Appendix Q

Public Comment
Analysis Report

ON THE PREVIOUS PAGE
Emerald Lake Cirque
Photo Courtesy of Jeff Steele

APPENDIX Q:

PUBLIC COMMENT ANALYSIS REPORT

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NATIONAL PARK SERVICE

U.S. Department of the Interior

Sequoia and Kings Canyon National Parks

PUBLIC COMMENT ANALYSIS REPORT

SEQUOIA AND KINGS CANYON NATIONAL PARKS

WILDERNESS STEWARDSHIP PLAN AND DRAFT ENVIRONMENTAL IMPACT STATEMENT

ON THE PREVIOUS PAGE:
East Kennedy Lake in Autumn
Photo Courtesy of Leor Pantilat

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ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effect
BMP	Backcountry Management Plan
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CSD	Commercial Service Days
CUA	Commercial Use Authorization
DEIS	Draft Environmental Impact Statement
EIS	Environmental Impact Statement
END	Extent Necessary Determination
FEIS	Final Environmental Impact Statement
GMP	General Management Plan
HST	High Sierra Trail
JMT	John Muir Trail
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
Parks	Sequoia and Kings Canyon National Parks
PCT	Pacific Crest National Scenic Trail
PEPC	Planning, Environment, and Public Comment
ROD	Record of Decision
SEKI	Sequoia and Kings Canyon National Parks
SHPO	State Historic Preservation Office(r)
SUMMP	Stock Use and Meadow Management Plan
USC	United States Code
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
VERP	Visitor Experience and Resource Protection
VSD	Visitor Service Days
VUD	Visitor-use Days
WSP	Wilderness Stewardship Plan
WVCM	Weighted Value per Campable Mile

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INTRODUCTION AND GUIDE

INTRODUCTION

The National Park Service (NPS), Sequoia and Kings Canyon National Parks (the parks) prepared a Wilderness Stewardship Plan and draft Environmental Impact Statement (WSP/DEIS) for the Sequoia-Kings Canyon and John Krebs Wildernesses, both located entirely within the parks. The WSP/DEIS established a framework for the management of wilderness within the parks in order to preserve wilderness character and provide opportunities for access and use in accordance with the Wilderness Act and other laws and policies. The WSP/DEIS focused on providing visitors with opportunities for solitude or primitive and unconfined recreation, managed the wilderness character impacts directly related to visitor use, and determined the administrative actions necessary to protect the parks' wilderness character.

As an implementation level plan, the WSP/DEIS provided detailed guidance on a variety of issues including, but not limited to: wilderness permitting; maintenance of trails, bridges, or other necessary infrastructure; use of campfires; wildlife and proper food storage; human waste management; party size for people and stock groups; camping and campsites; night limits for all campers; stock use – access and travel, and grazing; administrative support facilities; and other facilities such as frontcountry facilities to support wilderness use. Also analyzed and determined was the extent to which commercial services are necessary to fulfill the recreational and other purposes of the parks' congressionally designated wilderness areas. This "extent necessary" determination for commercial services was performed to ensure compliance with §4(d)(5) of the Wilderness Act.

This comment analysis report provides a summary of the public comments received during the public review of the WSP/DEIS and includes responses to the comments. Although the analysis process attempts to capture the full range of public concerns, this content analysis report should be used with caution. Comments from people who chose to respond do not necessarily represent the sentiments of the entire public, and may not accurately reflect existing conditions, directions, or situations. Furthermore, this was not a vote-counting process, and the emphasis was on content of the comment rather than the number of times a comment was received. This report is intended to be a summary of the comments received, rather than a statistical analysis.

PUBLIC COMMENT PROCESS SUMMARY

In June 2014 the parks released the WSP/DEIS to public, federal, state, and local agencies, tribes, and organizations for a 60-day public review period from June 27 to August 25, 2014.

The parks' staff presented elements of the WSP/DEIS at seven public meetings, including three informational meetings (in Oakland, Bishop, and Visalia), three meetings with focused discussions on the commercial service portion of the WSP/DEIS (Bishop and Visalia) and a webinar on the management preferred alternative. Total attendance at the public meetings was 79; 25 people viewed the webinar. The parks' staff also conducted meetings with Inyo and Sequoia national forest staff, and presented information at area tribal forum meetings. The public meeting schedule was as follows:

- July 8, 2014: Inyo National Forest headquarters, Bishop, CA
- July 9, 2014: Inyo National Forest headquarters, Bishop, CA
- July 15, 2014: Comfort Inn, Visalia, CA
- July 23, 2014: Richard Trudeau Training Center, Oakland, CA

- July 24, 2014: Eastern Sierra Tri-county Fairgrounds, Bishop, CA
- July 28, 2014: Visalia Marriott Hotel, Visalia, CA
- August 14, 2014: Webinar on Management Preferred Alternative

The public were able to submit their comments on the project using any of the following methods:

- Electronically through the NPS Planning, Environment, and Public Comment (PEPC) website
- In person at the public meetings
- By mailing comments to the NPS
- By emailing comments to the NPS

NATURE OF COMMENTS RECEIVED

During the scoping period, 275 pieces of correspondence from 20 states were received during the public scoping period. Approximately 78% of the 275 letters (representing 275 signatures) were submitted by individuals living in California. The topics that received the majority of comments were regarding commercial services, the Redwood Canyon cabin, stock use, and the "Hiker's Alternative" (generated by an "Action Alert" from High Sierra Hikers Association). All correspondences were entered into the PEPC system. Comments that were of a subject matter that did not pertain to the WSP/DEIS for the parks have been coded as outside of the scope of analysis of the WSP/DEIS.

All comments that were within the scope of the WSP/DEIS, regardless of their topic, were carefully read and analyzed and are presented in this report. Commenters will continue to be notified of the project's progress, and are encouraged to visit the NPS PEPC website at www.parkplanning.nps.gov/sekiwild to view information pertaining to this project.

THE COMMENT ANALYSIS PROCESS

Comment analysis is a process used to compile and combine similar public comments into a format that can be used by decision-makers including the WSP/EIS Team. Comment analysis assists the team in organizing, clarifying, and addressing technical information pursuant to National Environmental Policy Act (NEPA) regulations. It also aids in identifying the topics and issues to be evaluated and considered throughout the planning process.

The process includes five main components:

- Developing a coding structure
- Employing a comment database for comment management
- Reading and coding of public comments
- Interpreting and analyzing the comments to identify issues and themes
- Preparing a comment summary

A coding structure was developed to help sort comments into logical groups by topics and issues. The coding structure was derived from an analysis of the range of topics discussed during internal NPS alternatives scoping and the public scoping process, past planning documents, and the comments

themselves. The coding structure was designed to capture all comment content rather than to restrict or exclude any ideas.

The NPS PEPC database was used for management of the comments. The database stores the full text of all correspondence and allows each comment to be coded by topic and issue. Some outputs from the database include tallies of the total number of correspondence and comments received, sorting and reporting of comments by a particular topic or issue, and demographic information regarding the sources of the comments. Analysis of the public comments involved the assignment of codes to statements made by the public electronically on the PEPC website, in their letters, and email messages. All comments were read and those that arrived before the comment period ended were analyzed.

GUIDE TO THIS DOCUMENT

The first section of this report is the "Content Analysis Report" which is a basic report produced from PEPC that provides information on the numbers and types of comments received, provides a summary of the number of comments that were coded under each topic, and provides general demographic information, such as the states where commenters live, the number of letters received from different categories of organizations, etc.

The next section of this report is "Public Concerns and NPS Responses" which presents public concern statements organized by the WSP/DEIS chapters, along with "supporting quotes," which are verbatim excerpts from individual public comment letters and have not been edited; therefore spelling and grammar errors are not corrected. In addition, letters that had to be scanned for PEPC may contain spelling errors due to the scanning software. 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 group, and the assigned letter number. For example, "(Individual, #2)" is a comment from an individual who is unaffiliated with any organization, agency, or group and who submitted the second letter received.

Concerns that were considered substantive include a response from the project team. 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 WSP/FEIS for further information or clarification. Additionally, some responses explain why comments were considered, but were ultimately dismissed from further analysis.

CONTENT ANALYSIS REPORT

Correspondence Signature Count by Correspondence Type

Type	Number of Correspondences
Web Form	167
Letter	64
Fax	20
E-mail	4
Total	**255**

Correspondence Signature Count by Organization Type

Organization Type	Number of Correspondences	Number of Signatures
Business	14	15
Conservation/Preservation	9	9
County Government	1	1
Federal Government	1	1
Non-governmental Organization	1	1
Recreation Group	14	14
State Government	2	2
Unaffiliated Individual	212	231
University/Professional Society	1	1
Total	**255**	275

Correspondence Distribution by Country

State	Percentage	Number of Correspondences
United States	100%	255

Correspondence Distribution by State

State	Percentage	Number of Correspondences
Arizona	0.8%	2
California	77.6%	198
Colorado	2.0%	5
Connecticut	0.4%	1
Delaware	0.4%	1
Georgia	0.4%	1
Indiana	0.8%	2
Kentucky	0.4%	1
Montana	1.2%	3
Nevada	2.0%	5
New Mexico	2.7%	7
New York	0.4%	1
Ohio	0.4%	1
Oregon	4.7%	12
Tennessee	0.8%	2
Texas	0.4%	1
Virginia	1.2%	3
Washington	2.0%	5
Washington, DC	0.4%	1
Unknown	1.2%	3

Correspondences Numbers and Organizations Represented in Public Comments

Corr. ID	Organization Type	Organization
1-5	Individuals	One page of comments for each commenter
6	Business	American Alpine Institute
7-16	Individuals	One page of comments for each commenter
17	Conservation/ Preservation	California Wildlife Foundation
18	State Government	California State Department of Transportation - Caltrans D6
19-52	Individuals	One page of comments for each commenter
53	Business	Southern Yosemite Mountain Guides (Commercial Outfitter)
54-59	Individuals	One page of comments for each commenter
60	Conservation/ Preservation	Sierra Club
61-89	Individuals	One page of comments for each commenter
90	Business	Southern Yosemite Mountain Guides
91-96	Individuals	One page of comments for each commenter
97-101	Individual	With four pages of comments from one commenter
102-111	Individuals	One page of comments for each commenter
112	Conservation/ Preservation	Tehipite Chapter of the Sierra Club
113-114	Individuals	One page of comments for each commenter
115	Non-Governmental Organization	Cave Research Foundation
116	Conservation/ Preservation	Sierra Nature Notes
117-122	Individuals	One page of comments for each commenter
123	Recreational Groups	High Sierra Hikers Association
124-130	Individuals	One page of comments for each commenter
131	Business	Brecon Estate Inc.
132-137	Individuals	One page of comments for each commenter
138	Recreational Groups	The Garden Law Firm representing Back Country Horsemen of California
139	Individual	One page of comments
140	Conservation/ Preservation	Western Cave Conservancy
141-145	Individuals	One page of comments for each commenter
146	State Government	State of California State Clearinghouse

Correspondences Numbers and Organizations Represented in Public Comments (continued)

