campground rehabilitation and associated water – conserving actions.		13	--		X
Upgrade restroom at commercial service core		11	--	X	

Action	Year Scheduled	Location[a]	Historic Property Affected	Compliance Completed by TRP/FEIS ROD	Additional Compliance Required
Reduce localized impacts associated with the Glen Aulin High Sierra Camp.					
Reduce the capacity and levels of service at the High Sierra Camp to reduce water use and number of resupply trips.		Glen Aulin High Sierra Camp	Glen Aulin High Sierra Camp Historic District	X	
Modify Glen Aulin utilities: Replace all flush toilets with composting toilets; replace the composting toilet at the backpacker campground; relocate the water intake to its previous locations inside the camp boundary; upgrade the water treatment system; remove the water line and water tanks serving the corrals.	2015	Glen Aulin High Sierra Camp	Glen Aulin High Sierra Camp Historic District	X	
Move the employee tent nearest Conness Creek to be more than 100 feet from the creek and from the Tuolumne River, to protect water quality.	2015	Glen Aulin High Sierra Camp	Glen Aulin High Sierra Camp Historic District	X	
Rehabilitate the Tuolumne Meadows campground while enhancing protection of other river values.					
Rehabilitate the campground, providing better site delineation, improving campground roads, rehabilitating and adding restrooms, upgrading the wastewater collection system if necessary, repairing or replacing leaking water and wastewater lines, and installing low-flow fixtures.	2017	10	Tuolumne Meadows Historic District circulation features; individual campsites are not contributing; 3 CCC rustic comfort stations listed on the NRHP that also contribute to the Tuolumne Meadows Historic District.		X
Relocate campground entrance road and kiosk out of floodplain	2017	10	Tuolumne Meadows Historic District circulation feature; entrance kiosk is noncontributing (after 1961)		X
Realign the campground A-loop road and relocate the 21campsites that are currently within 100 feet of the Lyell Fork.		10	Tuolumne Meadows Historic District circulation feature; individual campsites are not contributing.		X
Construct new trail from campground to store.	2019	10, 11	Tuolumne Meadows Historic District circulation feature	X	
Formalize connection to John Muir Trail.		10	--	X	

Action	Year Scheduled	Location[a]	Historic Property Affected	Compliance Completed by TRP/FEIS ROD	Additional Compliance Required
Improve the Tuolumne Meadows Lodge at its current capacity while enhancing protection of other river values.					
Relocate three guest tent cabins and possibly the dining hall/kitchen to a location more than 150 feet from the river; upgrade the shower house.	2021	18	Kitchen/Dining Hall (1939) and camp bath house (1939) contribute to the Tuolumne Meadows Historic District. 3 guest tent cabins specified are noncontributing (ca 1984)		X
Relocate/upgrade/expand the concessioner employee housing north of the lodge, consolidating all concessioner employee housing at this location.	2021	18	New development within the Tuolumne Meadows Historic District		X
Relocate the visitor contact station to improve the visitor experience.					
Construct new visitor contact station, picnic area, trailhead for Parsons Memorial Lodge, and day parking on south side of Tioga Road.	2021	9	New development within Tuolumne Meadows Historic District		X
Expand and rehabilitate NPS employee housing.					
Replace nonhistoric (not contributing to the Tuolumne Meadows Historic District) NPS employee housing at Ranger Camp and Bug Camp with hard-sided structures.	2014	16, 17	New development within Tuolumne Meadows Historic District	X	
Renovate or replace historic tent cabins at Road Camp and Ranger Camp in consultation with the California state historic preservation officer.		6, 16	Tuolumne Meadows Historic District: Road Crew Camp: four contributing tent cabins (1945-57) and Ranger Camp: seven contributing cabins (two ca 1930 and five ca 1960).		X
Provide additional NPS employee housing at stable site, if needed; retain and adaptively use the historic stable structures if possible.		12	Tuolumne Meadows Historic District: contributing barn (1924)		X
Construct employee campground at Gaylor Pit	2021	20	--	X	
Construct additional housing at Road Camp, if needed.		6	New development within the Tuolumne Meadows Historic District		X
Construct bunkhouse at site of existing NPS stable		15	New development within the Tuolumne Meadows Historic District.		X

Action	Year Scheduled	Location[a]	Historic Property Affected	Compliance Completed by TRP/FEIS ROD	Additional Compliance Required
Provide administrative facilities needed to support visitor use while enhancing protection of other river values.					
Rehabilitate the historic ranger station.		16	NRHP-listed Ranger Station (1924).		X
Convert CCC mess hall building to administrative use.	2021	6	NRHP-listed CCC mess hall (ca 1930s)		X
Co-locate the NPS stable with the concessioner stable; provide parking for up to two private or commercial stock trailers at the stables.	2021	12		X	
Add aboveground administrative fuel tanks near the wastewater treatment plant.		7	New development within the Tuolumne Meadows Historic District	X	
Manage visitor use					
Allow limited recreational whitewater boating on portions of the river to provide opportunities for people with expert paddling skills to experience and connect with the Tuolumne in a uniquely adventurous pursuit.		Between Pothole Dome and Pate Valley	--	X	
Manage day use levels along wilderness trails to achieve specific trail section standards specified in chapter 5.		Corridorwide	--	X	
Discontinue concessioner stock day rides into wilderness to reduce stock impacts on trails used by hikers; limit overnight saddle trips passing through Glen Aulin to 80 riders and 120 packstock per season.		Corridorwide	-	X	
Allow commercial use in wilderness, with restrictions on types and levels of use based on a determination of extent necessary as discussed in appendix C.		Corridorwide	--	X	
If park visitation and demand for day parking in the Tuolumne Meadows area continues to increase, implement a parking reservation system in the future.		Tuolumne Meadows	--		X
Implement a wilderness day-use permit system if necessary to ensure that use remains within the standard.		Corridorwide	--		X

Appendix O: Mitigation Measures Applicable to all Action Alternatives

The National Park Service places a strong emphasis on measures to avoid, minimize, and mitigate potential impacts. The following mitigation measures were developed to protect natural, cultural, and social resources and the quality of the visitor experience during implementation of the *Tuolumne River Plan*. Mitigation measures are considered part of the project, and must occur prior to, during, and after project implementation.

Mitigation Measure	Responsibility	Critical Milestones
CONSTRUCTION MITIGATION MEASURES		
Take measures to prevent the introduction of exotic species in the project area and staging areas. Prior to entry into the park, steam-clean heavy equipment to prevent importation of non-native plant species. Tighten hydraulic fittings, ensure hydraulic hoses are in good condition (and replace if damaged), and repair all petroleum leaks. Ensure all earth moving equipment enters the Park free of dirt, dust, mud, seeds, and other potential contaminants. Ensure the park inspects all heavy equipment entering the park prior to commencing work.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Inspect project boundaries to ensure that impacts stay within the project area and do not escalate beyond the scope of the environmental impact statement. Ensure that the project conforms with applicable permits or project conditions. Store all construction equipment within the delineated work limits.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Implement compliance monitoring to ensure that the project remains within the parameters of National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA) compliance documents.	Yosemite National Park, Contractor	Concurrent with project activities
Provide a project orientation for all construction workers to increase their understanding and sensitivity to the challenges of the special environment in which they will be working.	Yosemite National Park	Prior to and concurrent with project activities
If deemed necessary, demolition/construction work on weekends or federal government holidays may be authorized, with prior written approval of the Superintendent.	Yosemite National Park	Prior to and concurrent with project activities
Remove all tools, equipment, barricades, signs, surplus materials, and rubbish from the project work limits upon project completion. Remove all debris from the project site.	Yosemite National Park, Contractor	Upon completion of project activities
Prepare a Health and Safety Plan to address health and safety issues, compliance with OSHA standards, and other regulations relevant to contracted work. Submit the plan for NPS review and approval prior to construction.	Contractor	Prior to and concurrent with project activities
Prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) for construction activities to control surface run-off, reduce erosion, and prevent sedimentation from entering water bodies during construction, if required by federal and State permits. If prepared by a contractor, submit the SWPPP for park review and approval prior to construction. The plan will include measures such as: ▪ Take measures to control erosion, sedimentation, and compaction, and thereby reduce water pollution and adverse water quality effects. Use silt fences, sedimentation basins, etc. in construction areas to reduce erosion, surface scouring, and discharge to water bodies. ▪ To the extent possible, schedule the use of mechanical equipment during periods of low precipitation to reduce risk of accidental hydrocarbon leaks or spills. When mechanical equipment is necessary outside of low precipitation periods, use NPS–approved methods to protect soil and water from contaminants. ▪ Dispose of volatile wastes and oils in approved containers for removal from construction sites to avoid contamination of soils, and drainages. Inspect equipment for hydraulic and oil leaks prior to use on construction sites, and implement inspection schedules to prevent contamination of soil and water Keep absorbent pads, booms, and other materials on site during projects that use heavy equipment to contain oil, hydraulic fluid, solvents, and hazardous material spills.	Yosemite National Park, Contractor	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