Corr. ID	Organization Type	Organization
147-152	Individuals	One page of comments for each commenter
153	Recreational Groups	American Mountain Guides Association
154-159	Individuals	One page of comments for each commenter
160	Business	Delaware North Companies Parks & Resorts
161	Recreational Groups	Access Fund
162-164	Individuals	One page of comments for each commenter
165	Recreational Groups	American Whitewater
166	Conservation/ Preservation	Wilderness Watch
167-170	Individuals	One page of comments for each commenter
171	Recreational Groups	Back Country Horsemen of America
172-174	Individuals	One page of comments for each commenter
175	Conservation/ Preservation	Western Kentucky University
176-181	Individuals	One page of comments for each commenter
182	Business	Rainbow Pack Outfitters
183	Individual	One page of comments
184	Conservation/ Preservation	National Parks Conservation Association
185	Individual	One page of comments
186	Recreational Groups	Back Country Horsemen of America
187	Individual	One page of comments
188	Conservation/ Preservation	Cave Research Foundation, National Speleological Society
189-190	Individuals	One page of comments for each commenter
191	Conservation/ Preservation	National Speleological Society
192-195	Individuals	One page of comments for each commenter
196	Business	The Three-Corner-Round Pack Outfit, Inc.
197-199	Individual	One page of comments for each commenter
200	Business	Southern California Edison
201	Recreational Groups	National Forest Recreation Association
202-204	Individuals	One page of comments for each commenter
205	Business	Sierra Mountain Center
206-223	Individuals	One page of comments for each commenter
224	Business	High Sierra Pack Station

Correspondences Numbers and Organizations Represented in Public Comments (continued)

Corr. ID	Organization Type	Organization
225-229	Individual	One page of comments for each commenter
230	Recreational Groups	High Sierra Unit of the Backcountry Horsemen of California
231-234	Individuals	One page of comments for each commenter
235-236	Recreational Groups	Blue River Law representing High Sierra Hikers Association
237	County Government	Inyo County Planning Department
238-240	Business	Planeto Azul Hydrology
241	Recreational Groups	The Access Fund
242-250	Individuals	One page of comments for each commenter
251	Recreational Groups	The Garden Law Firm representing the National Forest Recreation Association
252	Federal Government	Environmental Protection Agency Region IX
253	Business	Southern California Edison
254	Recreational Groups	High Sierra Hikers Association
255	Individual	One page of comments

NOTE: For those individuals and groups that submitted multiple page comments, the correspondence ID number from the first PEPC entry (as above) is referenced below. For example, the commenter with correspondence ID #'s 97-101 will be referenced as #97.

PUBLIC CONCERNS AND NPS RESPONSES

CHAPTER 1: PURPOSE AND NEED

Proposed Modification to Purpose and Need

Concern 1: The WSP/EIS should define what it means by providing opportunities and encouraging public use.

> *The park does not really define what it means by providing opportunities and encouraging public use. Does this amount to more slide shows; less asphalt parking and even less trail permits issued? Does this mean more front country activities? What does unacceptable levels of impacts on wilderness character mean? To me, it means simply this, less access.*
> [Individual, #7]

> *I have noted a strong decrease on backcountry visitation over the last 25 years, I would like to see this turned around. . . If people do not know of or enjoy the wonders of the backcountry, interest in supporting the backcountry will erode. . .*
> [Individual, #33]

Response: This is discussed in detail in the "Purpose and Need" and "Desired Conditions" sections in "Chapter 1: Purpose and Need." Specific details about what types of opportunities are appropriate in wilderness are provided in the "Desired Conditions" section and include the following:

Outstanding opportunities for solitude or primitive and unconfined recreation would be provided to support visitor use and enjoyment of the parks' wilderness areas in balance with the protection of other wilderness character qualities.

- Visitors with diverse backgrounds and capabilities would have opportunities to use and be encouraged to enjoy wilderness.
- Visitors would have opportunities to experience solitude, a state of being alone or feeling remote from society, although these opportunities could vary by location and time.
- Visitors would have opportunities to participate in a variety of primitive recreation activities, characterized by non-motorized, non-mechanical travel and reliance on personal skill; primitive recreation activities would be managed to preserve other wilderness character qualities.
- Visitors would have opportunities to recreate in an unconfined, self-directed manner, subject only to those regulations that are necessary to preserve wilderness character.

In addition, the NPS encourages public use in a variety of ways which are described in "Appendix H: Wilderness Information and Education Strategy."

Concern 2: The WSP/EIS should clarify the difference between desired conditions and standards including what is "necessary," and define improvements to wilderness.

> *Is Desired Condition or Standard the higher category? Whichever it is, where may one find a list of Standards or Desired Conditions? Every vague, undefined word is defined by using other vague, undefined words. If Desired Condition and Standard are different, why and how are they different? Are your so-called Standards less desirable than Desired Conditions? Or are your Desired Conditions below your Standards? Does one of*

those, or some other word or phrase, describe a baseline against which everything else may be measured?
[Recreational Group, #254]

On page vi, toward the end of the paragraph beginning Desired conditions . . . is the amazing statement that 'NPS Management Policies 2006 also allows for improvements to wilderness character." Do you not understand that the wilderness is what it is? With what license or arrogance or hubris do you think that you should indulge in "improvements" to wilderness? What in the world do you mean? on page vi is: " The untrammeled quality of wilderness character would be preserved by limiting deliberate manipulation of ecological systems except as necessary to promote another quality of wilderness character. (Emphasis added.) Re the emphasized phrase, what is "necessary," who decides, what criteria would be employed? By this bullet point you have granted yourselves the right and the power to sacrifice aspect A of the so-called wilderness character today because it will enhance aspect B. And tomorrow, under the same aegis, you can sacrifice B because it will benefit A. And the next day you can sacrifice both A and B in order to sweeten C. Thus you have created a blanket privilege to yourselves to do anything at any time in any way, since no matter what you do it will be covered by this single bullet point.
[Recreational Group, #254]

Response: The definition of key terms, including *desired conditions* and *standards*, can be found in the "Purpose and Need for the Plan" section in "Chapter 1: Purpose and Need." See also the "Process to Address Visitor Capacity" section in "Appendix A: Visitor Capacity" for a more in-depth definition of standards and how they relate to indicators and measures.

A wilderness at its designation is in a distinct condition. The preservation of this condition at establishment is the mandate of the Wilderness Act. However, each wilderness, including those in these parks, may have elements or aspects that can be altered or eliminated to improve wilderness character. For example, this may include the removal of existing structures, improving the undeveloped quality, or allowing naturally occurring wildfires, which had previously been suppressed, to run their course uninterrupted, thus improving the natural and untrammeled qualities. The purpose of the statement is to illustrate that in some instances management actions can be taken to improve some of the compositional qualities of wilderness, thus improving the overall wilderness character.

The comment infers the difficulty of managing complex systems with multiple goals and objectives. When making management decisions about actions in wilderness, it is a balancing act. Actions are analyzed for effects on the various qualities of wilderness. As stated in the "Wilderness Character – Untrammeled" section of chapter 1, "Human actions that restrict, manipulate, or control the natural world within wilderness degrade the untrammeled quality. The untrammeled quality is distinct from the natural quality. The former is negatively impacted by purposeful human manipulation of natural processes, whereas the latter can be positively or negatively affected by human actions that are purposeful or accidental. In many cases in managed wildernesses, actions that are taken to improve the natural quality through some form of ecological restoration degrade the untrammeled quality by intervening in natural processes." This indicates that agencies make decisions that may degrade one quality of wilderness temporarily while seeking to improve another quality. This is most often the case between the untrammeled and natural qualities. An example is when a non-native fish is removed from water bodies to improve habitat for native frogs. This action would simultaneously impact the untrammeled quality (at least in the short-term), while improving the natural quality (for the long-term). These decisions are only made after analysis and discussion to incorporate as much pertinent and high quality information as is

available (see "Appendix I: Minimum Requirements Analysis," which shows the detailed and in-depth analysis process these parks go through before taking actions in wilderness.)

Concern 3: The WSP/EIS states that one of the objectives of the plan is that visitors would have opportunities to travel with stock without providing any analysis.

> *Another objective is: Stock use - Visitors would have opportunities to travel with stock, from day rides to multi-day trips, in a manner that ensures the protection of wilderness character. What "manner" is that? Do stock animals have a variety of "manners" that can be employed as one desires? Do horses and mules behave differently if you instruct them to tread lightly and bury their feces in mineral soil so that no one will be offended? Stock use is one of the issues that this WSP is supposed to be studying and analyzing, but you are stating that it is one of the desired objectives of the plan without providing any analysis whatsoever*
> [Recreational Group, #254]

Response: Travel in wilderness with stock is a proper activity. Reasonable and effective controls (e.g., party-size limits, grazing limits, and off-trail travel limits) will be put in place to ensure that impacts are acceptable and that wilderness character is preserved, while not unduly restricting the rights of the public to enjoy their wilderness through activities that are determined to be proper. This is a common use of the word "manner," meaning method, practice, or way of doing.

The 2007 General Management Plan (GMP) and associated Record of Decision (ROD) for Sequoia and Kings Canyon National Parks determined that stock use is proper in the wilderness of these parks. It is an objective of the WSP/EIS to provide opportunities for proper activities in wilderness provided that wilderness character is protected. Stock use has been determined to be one of these proper activities. The WSP/EIS subsequently looks at and analyzes stock use and its impacts extensively, throughout chapters 1 through 4 and in "Appendix D: Stock Use and Meadow Monitoring and Management Strategy." The WSP/EIS analyzes stock use and makes determinations on where stock use may occur, what controls will be placed on it to control impacts, and for the case of commercial stock, how much use will be allowed, among other considerations (see chapters 1 through 4 and appendix D for details of analysis and proposed actions). Among the alternatives that are analyzed, alternative 4 would greatly reduce overall stock use by reducing commercial support and eliminating grazing.

Concern 4: It should be clarified, in the visitor capacity and visitor use management section, how the number of stock in wilderness will be determined.

> *Visitor Capacity and Visitor-Use Management Page 13, bottom paragraph, which I quote in full: "The number of stock in wilderness is also considered to determine if a stock capacity level could be established in addition to an overall visitor capacity level. The number of stock is controlled by trailhead quotas, party-size limits on and off trail, visitor service-day limits placed on commercial services (appendix B), and grazing-capacity limits placed on individual meadows and forage areas. In addition, stock use is a component of the overall visitor-capacity framework." It seems to say that stock use numbers will be determined by how much stock use there will be. i.e., the number determines itself.*
> [Recreational Group, #254]

Response: The "Visitor Capacity and Visitor-use Management" sections of "Chapter 1: Purpose and Need" and "Appendix A: Visitor Capacity" have been revised.

One purpose of the WSP/EIS is to select visitor capacities and propose ways to monitor and manage impacts on park resources and visitor experiences. The Wilderness Act requires the NPS to administer designated wilderness areas "for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, [and] the preservation of their wilderness character." The Act does not have an express requirement to establish visitor capacities. However, NPS *Management Policies 2006* states: "The wilderness management plan will identify desired future conditions, as well as establish indicators [i.e., measures], standards, conditions, and thresholds beyond which management actions will be taken to reduce human impacts on wilderness resources" (6.3.4.2). NPS *Management Policies 2006* defines visitor capacity as "the type and level of visitor use that can be accommodated while sustaining the desired resource and visitor experience conditions in the park." Establishing visitor capacities is also an element of the comprehensive wilderness planning process defined by the NPS *Wilderness Stewardship Plan Handbook: Planning to Preserve Wilderness Character*.