CONSTRUCTION MITIGATION MEASURES (CONTINUED)		
Develop and implement a comprehensive Spill Prevention/Response Plan that complies with federal and state regulations and addresses all aspects of spill prevention, notification, emergency spill response strategies for spills occurring on land and water, reporting requirements, monitoring requirements, personnel responsibilities, response equipment type and location, and drills and training requirements. Submit the spill prevention/response plan to the park for review/approval prior to commencement of construction activities.	Contractor	Prior to project activities
Prepare a construction work schedule that minimizes effects on wildlife in adjacent habitats, and avoids periods of time with high levels of visitation. Submit the work schedule for park review and approval prior to construction.	Contractor	Prior to and concurrent with project activities
Supervisory construction personnel shall attend an Environmental Protection briefing provided by the park prior to working on site. This briefing is designed to familiarize workers with statutory and contractual environmental requirements and the recognition of and protection measures for archeological sites, sensitive habitats, water resources, and wildlife habitats.	Contractor	Prior to and concurrent with project activities
Develop a Communications Strategy Plan to alert necessary park and concessioner employees, residents and visitors to pertinent elements of the construction work schedule.	Yosemite National Park	Prior to and concurrent with project activities
Identify locations of existing utilities prior to removal activity to prevent damage to utilities. Inform the NPS maintenance staff 10 working days prior to any ground disturbance. Inform the Underground Services Alert at least 72 hours prior to any ground disturbance. Construction-related activities will not proceed until the process of locating existing utilities is completed (water, wastewater, electric, communications, and telephone lines). An emergency response plan will be required of the contractor.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Promptly reconnect utility services that are interrupted because of construction activities and provide advance notification if utility service will be disrupted.	Yosemite National Park, Contractor	Concurrent with and following project activities
Provide proper and timely maintenance for vehicles and equipment used during construction to reduce the potential for mechanical breakdowns.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
HYDROLOGY AND WATER QUALITY		
Where working areas are adjacent to or encroach on live streams, construct barriers to prevent the discharge of turbid water in excess of specified limits.	Contractor	Prior to and concurrent with project activities
Stabilize all disturbed soil and fill slopes in an appropriate manner.	Contractor	Prior to and concurrent with project activities
Store equipment and materials away from all waterways.	Yosemite National Park, Contractor	Concurrent with project activities
Clearly delineate construction limits in the vicinity of wetlands with construction fencing	Contractor	Prior to and concurrent with construction activities
Ensure that waters are free of changes in turbidity that cause a nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits, as described in *The Water Quality Control Plan* for the Central Valley Regional Water Quality Control Board (CVRWQCB 1998): ▪ Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU. ▪ Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20%. ▪ Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs. ▪ Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10%. In determining compliance with the limits above, appropriate averaging periods may be applied, provided that beneficial uses are fully protected.	Contractor	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
HYDROLOGY AND WATER QUALITY (CONTINUED)		
Contain wastewater contaminated with silt, grout, or other by-products from construction activities in a holding or settling tank to prevent contaminated material from entering watercourses.	Contractor	Concurrent with project activities
Remove hazardous waste materials generated during implementation of the project from the project site immediately.	Contractor	Concurrent with project activities
Dispose of volatile wastes and oils in approved containers for removal from the project site to avoid contamination of soils, drainages, and watercourses. Keep absorbent pads, booms, and other materials onsite during projects that use heavy equipment to contain oil, hydraulic fluid, solvents, and hazardous materials spills.	Contractor	Concurrent with project activities
Use silt fencing at drainages to prevent construction materials from escaping work areas.	Contractor	Concurrent with project activities
Incorporate trench plugs into new and abandoned utility corridors through meadow and wetland areas to prevent formation or continuation of groundwater conduits.	Yosemite National Park, Contractor	Concurrent with project activities
Design surface drainage facilities to transport runoff in a non-erosive manner.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Structure or fill must be properly maintained so as to avoid adverse impacts on aquatic environments or public safety.	Yosemite National Park, Contractor	Prior to, concurrent with and following project activities