Visitor capacity includes managing all aspects of visitor use (levels, types, behavior, timing, and distribution), with an understanding that all types of visitor use are associated with some level of impact. Appendix A includes a process for managing the types and amounts of visitor use that can be accommodated without unacceptable impact on wilderness character. The number of stock in wilderness is also regulated to protect wilderness character. Stock numbers are controlled by trailhead quotas, party-size limits on and off trail, visitor service-day limits placed on commercial services ("Appendix B: Extent Necessary Determination for Commercial Services"), and grazing-capacity limits placed on individual meadows and forage areas ("Appendix D: Stock Use and Meadow Monitoring and Management Strategy").

Guiding Laws

National Environmental Policy Act of 1969 (NEPA) and the National Forest Management Act (NFMA)

Concern 5: The WSP/EIS implements a new system of trail classification, and changes the classification of some trails without allowing the public to comment on the proposed changes. This is in violation of the National Forest Management Act and NEPA as it precludes public comment to the proposed changes.

> *The proposal for a trail classification system has not been adequately proposed to the public. This document is the first chance any users have had to review what will take place. There has not been a thorough analysis of the impacts and effects of the classification of the trails. There are no options provided for the classifications and the result is a net loss for trails open and maintained for stock use. There has not been a historical review of the closure or downgrading of trail maintenance nor has there been an overall look at the loss of future opportunities to maintain trails that may occur if there was a shift in Federal funding.*
> [Recreational Group, #201]

> *In the DEIS, NPS announced that it was partially implementing the relatively new Forest Service Trail Classification System. See Exh. 1 attached ("the National Park Service will partially adopt the U.S. Forest Service system of trail development class"). NPS the identified the total number of miles it was proposing to include under a particular trail, other than for Alternative 2 (Footnote 5- Apparently, NPS has a document that identifies which trails are assigned which classifications, but it has not made that public.) As a*

result, it is not possible for the public to submit substantive comments as to the pros/cons of the various alternatives with respect to the proposed trail classification.
[Recreational Group, #251]

For the same underlying reasons, NPS's failure to specify which trails will be assigned which particular trail classes precludes not only substantive public comment on these proposed classifications, but also makes it impossible to conduct an assessment of the environmental impact of these new classifications.
[Recreational Group, #251]

Pursuant to the legal challenge brought by the Backcountry Horsemen of America-Kern Sierra Unit, the Forest Service agreed that it needed to complete a Trail Transportation Plan pursuant to a public process. See attached Settlement Agreement at 11(A)(A¶4): see generally Back Country Horsemen of America v. Johanns, 424 F. Supp. 2d 89 (D.D.C. 2006) (Forest Service establishment of a trail classification system required public input pursuant to the National Forest Management Act. 16 USC § 1612). The failure to evaluate and seek public input on the environmental impacts of these changes violates NEPA. See attached Exh 2 (Settlement Agreement at II(A) (¶5)(the Forest Service agreed to prepare the appropriate NEPA analysis for the proposed changes to the tail classes)).
[Recreational Group, #251]

Establishment of a Trail Classification System through the Wilderness Stewardship Plan. We oppose the establishment of a trail classification system through the WSP. We do not recall any discussion focused on a new trail classification system during the scoping process for the WSP. Further, we feel that a trail classification system should be the subject of an entirely different plan that enables the trail users to be more specific about trail classifications and which trails would be kept and which would be abandoned. It is our position that a full NEPA process should be used to adopt a new trail classification system for SEKI and the wilderness areas of SEKI. We are completely opposed to the proposed Class 1 level of trail maintenance which would receive little or no trail maintenance. While a tree that blocks a trail can be climbed over by a hiker or backpacker, that same tree may prevent the use of that trail and that general area by stock users.
[Recreational Group, #230]

We were unable to access the USFS Trails Handbook in a timely manner. It is not immediately clear what the Trail Type, Trail Design Use, and Trail Development Class addresses. Not having access to this document makes it impossible to adequately comment, other than to say that insufficient information was presented. The Trail Plan appears to be a 'done deal' rather than having an acceptable NEPA scoping, analysis, and review for the public to comment.
[Recreational Group, #201]

New Park Trail Classification System Implementing a new system of trail classification, particularly one new to the agency, reflects a significant change in policy and should be contemplated with full public input and separate NEPA review after the WSP is adopted.
[Individual, #119]

The DEIS violates the NEPA and NFMA by imposing new trail classes without specifying the which trails will be assigned a specific trail class, thus precluding substantive public comment as to those proposed changes.
[Recreational Group, #251]

The proposal is essentially to adopt a truncated version, for Sequoia-Kings Canyon National Parks, of the U. S. Forest Service Trails Management Handbook (Forest Service Handbook 2309. 18 USFS Trails Handbook). The proposal reflects a potentially far-reaching shift in Park Service policy and administration of NPS Wilderness. Implementing a new system of trail classification should only be contemplated with the benefit of full public input and NEPA review after the WSP is adopted. As stated previously in this comment letter, NPS Management Policies set out a process whereby decisions regarding visitor carrying capacity are to be made in light of several pertinent criteria, none of which appear to have been satisfied in the development of the proposed Trail Classification System.
[Recreational Group, #186]

With respect to National Forest, trail classifications are part of the management plan for the Forests, and an only be changed pursuant to a public notice and comment process as required by the National Forest Management Act, 16 USC § 1604. The Forest Service admitted this fact pursuant to litigation which involved the same issue. Rock Creek v. Blackwell. Civ No. 03-330 (D.D.C. 2005)(Settlement Agreement Regarding Complaint of Backcountry Horsemen of America-Kern Sierra Unit dated Dec. 5, 2005)(attached). In that case, the Forest Service had included in its FEIS for its Wilderness Plan for the Ansel Adams, John Muir and Dinkey Lakes Wilderness a list of trails and corresponding trail classes. However, the Forest Service had never sought public input on the classes which it had assigned to the trails.
[Recreational Group, #251]

Response: First, the National Forest Management Act does not apply to NPS lands. Second, in regard to the need for compliance under NEPA, the WSP/EIS is a NEPA compliant document, and is the avenue for public review and comment on the proposed trail management and classification system.

The WSP/EIS describes the trail management and classification system in several places, most concisely in tables 47a-47e in "Chapter 2: Alternatives." In addition, maps are included within each alternative that provide visual information on the trails classification assignments per alternative. Attachment 1 in "Appendix K: Trail Management and Classification System for Sequoia and Kings Canyon National Parks" lists all trail segments by trail class and allowed use. Detailed maps were also provided on the NPS public website for the WSP/EIS.

The public had the opportunity to comment on the changes to the management of the trails during the review of the WSP/DEIS. During the comment process, the public requested greater clarity on how certain trails would be treated under different alternatives. In response to these requests, the WSP/EIS provides information on trail class and designed use in tabular form in addition to narrative and map form. A table has been added to Chapter 2 showing the development class and design use for each trail segment for each alternative.

Concern 6: By catering to visitors who require commercial services, the purpose of the preferred alternative does not match the goals of the Wilderness Act, nor does it match the stated need for the plan in the WSP/EIS. The stated purpose and need for the preferred alternative is also

not satisfied by the reasoning stated in the "Planning Framework" or "Relationship to Other Planning" sections of the WSP/EIS.

> *The WSP/DEIS is inadequate in the following areas: Purpose and need improperly caters to one kind of visitor High Sierra does not believe that NPS's WSP/DEIS is adequate to satisfy the requirements of NEPA. Under 40 CFR Sect. 1502.13, an EIS "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." Similar to the discussion High Sierra raised in its comments supra on the Wilderness Act, the proposed purpose of Preferred Alternative 2 does not match the goals of that Act, nor does it match the NPS's stated need. See also WSPIDEIS at 16. The stated purpose and need for the Preferred Alternative 2 is also not satisfied by the reasoning stated in the Planning Framework or Relationship With Other Planning Sections of the WSP/DEIS. See WSP/DEIS at 8-14, 19-22.*
> *The NPS does not deny that something must be done regarding commercial stock use in SEKI wilderness areas; however, the approach NPS has taken focuses too strongly on visitor use of the park, and caters to a certain kind of visitor that requires commercial services (WSP/DEIS at v), and not enough on preservation of wilderness and park natural characteristics. Some of the issues NPS plans to address through the WSP/DEIS will be contraindicated by commercial stock use, namely (WSP/DEIS at vi): Preserve ecological, geological, scientific, educational, scenic, and historical values of wilderness, including culturally significant resources and paleontological resources within wilderness, as important and prominent values, consistent with the Wilderness Act, California (stock can destroy river banks and meadows, bring in invasive or unwanted plant species through their manure, destroy pristine landscapes, and do not have historical value of the degree NPS believes); Wilderness Act, and applicable planning guidance from the GMP. Leave No Trace minimum impact practices (stock manure will remain on the trail, on meadows, enter water); Increasing commercial stock use may encourage people who are not self reliant to enter the backcountry without being personally fully equipped to support themselves in the case of emergencies or delayed returns to base. The NPS's purpose and need thus does not satisfy the "rule of reason" standard, and NPS must, in the FEIS, provide a thought-out reasoning to solidify its justifications for the proposed action.*
> [Recreational Group, #235]
>
> *The NPS's purpose and need thus does not satisfy the "rule of reason" standard, and NPS must, in the FEIS, provide a thought-out reasoning to solidify its justifications for the proposed action.*
> [Recreational Group, #235]
>
> *The WSP/DEIS Does Not Meet the Requirements Under the National Environmental Policy Act and the NPS Must Account For the Shortcomings In the FEIS.*
> [Recreational Group, #235]

Response: Individual alternatives do not have their own purpose and need. Rather, the alternatives presented for analysis in an EIS are designed to present a range of reasonable options for fulfilling the purpose and need of the plan. The purposes of the WSP are to develop a long range vision for preserving wilderness character and to enhance programs and actions for managing the parks' wilderness. The WSP is needed to provide updated goals and objectives for the management of wilderness and to meet the requirements of the Sequoia and Kings Canyon Backcountry Access Act that requires a completed WSP by June 2015.

All alternatives, including the preferred alternative, provide for the continued use and enjoyment of wilderness and preserve wilderness character consistent with the mandate of the Wilderness Act and the purpose and need of this WSP/EIS. “Chapter 4: Environmental Consequences” contains detailed analysis of the effects of each alternative on wilderness character and concludes that each alternative will preserve wilderness character, although the alternatives reach this goal in different ways. Under the preferred alternative, visitors who use commercial services to experience wilderness will be limited to 8,400 annual Visitor-use Days (VUDs, which equate to commercial service days, or CSDs). This is approximately 7.6% of the 110,000 total of all annual VUDs (table B-5 in “Appendix B: Extent Necessary Determination for Commercial Services”). Of these, visitors who use stock-based commercial services would be limited to 3,360 VUDs annually, or 3%.