Collect and cover material from construction work, and avoid depositing it where it could be eroded and carried to tributaries or the river by surface runoff or high stream flows.	Contractor	Concurrent with project activities
Minimize disturbance area at the banks of drainages. Salvage excavated materials for replacement after construction. The banks of drainages will be restored to their pre-existing contours.	Contractor	Concurrent with project activities
At utility corridors, provide adequate drainage to prevent surface water or subsurface seepage from saturating the subgrade utility corridor.	Contractor	Concurrent with project activities
Drain and flush all pumps, tanks, live wells, buckets and other containers that might carry water contaminated with exotic plants and animals, such as the zebra mussel, prior to bringing equipment into the park.	Contractor	
VEGETATION AND WETLANDS (INCLUDING SPECIAL STATUS PLANTS)		
Employ measures to prevent or control spills of fuels, lubricants, or other contaminants from entering the waterway or wetlands (see Construction, above). Ensure all actions are consistent with state water quality standards and Clean Water Act Section 401 certification requirements.	Yosemite National Park, Contractor	Prior to project activities
Avoid heavy equipment use in wetlands to the extent possible. Place heavy equipment used in wetlands on mats, or take other similar measures to minimize soil and plant root disturbance and to preserve the preconstruction topography of the wetland.	Yosemite National Park, Contractor	Prior to concurrent with project activities
Whenever possible, place excavated material on an upland site. When this is not feasible, stockpile excavated material on a temporary basis on filter cloth, mats, or other semi-permeable surface, or take comparable measures to ensure that underlying wetland habitat is protected. Stabilize material with straw bales, filter cloth, or other appropriate means to prevent reentry into the waterway or wetland.	Yosemite National Park, Contractor	Concurrent with project activities
Remove temporary soil stockpiles in wetlands in their entirety as soon as practicable. Wetland areas temporarily disturbed by stockpiling or other activities during construction must be returned to their pre-existing topography and soil configurations. Restore wetland soil, hydrology, and native vegetation as soon as practicable.	Yosemite National Park, Contractor	Concurrent with project activities
Ensure that a Park Botanist oversees placement of construction fencing to avoid impacts to sensitive plants and wetlands.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Conduct preconstruction surveys to identify special status species within the construction disturbance zone. If special-status plant species are identified within the construction disturbance zone, the project manager will work with the Park Botanist to avoid impacts.	Yosemite National Park, Contractor	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
VEGETATION AND WETLANDS (INCLUDING SPECIAL STATUS PLANTS), CONTINUED		
Delineate, clearly mark, and ensure all wetland-related permits are in place prior to work. Perform activities in wetlands in a cautious manner to prevent damage caused by equipment, erosion, siltation, etc.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Minimize shade impacts to the extent practicable when designing boardwalks and similar structures.	Yosemite National Park, Contractor	Prior to concurrent with project activities
Ensure that all earth moving equipment and hand tools enter the park free of mud or seed-bearing material to prevent the introduction of non-native plants. The NPS will inspect all equipment prior to use on the project. Map and treat noxious weeds prior to construction. Certify all seeds and straw material as weed-free. Ensure that imported top-soil is weed-free. The NPS will approve sources of imported fill material that will be used within the top 12 inches of the finished grade. Monitor and treat invasive plants for three years post-construction.	Yosemite National Park, Contractor	Prior to, concurrent with and following project activities
Install temporary fencing (black silt fencing or orange construction fencing) around the entire project area to protect natural surroundings (including trees, and root zones) from damage. Avoid fastening ropes, cables, or fences to trees.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Use native seed mix or seed-free mulch to minimize surface erosion and the introduction of noxious weeds.	Contractor	Concurrent with project activities
Contractor will develop a Revegetation Plan in conjunction with the park's Resources Management and Science Division, to be approved prior to construction activities.	Yosemite National Park, Contractor	Prior to project activities
Salvage and store topsoil, and reuse in restoration efforts in accordance with NPS policies and guidance. Store topsoil for as short a time as possible to prevent loss of seed and root viability, loss of organic matter, and degradation of the soil microbial community.	Contractor	Concurrent with project activities
Where actions could impact wetlands, wetland restoration proposals must, at a minimum, provide one-for-one (1:1) wetland function replacement (i.e., no net loss of wetland functions).	Yosemite National Park	Prior to project activities
Delineate wetlands in project areas of Lyell Canyon prior to implementation of the TRP.	Yosemite National Park	Prior to project activities
WILDLIFE (INCLUDING SPECIAL STATUS WILDLIFE)		
General: Provide information to the contractor regarding protection of special status species wildlife at the project briefings and provide contractor specifications and Best Management Practices to avoid activities that are destructive to wildlife and habitats. Project Manager will consult with the park biologist to schedule construction activities with seasonal consideration of wildlife lifecycles to minimize impacts during sensitive periods. Construction personnel will adhere to park regulations concerning food storage and refuse management. All food will be properly stored during the work day and will be removed from the site at the end of each work day.	Yosemite National Park, Contractor	Concurrent with and following project activities
For owls: Limit the effects of light and noise on adjacent habitat. No outdoor construction activities are to occur between dusk and dawn, to eliminate the need for outdoor construction lighting, and to avoid disruption of mating, nesting, or foraging owls. A wildlife biologist will conduct standardized Great Gray Owl surveys prior to implementing project-related activities on the western end of Tuolumne Meadows. The NPS will use the survey protocol by Keane et al. (2011) that improves on the Beck and Winter (2000) protocol. The NPS will conduct 2 broadcast surveys in one season for which a 77% probability of detection is expected.	Yosemite National Park, Contractor	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
WILDLIFE (INCLUDING SPECIAL STATUS WILDLIFE), CONTINUED		
For other birds: A wildlife biologist will conduct bird surveys and review current owl reports to determine whether special status species are present and may be mating, nesting, or foraging in the project vicinity. If trees are to be trimmed or removed, the biologist will first survey (within 4 days prior to any such work) to determine whether there are any nests present, and advise as to whether the activity must be delayed to ensure that sensitive species such as nesting migratory birds are protected and not disrupted. If nesting birds are observed (during bird surveys, or discovered by workers) that are not special-status species, the project manager will notify the park wildlife biologist who will recommend steps to avoid undesirable impacts to the nest or young.	Yosemite National Park, including park wildlife biologist	Prior to construction
For bats: A park biologist will conduct bat surveys in the vicinity (for maternity colonies) and in fall (for potentially roosting/hibernating bats), and will provide specific directions for avoiding their disturbance if they are found. If bats are detected, the specific area will be protected and work on that particular area will be delayed until the bats vacate or can be excluded from the area in a manner that does not adversely affect their survival or that of their young. If surveys conducted immediately prior to construction do not reveal any bat species present within the project area, then the action will begin within three days to prevent the destruction of any bats that could move into the area after the survey.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
For mountain beaver, Sierra Nevada red fox, Yosemite toads, and Sierra Nevada yellow-legged frogs: Adhere to 401/404 permits to prevent increased turbidity in the creek from occurring during construction activities. Design water outputs to dissipate water slowly, and avoid concentrated outflows to the meadow or tributaries. Maintain continuous water flows and water quality for tributaries of the wild and scenic river. Only minimal and temporary holding or diversion of water for immediate and specific construction work will be allowed. If water is retained during construction, the containment will include wildlife escape ramps and the containment will be inspected in the morning before beginning work and at the end of the day to ensure that no animals have become trapped. Suitable habitat for Sierra Nevada red fox, Yosemite toads, and Sierra Nevada yellow-legged frogs exists in Tuolumne Meadows. A qualified wildlife biologist will survey for these species prior to project implementation. If adults, young, tadpoles, or eggs are discovered, the biologist will inform the Project Manager how best to avoid harm during construction activities, and may recommend delaying/rescheduling work in that particular section or minimizing the diversion of water.	Yosemite National Park	Prior to and concurrent with project activities
FEDERAL AND STATE PERMIT REQUIREMENTS		
Apply for and comply with all federal and state permits required for construction-related activities, including the California Regional Water Quality Control Board and the U.S. Army Corps of Engineers.	Yosemite National Park	Prior to project activities
AMERICAN INDIAN TRADITIONAL CULTURAL RESOURCES AND PRACTICES		
If cultural resources are discovered, stop work immediately and report the discovery to the Contracting Officer. Stop Work: Cease all activities in the area of discovery and protect the resources discovered. In the event the discovery represents human remains or any objects subject to the Native American Graves Protection and Repatriation Act (NAGPRA), the NPS will follow procedures outlined in NAGPRA regulations. This will require a stoppage of work in the area of work for a minimum of 30 calendar days. In the event of an inadvertent discovery of Cultural Resources, be prepared to stop work and continue in other areas. See 'Archeological Resources', below.	Yosemite National Park, Contractor	Prior to and concurrent with project activities.