Concern 7: The WSP/EIS does not meet the requirements under NEPA in regard to its analysis of stock and grazing impacts and proposed mitigation measures.

> *The WSP/DEIS's NEPA analysis is wholly lacking, will rubber-stamp existing practices, and allow for "business as usual" as it lacks the requisite analysis to reach any meaningful action.*
> [Recreational Group, #235]
>
> *The general problem with the WSP/DEIS is that it does not even recognize things are a problem in the first place, so it can't mitigate them. Mitigation measures must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated.*
> [Recreational Group, #235]
>
> *The WSP/DEIS is inadequate in the following areas: Analysis of stock and grazing impacts Proposed mitigation measures High Sierra does not believe that NPS's WSP/DEIS is adequate to satisfy the requirements of NEPA.*
> [Recreational Group, #235]
>
> *Broad generalizations and vague references to mitigation measures do not constitute the detail as to mitigation measures that would be undertaken, and their effectiveness, that agency is required to provide. id.*
> [Recreational Group, #235]
>
> *Once adverse environmental impacts are identified, the agency must then describe what mitigating efforts it could pursue to off-set the damages that would result from the proposed action. id. Here, the WSP/DEIS falls short. For example, NPS must properly disclose that areas closed to grazing will undergo some recovery in soil compaction and disclose the area affected. There is no discussion of the consequences this mitigation will actually be expected to result in. Without such a discussion, the proposed mitigation is too vague and does not provide the detail as to the measure's effectiveness for dealing with the impacts of stock grazing in meadows.*
> [Recreational Group, #235]

Response: NEPA Council on Environmental Quality (CEQ) regulations acknowledge that mitigation measures can be integrated into EIS alternatives, stating, “Many Federal agencies and applicants include mitigation measures as integral components of a proposed project's design. Agencies also consider mitigation measures as alternatives when developing Environmental Assessments (EA) and Environmental Impact Statements (EIS)” 40 Code of Federal Regulations (CFR) § 1502.14(g), 1502.16(h). The Department of the Interior’s NEPA regulations provide similar guidance (43 CFR § 46.130).

The analysis of grazing impacts on vegetation in "Chapter 4: Environmental Consequences" of the WSP/EIS takes into account many factors which influence the sensitivity of meadows to grazing impacts using methods described in the "Vegetation Methodology" section. These factors include broad elevation zones (upper montane and subalpine vs. lower montane / woodland), subalpine vegetation types (three vegetation types that span a moisture gradient from wet to dry), and the susceptibility of different vegetation types to different kinds of impacts (productivity, basal cover, and relative graminoid cover). This analysis of impacts also includes a detailed breakdown of how much area is subject to grazing impacts by three Cowardin wetland systems, five meadow moisture classes, as well as the amount of lakeshore meadow and peat-accumulating meadow subject to stock impacts. This detailed analysis provides an abundance of information about the expected impacts to wetlands and meadows of each of the alternatives in the WSP/EIS.

Recognizing that stock can impact the parks' resources, a range of mitigation measures and adaptive management tools informed the development of the alternatives and have been incorporated in the alternatives. Examples of stock-related mitigation measures in alternative 2 include: access restrictions (e.g., party-size limits and designating certain trails, camping areas, and meadows as closed to stock); implementation of an opening-date system for grazing; altering trails (e.g., rerouting trails away from moist areas); specific feed requirements to reduce the potential for nonnative-plant introductions; and minimum impact regulations for stock use. Under the preferred alternative, site-specific grazing limits would be adopted for those wilderness meadows open to grazing, as would an adaptive management system that integrates the results from a suite of complementary monitoring protocols into appropriate management action, and requires action if monitoring results show a downward trend in meadow condition. "Appendix D: Stock Use and Meadow Monitoring and Management Strategy" provides a detailed explanation of how these mitigation measures and adaptive management tools will be used to ensure that impacts from stock use remain within acceptable limits.

Concern 8: The NPS did not consider a "no-stock" alternative within the wilderness of the parks in the WSP/EIS, thus the range of alternatives is limited. A "no-stock" alternative is within the scope and purpose of the WSP/EIS, as the parks' Master Plan recognized the harmful impacts of stock use in 1971 and called for a complete phasing out of all recreational stock use in the parks' sensitive higher elevations. Because stock use is considered a "historical use" of the parks, the NPS improperly concluded that it did not need to consider a 'no stock" alternative in the WSP/EIS, in violation of NEPA.

> *40 CFR 1502. 14 Alternatives including the proposed action (a) "Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." Comment: In the GMP there was a no-stock alternative (Alt. A.) Inasmuch as the WSP is tiering off the GMP, the reasons for eliminating the no-stock alternative should have been presented. I fail to find any such explanation. Lacking such an explanation, it is obvious that you had no intention of addressing the issue of whether there should be stock use in SEKI, but made the decision in the affirmative before you even began the process. 40CFR1502. 14 (c) "Include reasonable alternatives not within the jurisdiction of the lead agency." Comment: In our letters of August 31, 2011 and November 19, 2012 we clearly requested, and described in detail, one or more alternatives that we thought should be considered. Other than one alternative (#4) that specifies no grazing throughout SEKI, your extremely limited range of alternatives does not address any of our major concerns.*
> [Recreational Group, #254]

More than 40 years ago, the 1971 SEKI Master Plan called for phasing out all stock in SEKI's sensitive higher elevations. Despite High Sierra's efforts to pursue this alternative, in various reasonable forms, the NPS wholly ignores its prior planning decisions. This failure may also constitute Administrative Procedure Act violations.
[Recreational Group, #235]

The High Sierra decision from 2012 vacated portions of the GMP that relate to commercial stock use in SEKI's wilderness areas; the NPS can no longer rely on those portions of the GMP to justify its "historical use" claim. NPS recognizes this (WSP/DEIS at 32), but its further attempts to provide a rationale for its "historical" argument fail. NPS's specialized finding (WSP/DEIS Appx. B, the Extent Necessary Determination) attempts to shoehorn historic use with the concept of historic under the Wilderness Act by claiming that scientific and educational trips require stock use. WSP/DEIS App. B-15. This "historical use" argument fails under NEPA and under the Wilderness Act.
[Recreational Group, #235]

Additionally, a "no-stock" alternative is not only within the scope and purpose of the DEIS, but has been a serious consideration since the SEKI's Master Plan recognized the harmful impacts of stock use in 1971.
[Recreational Group, #235]

The Master Plan called for a complete phasing out of all recreational stock use in SEKI's sensitive higher elevations, and the WSP/DEIS itself includes an alternative that includes no stock above certain elevations. The acknowledgement that a "no-stock" alternative in high elevations is necessary and the currently documented impacts of stock use throughout the SEKI show that a "no-stock" alternative covering the entire SEKI wilderness is not only a reasonable alternative, but one that was illogically and unlawfully excluded from consideration. Failure to consider a "no-stock" alternative here implies that NPS already made the decision, without any analysis, that stock use is acceptable in SEKI wilderness. Such a rationale for excluding an alternative is impermissible under NEPA.
[Recreational Group, #235]

Response: The NPS considered five alternatives during the planning process for the GMP, one of which was a “no stock” alternative. The NPS did not select the “no-stock” alternative in the ROD for the GMP because the NPS determined that stock use was an appropriate way for visitors to access wilderness and for the NPS to conduct administrative activities in wilderness.

With regard to the 1971 Master Plan, the GMP explained (volume 1, pages 6 and 36) that it replaced the direction from Master Plan on the issue of stock use in the parks. The NPS recognizes that the litigation challenging the GMP invalidated the portions of the GMP that relate to commercial stock use in wilderness and to facilities used to support commercial stock use. However, the portions of the GMP that relate to private and administrative stock use in wilderness remain valid. Because the WSP/EIS is tiered to the valid portions of the GMP, the NPS need not revisit a “no-stock” alternative in the WSP/EIS.

Concern 9: The identification and assessment of the five alternatives is lacking and violates NEPA because there is little variation across alternatives and the alternatives do not avoid or minimize impacts as required by 40 CFR Section 1502.1. Instead, the alternatives propose different ways for the NPS to get what it wants — increased stock use in wilderness.

> *Despite the opportunity to have five different ways to analyze the issue, NPS's identification and assessment of the five alternatives is lacking and violates NEPA. 40 CFR Sect. 1500. 2(e).*
> [Recreational Group, #235]
>
> *NPS attempts to justify this by saying that because of the "high standard for natural resource preservation" there is "little variation across the alternatives." WSP/DEIS at ix. NPS identifies the "differences" between the alternatives as lying in the "key elements of wilderness management -use levels, access and trails, stock use and grazing, and infrastructure, both recreational and administrative." id. The focus of the alternatives is thus not to avoid or minimize impacts as is required. See 40 CFR Sect. 1502. 1 (EIS "shall provide full and fair discussion of significant environmental impacts and shall inform decision- makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment. . .”). Instead it is to propose different ways for NPS to get what it wants, such as increased stock use in wilderness areas.*
> [Recreational Group, #235]

Response: With public input, the NPS developed a range of five alternatives that provide different ways of achieving the purpose and objectives of the WSP/EIS. There are a range of actions proposed under each alternative, which differ substantially for several of the key topics. For example, alternative 3 provides for increased recreational opportunities in wilderness by increasing some trailhead quotas by 10%, whereas alternative 5 would reduce trailhead quotas by 30% to increase opportunities for solitude. Alternatives 2 and 3 would close approximately 30 miles of trail to stock users, whereas alternative 4 would close 109 miles of trail to stock users. Grazing would be discontinued under alternative 4 but would be allowed, with variations, under other alternatives. Similarly, alternative 4 would result in the removal of most of the recreational developments and facilities in wilderness but additional development to protect resources would be added under alternative 3. All of the alternatives fulfill the mandate of the Wilderness Act and the NPS Organic Act to preserve resources unimpaired for future generations.

The WSP/EIS provides a comprehensive discussion of the impacts from the five alternatives to allow the decision makers and the public to understand the effects of each alternative on natural and cultural resources and visitor experience. The WSP/EIS discloses the impacts associated with the five alternatives. The environmental analysis in the WSP/EIS demonstrates that none of the alternatives would result in unacceptable impacts. Additional stock access and restrictions and mitigation measures, such as meadow opening dates and trail improvements, would work to minimize impacts on the parks’ resources.

Of note, only one alternative (alternative 3) would provide for increased visitation and potentially increased stock use.

Concern 10: Reductions in stock use will eliminate diversity and individual choice by making the areas accessible only to those who are physically capable to hike at high elevations, whereas NEPA mandates to "maintain . . . an environment that supports diversity and variety of individual choice.”

> *The second mandate of Section 101(b)4 is to "maintain . . . an environment that supports diversity and variety of individual choice.”*
> [Recreational Group, #201]

> *Reductions in stock use will eliminate the diversity and individual choice by making the areas accessible only to those who are physically capable to hike at high elevations.*
> [Recreational Group, #201]

Response: NEPA Section 101(b) sets forth criteria that are considered by agencies when undertaking actions subject to NEPA. These criteria assist agencies in evaluating whether agency actions meet the national environmental policy set forth in NEPA. Section 101(b) criteria covers a broad range of issues, one of which is "preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice."

This and the other factors in NEPA Section 101(b) were considered in the context of selecting a preferred alternative. The NPS concluded that alternative 2 would provide for diversity and a variety of primitive and unconfined recreational opportunities, even though there would be some increased restrictions on stock use.

Concern 11: Drift fences were removed by NPS without involving the public in the NEPA process and without following the required public input process. The re-establishment of the Lower Junction Meadow drift fence and the Vidette drift fence on the John Muir Trail (JMT) was requested since these drift fences provide resource protection and prevents stock from moving up the canyon to closed meadows.

> *Within the past year the HSU has on several occasions conferred with SEKI about the removal of several drift fences in the Bubbs Creek drainage. We learned that these drift fences were removed by SEKI without involving the public in a National Environmental Policy Act (NEPA) process and without following the required public input process in the BMP. We notified you about these illegally removed drift fences once we learned about them and we even met with you about re-establishing these drift fences. However, you suggested that we deal with the issue in the WSP process. It is hard to accept the fact that SEKI can act in an illegal and unauthorized fashion to remove drift fences and then tell the stock using public to deal with the subject in the WSP. We specifically request the re-establishment of the Lower Junction Meadow Drift Fence and the Vidette Drift Fence on the John Muir Trail. These drift fences provide resource protection. The Lower Junction Meadow Drift Fence also prevents pack and saddle stock from returning to our horse trailers. The Vidette Drift Fence prevents stock from moving up the canyon to a closed meadow.*
> [Recreational Group, #230]

Response: The WSP/EIS has inventoried and analyzed existing and potential drift fences and gates with differing amounts proposed for each alternative. Structures in the wilderness diminish wilderness character (undeveloped and opportunities for primitive and unconfined recreation). Table 51a in "Chapter 2: Alternatives" provides details on the location and the proposed action for each alternative. Each of these structures were evaluated for their value in protecting resources and in their value to facilitate stock use under the guiding tenet that structures are generally prohibited in wilderness. The referred-to actions of the parks occurred over the past several decades and contributed to current conditions. See the "Stock-use Structures" subsection for alternative 1 in chapter 2 for additional details.

Concern 12: The parks should reexamine the policy of banning boating on the Wild and Scenic South Fork Kings River from its confluence with Bubbs Creek to the parks' boundary.

> *American Whitewaters 2011 and 2012 comments also encouraged the Parks to reexamine the policy of banning boating on the Wild and Scenic South Fork Kings River*

from its confluence with Bubbs Creek to the Park boundary. This reach of the South Fork Kings River is approximately eight miles long, with approximately two miles located within the Sequoia-Kings Wilderness Area. Our August 30, 2011 comments in particular outline the reasons why banning boating is inconsistent with the Wilderness Act, Wild and Scenic Rivers Act, and National Park Policy. These statements are still relevant today Contrary to meeting the needs of all park users, banning one activity outright denies the needs of certain park users. Neither the compendium nor the GMP describe how banning boating on the South Fork of the Kings River helps to meet the needs of all park users, or conversely, how allowing boating on other rivers in the Parks intrudes on the needs of other Park users. American Whitewater does not believe that the reasons for eliminating a detailed study of lifting the boating ban on the South Fork Kings River is adequate. Further, the WPS/DEIS does not argue that studying this option is impractical or unfeasible from a technical or economic standpoint. Banning boating within Wilderness Areas, on Wild and Scenic Rivers, and within National Parks is a rare practice. Allowing human-powered boating within a Wilderness Area and on a Wild and Scenic River is an acceptable activity through the lens of common sense, as described in our previous comment letters, and incorporated by reference.
[Recreational Group, #165]

Response: In the 2007 GMP, the parks analyzed the aspect of allowing floatation devices (i.e., non-motorized boating) on the lower reach of the South Fork Kings River (from the Bubbs Creek confluence with South Fork downstream to the parks' boundary) and made the decision to not allow this activity. The parks need not re-evaluate this portion of the plan of record in subsequently tiered plans. NEPA does not require that decisions contained in valid management plans and ROD be revisited in tiered NEPA documents. The preferred alternative of the GMP affirmed that the activity of boating on the South Fork Kings lower reach was not consistent with desired conditions of the GMP. The NPS need not revisit the question of whether boating should be allowed on this section of river in the WSP/EIS.

Guiding Policies, Regulations, and Laws for Wilderness

Concern 13: Creating new stock campsites and new structures/facilities that support stock use violates the Wilderness Act. These structures should only be allowed for ranger patrols in the parks.

(cont'd) DEIS Alternative 2 Element 10 - In addition to opposing the Atwell Mill changes for stock, the entire concept of creating new stock campgrounds and ANY new structures/facilities that support stock use is contrary to the Wilderness Act. Essentially, the stock community is asking the NPS to install facilities in the wilderness to ensure their commercial viability. Although this is done in the name of allegedly minimizing impact, that is not truly the case. Every drift fence, post, gate, and stock campground is a means of enabling a commercial end that could not otherwise exist at current levels or even the levels proposed in DEIS Alternative 2. Without all of the stock supporting facilities in the wilderness allowed by DEIS Alternative 2 and paid for by the rest of us, stock use would have to be reduced to levels that might not be commercially viable but that would FINALLY approach the minimum impact/leave no trace standard that the NPS demands of HUMAN visitors.
[Individual, #46]

Remove all fences, gates, and wire from the SEKI Wilderness. These structures are the kind of structures and installations prohibited by the Wilderness Act (section 4[c]). They are also evidence of human trammeling of the Wilderness, and so violate the Wilderness

> *Act in that way as well. The only places where these structures could be allowed are essential pastures needed for ranger patrols.*
> [Conservation/Preservation, #166]

Response: The establishment of facilities in frontcountry locations is not directly under the mandate of the Wilderness Act, as they are not in wilderness. Use in wilderness that may be supported by these facilities has been analyzed for its effects on wilderness character throughout "Chapter 4: Environmental Consequences." Facilities in wilderness such as drift fences and food-storage boxes for public and administrative use have been evaluated in accordance with the minimum requirement analysis process of Section 4(c) of the Wilderness Act to ensure they are the minimum required to meet the purposes of the Act (see "Appendix M: Programmatic Minimum Requirements Analysis"). Finally, any changes to frontcountry facilities proposed by this WSP/EIS will also be subject to additional site-specific NEPA analysis and compliance.

Concern 14: Allowing unlimited permitted stock use under the preferred alternative is not consistent with the Wilderness Act. The "limit" is set at a much higher number than the average use of recent years, and is even higher than the highest figure in the no-action alternative during those years.

> *The Preferred Alternative makes it appear that, for the first time, there will be a numeric limit to stock use. But the "limit" is set at a much higher figure than the average use of recent years, and is even higher than the highest figure in the "No Action Alternative" during those years. In effect, stock use will continue to be unlimited, since the reasonable expectation is that the new "limit" will never be reached. Should the FEIS still contain this manipulation of numbers, there can be no qualitative and comparative analysis as required under the Act to show that commercial services are required, or for what amounts. For all practical purposes, stock would be permitted to an unlimited extent under the Preferred Alternative. This cannot be consistent with the Wilderness Act.*
> [Recreational Group, #235]

Response: The action alternatives in the WSP/EIS would impose numerous limitations on stock use. Examples include daily trailhead quotas; an annual capacity (i.e., limit) on Visitor Service Days (VSDs, commercial service providers only); a secondary and more restrictive capacity (limit) on VSDs in the Mount Whitney Management Area (commercial service providers only); CUA requirement (commercial service providers only); carried feed requirements; camping night limits; campfire limits; party-size limits; food storage restrictions; and access and camping limitations and restrictions that are more restrictive than for those who only hike.

The annual limit on VSDs proposed in the preferred alternative (5,040 for non-stock supported services and 3,360 for stock supported services) is higher than the average from the four-year period of VSD data collected (2010-2013). However, these four years were among the lowest stock use years of the past three decades. Any change from the 2010-2013 period annual average of 2,487 stock supported VSDs, to the proposed limit of 3,360 stock supported VSDs, can easily be accommodated without impacting wilderness character and will allow for wilderness visitors to participate in activities that are proper for realizing wilderness purposes. More importantly, the stock supported service day allocation of 3,360 VSDs represents a reduction from the 25 year average of 3,870 annual stock use nights (note that data assessment has shown that 1 stock use night by a commercial service provider is equivalent to one VUD/VSD). The statistical reality of establishing a "limit" or cap at a previous average would necessarily lower the future average.

Concern 15: The WSP/FEIS must take into account the issue of administrative stock since the WSP/DEIS did not satisfy the core policy of the Wilderness Act. The commenters state that much of the administrative stock use in the parks is unnecessary and harmful to wilderness areas, and goes well beyond what is needed to support a project.

> *In the FEIS, NPS must take into account that the issue of administrative stock as discussed in the WSP/DEIS does not satisfy the core policy of the Wilderness Act. 16 USC Sect. 1131(a) (wilderness areas "shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character . . .”). Much of the administrative stock use in SEKI is unnecessary and harmful to SEKI and the wilderness areas, and goes well beyond what is needed to support a project. There are two primary examples of this unnecessary and harmful use: (1) packtrains that re-supply trail crews, and (2) "holiday" trips for NPS staff.*
> [Recreational Group, #235]

Response: Prior to each work season, the parks’ managers review park operations through a wilderness minimum requirement analysis to determine how to administer the wilderness in a manner that protects wilderness character. This analysis weighs the options for the transport and resupply of equipment for trail crews, rangers, and resource staff. The decision on which method to utilize is based on a site-specific analysis, including the location in wilderness, available meadows for forage, and the type and weight of the supplies. In most cases, administrative stock drops off supplies for crews and then returns to the frontcountry immediately or within a day or two. However, in some circumstances, the results of a minimum requirements analysis indicates that it is less of an impact to hold and feed, or graze on site, particularly in remote locations, than to conduct multiple trips back and forth from the trailhead.

Management staff trips into wilderness, which are occasionally conducted, have been proven to be extremely valuable for the parks’ management to learn first-hand about wilderness conditions and issues, thus improving knowledge of decision makers. It is obviously of value for individuals who are involved in decision-making to have first-hand knowledge of conditions and operations. When conducted, these trips adhere to the same, or frequently stricter, restrictions than those required of the general public, including; party-size limits, grazing limits, and campfire restrictions.

Concern 16: The WSP/EIS does not uphold the "preservation" requirements of the Wilderness Act including the unfettered resource extraction caused by stock use. Preservation of wilderness requires the NPS to address and limit stock use to levels appropriate to ensure such preservation.