Culturally associated tribes will be given notice prior to ground disturbing activities at the project site and may be present at the project site to monitor ground disturbance during construction.	Yosemite National Park, Contractor	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
AMERICAN INDIAN TRADITIONAL CULTURAL RESOURCES AND PRACTICES, CONTINUED		
Consult with culturally associated American Indian tribes and groups throughout the project to avoid or mitigate damage to American Indian traditional resources.	Yosemite National Park	Prior to, concurrent with and following project activities
HISTORIC RESOURCES		
Contractor shall undertake the following historic resource protection measures: ▪ Comply with manufacturer's written instructions for precautions and effects of products and procedures on adjacent building materials, components, and vegetation. ▪ Ensure that supervisory personnel are present when work begins and during its progress. ▪ Protect existing materials during installation of temporary protections and construction. Not deface or remove existing materials. ▪ Obtain Contracting Officer approval prior to attaching temporary protection to existing construction. ▪ Protect landscape work adjacent to or within work areas as follows: -Provide barriers to protect tree trunks. -Bind spreading shrubs. -Use coverings that allow plants to breathe and remove coverings at the end of each day. Do not cover plant material with a waterproof membrane for more than 8 hours at a time. -Set scaffolding and ladder legs away from plants. ▪ Prior to the start of work or any cleaning operations, test drains and other water removal systems to ensure that drains and systems are functioning properly. ▪ Notify Contracting Officer immediately of drains or systems that are stopped or blocked. Do not begin work until the drains are in working order. ▪ Provide a method to prevent solids including stone or mortar residue from entering the drains or drain lines. Clean out drains and drain lines that become blocked or filled by sand or any other solids because of work performed on corresponding project. ▪ Protect storm drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
All treatments within historic landscapes will be in keeping with the *Secretary of The Interior's Standards for the Treatment of Historic Properties*.	Yosemite National Park, Contractor	Prior to project activities
Design all new construction within historic districts and landscapes or adjacent to historic sites to be compatible in terms of architectural elements, scale, massing, materials, and orientation.	Yosemite National Park, Contractor	Prior to project activities
Before any actions take place, historic resources must be researched and existing conditions documented in the field by qualified staff.	Yosemite National Park, Project Manager	Prior to project activities
When narrowing the Great Sierra Wagon Road roadbed (which is wider than historically and excessively braided in some locations) maintain a minimum width of 10 feet in order to convey the corridors historic use as a wagon road.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Maintain the current alignment of historic remnants of the Great Sierra Wagon Road.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
If modifications are necessary to historic culverts and their associated headwalls, efforts should be undertaken to ensure that modifications meet the *Secretary of the Interior's Standards for Treatment of Historic Properties*. Measures can include retaining materials, construction style, and workmanship that matches the historic character. These efforts should be combined with photo-documentation, contracting with a qualified stonemason, numbering headwall stones for reconstruction and locating granite that matches the color and texture of the existing stone masonry granite.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
New culverts (if added) should be built to complement historic culverts along Tioga Road, with simple, understated stone masonry headwalls with discrete, low profiles. The stone used in the headwalls should match, as closely as possible, the color, texture and dimensions of the stone found in other historic culvert headwalls found at Tuolumne Meadows.	Yosemite National Park, Contractor	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
HISTORIC RESOURCES, CONTINUED		
Once work is completed on the Great Sierra Wagon Road, the historic road should be documented to capture the changes.	Yosemite National Park, Contractor	Concurrent with and following project activities
The ditches that lead from and drain many of the area's kettle ponds are not documented as historic features and should be investigated and documented before filling and regrading.	Yosemite National Park, Contractor	Prior to project activities
Removed and salvaged historic materials should be handled in accordance with the following: ▪ Clean salvaged historic items. ▪ Pack or crate items after cleaning. Identify contents of containers. ▪ Store items in a secure area until delivery to the NPS. ▪ Transport items to storage area approved by Contracting Officer. ▪ Protect items from damage during transport and storage. ▪ Do not dispose of items removed from existing construction without prior written consent of Contracting Officer.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
Removed and reinstalled historic materials should be handled in accordance with the following: ▪ Clean and repair historic items to functional condition adequate for intended reuse. ▪ Pack or crate items after cleaning and repairing. Identify contents of containers. ▪ Protect items from damage during transport and storage. ▪ Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.	Yosemite National Park, Contractor	Prior to and concurrent with project activities
ARCHEOLOGICAL RESOURCES		
Train all members of the restoration/construction teams in proper handling of inadvertent discovery of archaeological resources. Training would involve information regarding the types of archeological materials that are likely present in the specific project area, how to identify archeological materials, and the procedures for contacting the appropriate parties in the event that archeological materials are encountered during restoration/construction activities. All restoration/construction personnel would be required to participate in the training, and written guidelines would be prepared and distributed to aid in identification of archeological materials and to inform workers of the procedures to follow in case of a discovery or potential discovery. If buried archeological resources such as flaked stone or groundstone, historic debris, building foundations, midden soils or human bone are inadvertently discovered during ground-disturbing activities, work shall stop in that area and within a 100-foot radius of the find until a qualified archeologist can assess the significance of the find. Inadvertent discoveries would be treated in accordance with 36 CFR 800.13 (Protection of Historic Properties: Post-review discoveries). The archeological resource would be assessed for its eligibility for listing on the National Register in consultation with the SHPO and representatives of traditionally associated American Indian tribes and groups (if it is an American Indian archeological site), and a determination of the project effects on the site would be made. If the site would be adversely affected, a treatment plan would also be prepared as needed during the assessment of the site's significance. Assessment of inadvertent discoveries may require archeological excavations and/or archival research to determine resource significance. Treatment plans would fully evaluate avoidance, project redesign, and data recovery alternatives before outlining actions proposed to resolve adverse effects. If human skeletal remains are encountered, protocols under federal and state law would apply. All work shall stop in the vicinity of the discovery, and the find would be secured and protected in place. The appropriate county coroner and Park Archeologist would both be immediately notified. If a analyses determine that the remains are American Indian, and that no further coroner investigation of the cause of death is required, the coroner would then be required to contact the NAHC (pursuant to Section 7050.5[c] of the California Health and Safety Code) and the County Coordinator of Indian Affairs. The remains would also be treated in accordance with the Native American Graves Protection and Repatriation Regulations at 43 CFR 10.4 (Inadvertent discoveries).	Yosemite National Park, Contractor	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
ARCHEOLOGICAL RESOURCES, CONTINUED		
Management actions involving moderate to severe ground disturbance (trail reroutes or trail construction; excavations for subsurface utilities; redevelopment of the campgrounds; removal of infrastructure and/or facilities, construction of buildings, structures; expansion of roads; decompaction and plant salvage) within or adjacent to the boundaries of known archeological sites shall be preceded by intensive surface survey and/or controlled subsurface testing, as determined appropriate given past studies and findings. Initial limited testing shall be conducted in the area(s) proposed for ground disturbance, to first determine if the presence of site components can be verified. If so, the methods of achieving the proposed action may be modified and/or relocated, if possible. If effects could not be avoided, archeological treatment measures would be site-specific and contingent on previous studies' results and the level of work proposed.	Yosemite National Park, Contractor	Prior to project activities
Ensure that a professional archeologist fences archeological sites with orange hazard fencing. Brief all project personnel to stay out of areas with sensitive archeological resources.	Yosemite National Park, Contractor	Prior to project activities
A Government provided Archeological Monitor, and as necessary, Native American Monitor, will observe all ground-disturbing site work, including construction of temporary facilities at all culturally sensitive areas, from a safe location mutually agreed on by Contractor, Contracting Officer and Monitors. As new ground is broken, Monitors will examine excavated materials, using construction layout centerline and perimeter staking as a reference point to record locations of findings. Monitoring may also be included as part of a treatment plan for individual resources following initial testing, as per above. Prior to construction, mark with flagging all sensitive cultural resources to be protected within the project area identified per the requirements of the plans and specifications. Proper placement of flagging shall be verified by the Contracting Officer. Upon verification, erect necessary fencing to identify and protect cultural resources from disturbance. Do not begin ground-penetrating work such as excavation, trenching, drilling, or stump and root removal in culturally sensitive areas without the presence of Archeological Monitor, and if required, Native American Monitor. The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis. If the monitor determines that any portion of the proposed action could have an adverse effect on the site, alternative methods of accomplishing the action shall be discussed with the restoration personnel. Restoration activities within site boundaries shall be conducted using manual tools rather than mechanized equipment whenever possible, and no stock animals or wheeled vehicles used for transport of workers and tools shall be allowed within 10 meters of the known site boundary. If Archeological Monitor or Native American Monitor discovers resources, immediate relocation of the work to a non-sensitive area may be required to allow Monitors to take soil samples and record resources. While Monitors are documenting resources in sensitive areas, Contractor shall relocate work