> *Another major problem with the proposed alternatives vis-a-vis the "preservation" goal of the Wilderness Act is the unfettered resource extraction caused by stock use. Resource extraction activities are strictly limited and must be performed in manners compatible with the preservation of the wilderness environments. 16 USC Sect. 1133(d)(2), (3).*
> [Recreational Group, #235]
>
> *The FEIS must provide analysis and alternatives that actually preserve wilderness values as mandated by the Act, not continue to place undue reliance on monitoring schemes that allow for continued grazing and stock use despite the documented impacts. The NPS has the responsibility under the Wilderness Act to "preserve wilderness for the American people in such a manner as will leave them unimpaired for future use and enjoyment.” 16 USC Sect. 1131(2)(a). Preservation of wilderness requires the NPS to address and limit*

> *stock use to levels appropriate to ensure such preservation, not require management action only when degradation has already occurred.*
> [Recreational Group, #235]

> *The SEKI WSP/DEIS continues to use "opening dates" as an attempt to curb stock trampling impacts, but the method has been ineffective at preventing significant, adverse impacts to meadows, streambanks, lakeshores, and wetlands.*
> [Recreational Group, #235]

Response: NPS *Management Policies 2006* Section 8.6.8.1 states that grazing incidental to recreational stock use is allowed in parks in a manner consistent with the policy direction articulated in Section 8.2.2.8 of these management policies. Section 8.2.2.8 explains that recreational stock use is authorized provided it is managed to avoid unacceptable impacts and that plans for recreational stock use should address social, biological, and physical carrying capacity considerations.

The NPS recognizes that grazing has the potential to impact vegetation, water quality, and soils, which are components of the natural quality of wilderness. These impacts are described and evaluated in "Chapter 3: Affected Environment" and "Chapter 4: Environmental Consequences" of the WSP/EIS. Each of the alternatives that allow for grazing to continue, including the preferred alternative, mitigates these impacts to acceptable levels through the continued monitoring and adaptive management of stock use and grazing. Grazing levels have been and would continue to be refined in the future through the adaptive management approach adopted in the parks' proposed strategy for monitoring and managing grazing in wilderness. This flexibility allows the parks to incorporate future monitoring results as well as any new information about meadow characteristics and the relationship between grazing levels and impacts into the management of grazing. Together with the monitoring protocols and adaptive management described in "Appendix D: Stock Use and Meadow Monitoring and Management Strategy," the proposed grazing levels are designed to ensure that meadows are protected from the potential adverse effects of grazing, and that impacts are kept within limits that ensure the resiliency of meadow ecosystems and thus preserve wilderness character as called for by the Wilderness Act. Grazing management is addressed in detail in appendix D. Chapter 4 of the WSP/EIS analyzes the impacts of each alternative on wilderness character. The WSP/EIS concludes that grazing by recreational stock can be conducted in a manner that maintains desired natural, social, and cultural resource conditions.

Concern 17: The Extent Necessary Determination (END) does not apply and does not evaluate the correct criteria for determining whether an activity is proper under the Wilderness Act. Its evaluation of commercial stock activities needs to be reconsidered.

> *The NPS must apply meaningful criteria in the FEIS to meet the Act's narrow exception for commercial services. Criteria that should be met regarding necessity have been outlined in our past comments and are detailed once again here. To be meaningful, the criteria must refer to the physical needs of persons wishing to explore wilderness, not to provide a means for those who are circumventing trailhead quotas, who use stock to haul unnecessary items into the backcountry, or who are seeking convenience and ease. These uses of commercial stock do not constitute necessity. The criteria should include: 1) the potential commercial client must be physically incapable of hiking and/or carrying a backpack of his or her own; 2) the potential client must need stock support to facilitate wilderness dependent activity, not simply desire convenience or comfort; 3) the potential client must be willing to travel with the minimum necessary gear - that normally carried by a backpacker.*
> [Recreational Group, #235]

Since the criteria used in the END do not fit within the mandates of the Wilderness Act, the FEIS/WSP should examine the factors in the NPS Management Policies, as well as additional factors, to determine whether stock use is proper within wilderness areas, such as those proposed by High Sierra supra.
[Recreational Group, #235]

The END's conclusions do not flow from the criteria utilized to arrive at them, and the FEIS must be rectified in order to comply with the requirements of the Act.
[Recreational Group, #235]

The Wilderness Act requires the preservation of wilderness, prohibiting commercial activities with only narrow exception. The NPS has not met its obligations under the Act in the Extent Necessary Determination issued in the WSP/DEIS. The NPS failed to apply meaningful criteria to determine the necessity of commercial stock services in SEKI. Further, the NPS did not truly weigh the impact of all relevant factors and potential consequences of permitting commercial stock services in SEKI. Lastly, the NPS did not apply and evaluate the correct criteria for determining whether stock use is a proper recreational activity under the Act. The NPS will continue to be in violation of the Act until it seriously accounts for the deficiencies outlined above.
[Recreational Group, #235]

The Extent Necessary Determination ("END") issued by the NPS in the WSP/DEIS falls short of the explicit statutory requirements, and of the Ninth Circuit's interpretations of the Act. The END claims that commercial services are "necessary" to facilitate stock use in wilderness areas for multiple reasons. WSP/DEIS Appx. B-18.
[Recreational Group, #235]

My concerns with SEKI management relate to excessive commercial use and in particular commercial pack stock use. The Wilderness Act allows commercial use only to the extent necessary. I believe that current commercial use in SEKI wilderness is significantly beyond the prescription in the Act.
[Individual, #51]

In Vol. 2, Appendix B, you have made a mockery of the Wilderness Act. The statement on page 4 of the Act reads: "Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise . . . . "(a clear statement). You have assumed that the "extent necessary' (a vague phrase) two pages later means unlimited commercial use by anyone for any reason, thus negating the first statement. You also assume, without providing any proof, rationale, or logic, that "extent necessary" refers to stock animals. How do you know that? The words "horses," "mules," and "stock animals" do not appear in the Wilderness Act.
[Recreational Group, #254]

Response: These concerns express the view that the parks did not consider the proper criteria when deciding whether to allow commercial services in wilderness. Some commenters refer to the NPS *Management Policies 2006* and suggest that the NPS did not evaluate commercial services in accordance with guidance contained in these management policies. Section 6.4.4 of the management policies states: "Wilderness oriented commercial services . . . *may be authorized . . . if they are consistent with the wilderness management objectives contained in the park's wilderness management plan*, including the application of the minimum requirement concept. Activities such as guide services for outfitted horseback, hiking, mountain climbing, or river trips and similar activities *may be appropriate and may be*

authorized if conducted under the terms and conditions outlined in the park's wilderness management plan and/or in legislation authorizing these types of commercial uses." (*emphasis added*). The findings of the END are wholly compliant and consistent with the management objectives of the WSP/EIS. The WSP/EIS has followed this agency guidance by completing a Programmatic Minimum Requirements Analysis (MRA) (appendix M). The criteria set forth in the NPS *Management Policies 2006* were considered in the Programmatic MRA.

Other commenters suggested that the parks consider the following criteria (generally based on physical disability): whether visitors have the physical ability to hike and carry a pack; whether a visitor has an absolute need to use commercial services; and whether the visitor will carry the minimum essential gear. Neither the Wilderness Act nor NPS policy identify these as criteria to be considered when determining the amount of commercial services that can be authorized in wilderness. Implementation of the suggested criteria would lead to excessively intrusive inquiry into the personal health status of visitors and their personal preferences for travel items, commit the NPS to an impractical commercial service monitoring program, impose a narrow vision of how the public may use its wilderness, and fail to provide meaningful criteria for services other than stock services. With respect to the suggested criteria that only those who strictly need commercial support should be allowed to use it, the END explains that NPS does not interpret the word "necessary" as used in Section 4(d)(5) in an absolutist sense.

The proposed criteria used by NPS in the END are consistent with the mandate of the Wilderness Act and NPS policies and can be usefully applied to commercial services of diverse types, including backpacking/hiking, mountaineering/climbing, fishing, photography, or stock use. The NPS believes that it considered appropriate criteria in the END process. The END sets specific numeric limits on commercially supported visitor service days.

Concern 18: The END improperly uses historical pack use as a prime factor for the determination that stock use is a proper activity in wilderness. Nowhere in the Act, the regulations, or in the Management Policies are "historical" or "traditional" uses provided as factors that are to be given the substantial weight accorded to them in the END.

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> [Recreational Group, #235]

Response: The Wilderness Act in Section 4(b) states: "wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, *and historical use*" (*emphasis added*). Horseback riding has occurred in these parks for more than 150 years and actually predates the establishment of the parks. Through the GMP process, the NPS determined stock use to be a proper use in wilderness. The END sets forth the criteria that NPS used to determine which activities would be appropriately supported by commercial services. These factors included whether the allowance of stock use would enable the wilderness to maintain its primeval character, preserve natural conditions, provide outstanding opportunities for solitude, and preserve wilderness in an unimpaired condition. The END notes that stock use is a traditional activity in the parks, but the fact that it is a long-standing use was not the "prime factor" that guided the NPS's decision-making.

Concern 19: The END's economic equity argument is arbitrary and capricious and inconsistent with the Wilderness Act, because visitors of all ages, incomes, and abilities can access and camp in the wilderness in a noncommercial manner. There is no requirement under the Wilderness Act that the wilderness be equally accessible to persons of all ages, incomes, and abilities, nor could such a

requirement be practically imposed without completely undercutting the entire concept of wilderness.

> *(cont'd) The END's economic equity argument is arbitrary and capricious and inconsistent with the Wilderness Act, because visitors of all ages, incomes, and abilities can access and camp in the wilderness in a noncommercial manner, as demonstrated by DEIS Alternative 2's own proposal for a universal access campground. Further, in any case, there is no requirement under the Wilderness Act that the wilderness be equally accessible to persons of all ages, incomes, and abilities, nor could such a requirement be practically imposed without completely undercutting the entire concept of wilderness. Most people, on the historic trails west, walked, and some were left behind. That is just how it goes, and there is no room under the law for the NPS to falsely style itself as an equitable guardian when it is truly being asked to front for a commercial enterprise.*
> [Individual, #46]

Response: In determining which proper activities could be supported through commercial services, the NPS considered a number of factors including whether the activity required specialized skills, knowledge, and equipment and whether there were special safety or resource concerns associated with the activity. These factors were applied to stock use in table B-2 of the END ("Appendix B: Extent Necessary Determination for Commercial Services"). While the cost of horse ownership was taken into account, it was not the primary factor in deciding whether to allow commercial stock services in wilderness.

The NPS is also charged with allowing proper use and protecting public lands for all people as stated in NPS *Management Policies 2006*, Section 8.2: "Enjoyment of park resources and values by the people of the United States is part of the fundamental purpose of all parks. The Service is committed to providing appropriate high-quality opportunities for visitors to enjoy the parks, and the Service will maintain within the parks an atmosphere that is open, inviting, and accessible to every segment of American society." Commercial stock services are consistent with the mandate of the Wilderness Act and this specific objective of NPS policies, and as determined through the END process, is a proper, appropriate, and suitable way to experience wilderness.

Concern 20: The Wilderness Act cannot be cited as a basis to preclude in any way horseback riding in the John Krebs Wilderness Area or the Sequoia-Kings Canyon Wilderness Addition.