to non-sensitive areas. If an Archeological Monitor requires access to a construction area the contractor shall furnish safe access, free from recognized hazards, to enable the monitor to complete his/her duties. This will commonly involve trench access when soil sampling is deemed necessary by the Archeologist. If resources are discovered while Monitors are absent, stop work immediately and report the discovery to the Contracting Officer. Stop Work: Cease all activities in the area of discovery and protect the resources discovered. In the event the discovery represents human remains or any objects subject to the Native American Graves Protection and Repatriation Act (NAGPRA), the NPS will follow procedures outlined in NAGPRA regulations. This will require a stoppage of work in the area of work for a minimum of 30 calendar days. In the event of an inadvertent discovery of Cultural Resources, be prepared to stop work and continue in other areas. The Contractor shall plan, schedule, and execute the work to prevent stoppages at one area from stopping all work at the construction site.	Yosemite National Park, Contractor	Prior to and concurrent with project activities

Mitigation Measure	Responsibility	Critical Milestones
DUST ABATEMENT MEASURES		
Cover and/or seal truck beds and stockpiles to minimize blowing dust or loss of debris.	Contractor	Concurrent to project activities
Limit truck and related construction equipment speeds in active construction areas to a maximum of 15 miles per hour and strictly adhering to park regulations and posted speed limits in other areas while inside park boundaries.	Contractor	Concurrent to project activities
Maintain adequate dust suppression equipment and use clean water to control excess airborne particulates at staging areas, active construction zones, and unpaved roads leading to/from active construction areas.	Contractor	Concurrent with project activities
EMERGENCY NOTIFICATION MEASURES		
Develop an emergency notification plan that complies with park, federal, and state requirements and allows contractors to properly notify park, federal, and/or state personnel in the event of an emergency during construction activities. This plan will address notification requirements related to fire, personnel, and/or visitor injury, releases of spilled material, evacuation processes, etc. The emergency notification plan will be submitted to the park for review/approval prior to commencement of construction activities.	Yosemite National Park	Prior to project activities
HAZARDOUS MATERIALS MEASURES		
Prepare an Oil and Hazardous Materials Spill Prevention, Control, and Countermeasure Plan to address hazardous materials storage, spill prevention and response. Submit the Plan shall be submitted for park review and approval prior to construction.	Contractor	Prior to and concurrent with project activities
Store and use all hazardous materials in compliance with federal regulations. Keep all applicable Materials Safety Data Sheets on site for inspection.	Contractor	Concurrent with project activities
Hazardous or flammable chemicals are prohibited from storage in staging areas, except for substances identified in the Oil and Hazardous Materials Spill Prevention, Control, and Countermeasure Plan. Immediately remove hazardous waste materials from the project site in approved containers.	Contractor	Concurrent with project activities
Comply with all applicable regulations and policies during the removal and remediation of asbestos, lead paint, and polychlorinated biphenyls, as applicable.	Contractor	Concurrent with project activities
SOUNDSCAPES		
Ensure that all construction equipment has functional exhaust/muffler systems.	Contractor	Concurrent with project activities
Submit a construction work plan/schedule that minimizes construction-related noise in noise-sensitive areas to the park for review/approval prior to commencement of construction activities.	Contractor	Prior to project activities
Use hydraulically or electrically powered construction equipment, when feasible.	Contractor	Concurrent with project activities
Locate stationary noise sources as far from sensitive receptors as possible.	Contractor	Concurrent with project activities
Limit the idling of motors except as necessary (e.g., concrete mixing trucks).	Contractor	Concurrent with project activities
To the extent possible, perform all on-site noisy work above 76 A-weighted decibels (dBA) (such as the operation of heavy equipment) between the hours of 8:30 a.m. and 5:00 p.m. to minimize disruption to nearby park users.	Contractor	Concurrent with project activities
SCENIC RESOURCES PROTECTION MEASURES		
Fence construction staging areas and construction activity areas to visually screen construction activity and materials.	Contractor	Concurrent with project activities
Consolidate construction equipment and materials to the staging areas at the end of each work day to limit the visual intrusion of construction equipment during nonwork hours.	Contractor	Concurrent with project activities
Conduct contrast analysis for any proposed structures	Yosemite National Park	In the design and proposal phase

Mitigation Measure	Responsibility	Critical Milestones
TRAFFIC CONTROL AND VISITOR PROTECTION MEASURES		
Provide protective fencing enclosures around construction areas, including utility trenches, to protect public health and safety.	Contractor	Concurrent with project activities
WASTE MANAGEMENT MEASURES		
Require construction personnel to adhere to park regulations concerning food storage and refuse management.	Yosemite National Park, Contractor	Concurrent with project activities
Properly secure trash during the workday and remove all trash from site at the end of each workday.	Yosemite National Park	Concurrent with and following project activities





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

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Back cover: **Tuolumne Meadows (Photo by Greg Lawler)**

Front cover: **Near Parsons Lodge (Photo by Randy Fong)**