> *The Wilderness Act cannot be cited as a basis to preclude in any way horseback riding in the John Krebs Wilderness Area or the Sequoia-Kings Canyon Wilderness Addition. In fact, horseback riding is the only public use which is explicitly authorized in these Wilderness Areas. Moreover, because this protection was an explicit condition for the areas being designated as Wilderness Areas, any violation of this explicit condition would not only be a violation of law, it would be reneging on a promise made to horseback riders in order to obtain their agreement to the establishment of the Johns Krebs Wilderness and the Sequoia-Kings Canyon Wilderness Addition.*
> [Recreational Group, #138]

Response: The WSP/EIS does not preclude horseback riding in either of these wilderness areas.

Concern 21: Regulating stock access and closing meadows based on social and scenic values violate the Wilderness Act and the parks' enabling legislation.

> *As part of SEKI's WSP you are proposing through alternatives 2,3,4, & 5, to 1) more severly regulate stock access and longterm use within SEKI, 2) enact trail closures &*

institute a new trail classification system with which to aid in the reduction of stock access, and 3) institute new meadow closures based on 'social' & 'scenic' values which would also more severely limit stock access. These three "management" tools violate the letter and the spirit of both the Park's enabling legislation, and the Wilderness act of 1964. Alternatives 2, 3, 4, & 5, violate existing statutes and are not valid for legal consideration as alternatives for the SEKI-WSP. Therefore, the only alternative valid for consideration is the "status quo"/no change alternative.
[Recreational Group, #138]

Response: Management action, such as regulating stock use, to preserve wilderness character is within the authority of the NPS and is compliant with the Wilderness Act, the National Park Service Organic Act, the parks' enabling legislation, and other laws and policies. This WSP/EIS uses a variety of controls and restrictions to ensure that the qualities of wilderness character — natural, untrammeled, undeveloped, and providing outstanding opportunities for solitude or a primitive and unconfined type of recreation — are preserved, and that the public purposes of wilderness — recreational, scenic, scientific, educational, conservation, and historical use — are fulfilled. Prohibiting grazing in some specific meadows in order to provide ungrazed meadows for the public to experience is consistent with the mandates of the Wilderness Act, in that it supports the natural quality; is a place that "generally appears to have been affected primarily by the forces of nature" (Section 2(c)(1)); and supports scenic as one of the act's stated public purposes (Section 4(b)). See appendix D, Network of Meadows Closed to Grazing section for additional information.

Concern 22: The wording used in the WSP/EIS regarding the use of fixed anchors is incorrect and contradicts Director's Order #41. It should be re-worded to avoid negative consequences on the safety of climbing groups.

The statement, the use of fixed anchors is rarely appropriate in wilderness, does not conform to the guidelines in DO#41 or climbing best practices. The actual language used in DO#41 is, fixed anchors& should be rare in wilderness. Given that the AMGA believes fixed anchors, particularly bolts, are a last resort in wilderness, through judicious placement their use should always be considered appropriate. Similarly, the phrase fixed anchors will not be placed merely for convenience or to make an otherwise un-climbable route climbable, also needs to be modified. The only point to placing a fixed anchor is to make an un-climbed route climbable with a reasonable degree of safety, in many ways the essence of unconfined recreation. If such a safety concern were not present, or placing removable gear was an option, then there would not be a need for the fixed anchor. However, we do agree that fixed anchors should not be placed for convenience, or to establish bolt-intensive routes that would increase levels of use and impact. The discussion of new fixed anchors should relate primarily to bolts, but any authorization required to replace or remove existing fixed anchors should be conducted programmatically. In addition to maintaining opportunities for unconfined recreation in a manner recognized by DO #41 as an appropriate use in wilderness, programmatic authorizations reduce the administrative burden that would be generated by requiring a climbing team to obtain a permit to replace a simple item, such as a sun-damaged rappel sling on a well-established route.
[Recreational Group, #153]

NPS Director's Order #41 (DO #41) is fatally flawed with its current wording and could easily result in deaths with SEKI wilderness. By defining slings as fixed anchors any caving, climbing, or canyoneering group is put in the awkward position of using old slings or violating DO #41 during non-emergency activities. Is it really the intent of this

order that a $20 permit be filed for each potential activity that many need to replace a sling? Given that a permit is being required will SEKI identify the locations of each fixed anchor- -including slings. Will there be regular monitoring of the condition of authorized anchors? Will the information be publicly accessible so individuals will know whether they need to file for a permit to replace a sling?
[Individual, #114]

The statement, [t]he use of fixed anchors is rarely appropriate in wilderness needs to be modified in order to subscribe to DO41 guidelines and wilderness climbing best practices. Directors Order #41 states, [f]ixed anchors or fixed equipment should be rare in wilderness, not that the use of fixed anchors is rarely appropriate. This distinction is important because, through judicious placement of fixed anchors, every fixed anchor, and the use thereof, should be appropriate.
[Recreational Group, #161]

The statement, [f]ixed anchors will not be placed merely for convenience or to make an otherwise un-climbable route climbable also needs to be edited to reflect the fundamental purpose of fixed anchors in wilderness. Directors Order #41 acknowledges that the occasional placement of a fixed anchor for belay, rappel, or protection purposed does not necessarily impair the future enjoyment of wilderness of violate the Wilderness Act. We recommend changing [f]ixed anchors will not be placed merely for convenience or to make an otherwise un-climbable route climbable to fixed anchors will not be placed merely for convenience or to establish bolt-intensive face climbs that attract high levels of use and impact.
[Recreational Group, #161]

Response: "Appendix J: Climbing Management Strategy" has been modified to more clearly define fixed anchors as consisting of two types; permanent and removable. See the "Background" and "Public Use of Fixed Anchors" sections of appendix J. Only those fixed anchors which are permanent (e.g., bolts) will require prior approval for placement or replacement (see the "Public Use of Fixed Anchors" section of appendix J).

Concern 23: The NPS should clarify if legislative statements in the document apply in Mineral King Valley. There is a concern that the parks are not recognizing the intent and law regarding 16 United States Code (USC) 45f Mineral King Valley addition.

Page 179. Element 11: Commercial Services in Wilderness Planning Objective: "Commercial services would be allowed to the extent necessary"- - -"To meet the objectives of this alternative, commercial service" - - - - - and commercial services would be limited in the high use-areas (table 37 on the next page). . See also appendix B." Comment: Is this statement regarding to any of the 45f Mineral King area? As Commercial is not allowed at (3).
[Individual, #28]

Page B-1 Appendix B. "Extent Necessary Determination For Commercial Services In The Wilderness Of Sequoia And Kings Canyon National Parks" Page B-12. "Over-snow travel (ski and snow shoe touring." paragraph three." Day -use skiing and snowshoeing in wilderness is a proper activity. Day skiing and snowshoeing may be supported by commercial service providers solely for skiing and snowshoeing," Page B-27 "ALT 3: Allow for Increased Uses, and ALT : 2, 4, 5, Comment's are these ALT. statement

regarding any of the 45 f Mineral King area. Calling out commercial, and Wilderness areas? as commercial is not allowed at 45 f. at (3) .
[Individual, #28]

Pages 347. - 348. CONCESSIONS AND COMMERCIAL USE. "CUAs, which are not considered concession contracts, may be issued pursuant to section 418 of the National Park Service Concessions Management Improvement Act of 1998 (16 USC 5966)." Comment: Dose the park concede that Congressional Law, 16-section45f&num=0&edition=prelim 16 USC 45f: Mineral King Valley addition authorized Congressionally enacted in 1987/2009 is the governing law, - - - - -over Park's CUA,s. Of the "Mineral King call out Area," ?
[Individual, #28]

Response: Public Law (PL) 95-625 [16 USC 45f.], titled *Addition of Mineral King Valley to Sequoia National Park* was enacted in 1978. Section 314(c)(3) of this Act applies to the private permitted cabins in the Mineral King Valley area. The provisions of the WSP/EIS do not apply to these private permitted cabins that are located on federally owned land in the Mineral King Valley area of Sequoia National Park. The WSP/EIS proposes no changes to the use and occupancy of these permitted cabins.

Concern 24: The pack station at Mineral King should either be made economically viable or should be closed. There is no need to provide facilities to support commercial stock use since such additional facilities are a subsidy to commercial enterprise in wilderness which is contrary to the intent of the Wilderness Act.

(cont'd) DEIS Alternative 2 Element 10 - Further, I do not see any basis for allowing commercial stock use or travel from ANY trailheads that lack a pack station. Cedar Grove pack station can access north and south including Roads' End. Wolverton pack station, if it is in fact commercially viable, could access the cutoff and Sevenmile Hill to the HST, and go from there. Mineral King pack station can either become economically viable or close. Pack stations outside of the parks can handle the rest from where they are located. There is no need to provide for ANY facilities to support commercial stock use at ANY other trailhead, such as parking, paving, extra large clearings, gates, posts, fences, etc. Such additional facilities are a pure subsidy to commercial enterprise in wilderness that is contrary to the intent of the Wilderness Act. The DEIS Alternative 2 fails to account for how new frontcountry stock supporting activities at the Middle Fork Kaweah and South Fork in particular would "harden" the landscape at these locations and completely change their character, mix of uses, and day-to-day impacts on the trailhead environment and the trails themselves.
[Individual, #46]

Response: The preferred alternative proposes to prohibit contracted concession operations at the Mineral King Pack Station. Existing facilities at the Mineral King administrative corrals, used for the parks' administrative purposes, could be retained on the existing site or re-established at an alternate location. Existing facilities (both the former pack station and the administrative corral) could be modified to allow for short-term public camping or staging and/or short-term camping by CUA holders (see the "Element 10" section for alternative 2 in "Chapter 2: Alternatives"). The development and use of frontcountry facilities is not directly addressed by the terms of the Wilderness Act. However, "Chapter 4: Environmental Consequences" of the WSP/EIS analyzes the impacts of use supported by frontcountry facilities on wilderness character. In addition, any changes to frontcountry facilities that are approved through the WSP/EIS process will be subject to additional site-specific NEPA analysis and compliance.

Other frontcountry facilities have a variety of actions proposed, varying by alternative (see table 52 in chapter 2).

NPS Management Policies 2006

Concern 25: Alternatives 2 through 5 violate NPS policy since there appears to be no reasonable basis to support the restrictions proposed in the alternatives relative to which trails remain available for private recreational stock use.

> *Alternatives 2 through 5 Appear to Violate NPS Policy as They Represent De Facto Closures to Recreational Stock Use As described previously, there appears to be no reasonable basis to support the restrictions proposed in alternatives 2 through 5 relative to which trails remain available for private recreational stock use. To structure WSP alternatives that include reductions/restrictions to hiking or stock use appears to us to represent a de facto closure that is neither warranted nor supportable.*
> [Recreational Group, #171]

> *Clearly the WSP has yet to follow the course recommended by NPS policies and, at present, there is no reasonable basis for placing limitations on private recreational stock use in park Wilderness in the absence of compelling data on unacceptable impacts on park resources and visitor experiences resulting from such use. We recommend that action alternatives in the WSP that restrict hiking and private stock use be amended to eliminate the de facto closures currently included in the alternatives.*
> [Recreational Group, #171]

> *The draft WSP/EIS appears to violate applicable law and NPS policy as proposed regulations on stock use have not been shown either to be necessary to preserve wilderness character nor has documentation been cited that demonstrates recreational stock use currently is resulting in either unacceptable impacts or to unreasonably interfere with other (park) uses.*
> [Recreational Group, #186]

Response: The Wilderness Act and NPS policy do not expressly require that stock have access to wilderness. Rather, the Wilderness Act (which allows "a primitive type of recreation") and the NPS Organic Act mandate 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 parks' wilderness, the NPS identified resource impacts specific to stock use; in response WSP/EIS propose a number of methods to address these impacts that are compliant with the mandate of the Wilderness Act.

Concern 26: The Trail Management and Classification System should be separate from the WSP/EIS process.

> *We recommend that the Park Service develop a trails management plan separate from the WSP process.*
> [Recreational Group, #171]

Response: Incorporating the Trail Management and Classification System in the WSP/EIS is consistent with law and directly follows NPS policy (NPS *Management Policies 2006*, Section 6.3.10.2).

Concern 27: The parks should consider options to mitigate conflicts associated with recreational stock use in wilderness prior to implementing trail closures since not doing so would appear inconsistent with NPS policy.

> *Irrespective of any perceived level of conflict (either within-group or between groups with differing modes of primitive Wilderness travel) we encourage park personnel to consider options to mitigating any conflicts associated with recreational stock use in Wilderness prior to implementing outright trail closures. Not doing so would appear inconsistent with NPS policy, as described below.*
> [Recreational Group, #171]

Response: The Trail Management and Classification System is consistent with law and directly follows NPS policy (NPS *Management Policies 2006*, Section 6.3.10.2), including regulating the types of use of selected trails.

National Parks Omnibus Management Act of 1998

Concern 28: The WSP/EIS is incomplete and biased in the analysis of alternatives 2 to 5 since it ignored the Omnibus Act of 1998. There is a huge discrepancy between the requirements of the Omnibus Act and the proposed (almost identical) alternatives 2 to 5 especially in the lack of the mention of other cabins in the wilderness besides Redwood Canyon Cabin.

> *Alternative 2 to Alternative 5 are ignoring the Omnibus Act of 1998. This is a critical and missing entity, and results in the proposed alternatives being rather and completely biased. The lack of even mentioning the Omnibus Act of 1998 makes the Plan incomplete. Thus there is a huge discrepancy between the requirements of the Omnibus Act and the proposed (almost identical) alternatives of 2 to 5 in the Plan. The Plan is missing (and thus incomplete, misleading, and biased) any mention of all of the other cabins in the wilderness part of the park. This results in many readers even knowing about other similar situations where rangers live in the cabin over a long time period.*
> [Individual, #185]

> *(cont'd from 392890) 2) SEKI management, possibly in concert with CRF and wilderness-advocacy groups, should make a detailed study of the extent to which Federal laws and regulations may encourage scientific research in NPS-administered Wilderness Areas. Like item 1, I suggest this in hopes of benefiting not only researchers like myself and CRF, but the Park Service as well. As I understand NPS's job, it is to follow all relevant Federal laws and regulations regarding the lands under its stewardship. At the risk of stating the obvious, the many laws in question can provide seemingly contradictory directives regarding things like scientific research. The best example of this can be found by comparing the language of the Wilderness Act with the National Parks Omnibus Management Act of 1998. The section of the Wilderness Act quoted above prohibits structures and installations. This would seem to provide a very straightforward reason to abate the Redwood Canyon cabin. However, as noted in section 202 of the National Parks Omnibus Management Act of 1998, The Secretary is authorized and directed to assure that management of units of the National Park System is enhanced by the availability and utilization of a broad program of the highest quality science and information. If the language from the 1998 Omnibus Act were the only relevant language, then the research program and cabin in Redwood Canyon would probably be seen as a straightforward way to meet this directive, at essentially no cost to the Park Service. The 37-year-long research program in Redwood Canyon, with the logistical support of the*

cabin, may in fact be a broad program of the highest quality science and information possible under the circumstances, and thus may also be necessary to meet minimum requirements for the administration of the area for the purposes of [the Wilderness Act]. (cont'd in 392892)
[Business, #118]

(cont'd from 392891) I suggest that specific consideration be given to the balance between these two directives. In essence, the presence of the double wilderness in Redwood Canyon might conceivably tip the balance toward the prescriptions of the 1998 Omnibus Act. The current Wilderness Stewardship plan under consideration is a draft; perhaps the final version could outline a plan for further study of Redwood Canyon, with an eye towards assessing the resource there, and eventually formulating a plan for how to balance the several factors that affect wilderness management in (and under) the canyon. In the end, it is conceivable that the presence of the Redwood Canyon cabin and CRF research project may be more of an aid to wilderness management than a hindrance or legal liability. In my opinion, the following question suggests itself: Would a plan to make a special study of this area - taking into account all that has been learned by CRF and other research groups - really be a liability if it were part of the final Wilderness Stewardship plan? 3) I suggest that SEKI management give consideration to a meeting of the various stakeholders that might be concerned with the presence or absence of a cabin in Redwood Canyon. As I understand the legal situation facing SEKI during the last several years, it has been the target of lawsuits in which wilderness-advocacy groups have alleged that it has not managed wilderness according to the Wilderness Act, especially as regards backcountry ranger stations and usage of NPS wilderness by pack stock. A simple question suggests itself: Have these lawsuits actually concerned the Redwood Canyon cabin? Answering this question might go a long way toward developing a plan for Redwood Canyon. Perhaps it is worth trying to organize one or more meetings between NPS SEKI personnel, the advocacy groups involved in the lawsuits, and the cave researchers.
[Business, #118]

Response: The National Parks Omnibus Management Act of 1998 establishes the importance of science and research in the National Park System. The established criteria of research/scientific study is consistent with applicable laws and NPS management policies and will be conducted in a manner as to pose no threat to the parks' resources or public enjoyment derived from those resources. When evaluating the presence of a research cabin to determine if either of these criteria is met, the NPS must also look at other related laws and policies. Since this area is within designated wilderness, the cabin must meet the minimum requirements as mandated by the Wilderness Act. Under the Wilderness Act, there shall be no structure or installation within a wilderness area except as necessary to meet minimum requirements for the administration of the area for the purpose of the Act (Section 4(c)). Thus, only those developments necessary for the administration of wilderness are authorized. Relevant components of the Omnibus Management Act have been added to the WSP under the section "Legal Requirements" in "Chapter 1: Purpose and Need."

The cabins mentioned in the comment above refer to the ranger stations that, through the minimum requirement analysis process ("Appendix M: Programmatic Minimum Requirements Analysis"), have been determined to be necessary for the administration of wilderness.

National Parks and Recreation Act of 1978

Concern 29: The WSP/EIS should identify whether the measures and standards accomplish the intent of the carrying capacity purposes envisioned by the 1978 National Parks and Recreation Act as described in the 1997 NPS Visitor Experience and Resource Protection framework handbook for planners and managers.

> *In addition to identifying whether these three visitor capacity measures and standards are being established to retain existing conditions, ensure that areas remain within their applied standard, and ensure the preservation of wilderness character, the WSP should identify whether these measures and standards also accomplish the intent of the carrying capacity purposes envisioned by the 1978 National Parks and Recreation Act as described in the 1997 NPS Visitor Experience and Resource Protection framework handbook for planners and managers.*
> [Individual, #97]

> *This direction for a future tiered implementation plan to implement carrying capacity in the three GMP backcountry management zones is entirely separate than using indicators and standards to manage visitor capacity for the purposes of the Wilderness Act of 1964. While the GMP took the Wilderness Act into consideration, the carrying capacity provisions of the 1978 National Parks and Recreation Act applies to the entire park. This is reflected in the GMPs approach to carrying capacity and to management zoning.*
> [Conservation/Preservation, #184]

Response: Under the 1978 National Parks and Recreation Act (P. L. 95-625), the NPS is required to address the issue of carrying capacity in its GMPs. While NPS did choose to address visitor capacity in the WSP, the National Parks and Recreation Act neither imposes such a requirement on WSPs, nor dictates any particular method for addressing visitor capacity in GMPs.

The 1997 NPS Visitor Experience and Resource Protection (VERP) handbook provides one method for addressing visitor use (carrying capacity) issues in parks. It provides a methodology for visitor use planning and management. The VERP Handbook (page 2 of the handbook) is a general guide to the elements that make up the VERP framework. It was not intended to be a step-by-step guide that applies to each park unit in exactly the same way.

In 2014, the NPS Wilderness Stewardship Plan Handbook was finalized and provides guidance for integrating wilderness character into visitor capacity systems such as VERP and Limits of Acceptable Change (see page 31 of the Wilderness Stewardship Plan Handbook and the "Planning Framework" section of "Chapter 1: Purpose and Need" of the WSP/EIS for a description of the process). This wilderness stewardship planning framework was followed as the visitor capacity sections of the WSP/EIS were developed.

Concern 30: The WSP/EIS should describe that the GMP envisioned that the wilderness plan would be the tiered implementation plan for implementing the carrying capacity provisions of the 1978 National Parks and Recreation Act in the three GMP backcountry management zones and clearly state that is part of the purpose of the WSP/EIS.

> *The GMP envisioned that the wilderness plan would be the tiered implementation plan for implementing the carrying capacity provisions of the 1978 National Parks and Recreation Act in the three GMP backcountry management zones. The WSP should describe what that direction was and clearly state that is part of the purpose of the WSP.*
> [Conservation/Preservation, #184]

Implementing the carrying capacity provisions of the 1978 National Parks and Recreation Act at SEKI requires the preparation of one or more implementation plans after the GMP. The GMP said that: As discussed in the management prescriptions, visitor carrying capacity is the type and level of visitor use that can be accommodated while sustaining the quality of parks resources and visitor opportunities consistent with the purposes of the parks
[Conservation/Preservation, #184]

Response: At the time the GMP was prepared, there was no integration of wilderness character into planning for visitor capacity. This was not formally included in the visitor capacity framework until January 2014 with the finalization of the NPS Wilderness Stewardship Plan Handbook. Therefore, though the NPS used the GMP to help guide the establishment of overall desired conditions and resource objectives and guidance on potential management actions (see pages 64-67 of the GMP), the NPS used this as a starting point and went beyond this in the development of the Visitor Capacity Framework for this WSP/EIS (see the "Relationship to Other Planning" section of "Chapter 1: Purpose and Need" of the WSP/EIS and "Appendix A: Visitor Capacity"). However, the requirement of the 1978 Parks and Recreation Act was fulfilled by the GMP Management Prescriptions for carrying capacity (see GMP page 52).

Sequoia and Kings Canyon National Parks Enabling Legislation

Concern 31: The creation of hiking-only trails would contradict the parks' enabling legislation, which prohibits exclusive use. The alternatives in the WSP/EIS provide for the exclusive use of certain trails by hikers/backpackers, which is not in accordance with law, as otherwise required by the Administrative Procedure Act.

NPS's actions in selecting an alternative from the DEIS must also be consistent with the Administrative Procedure Act, 5 USC Sect. 706(2)(A), which permits a court to set aside an agency action when it is "arbitrary, capricious, an abuse of discretion or otherwise not in accordance with law." Furthermore, when the statutory language is clear, no deference is given to the agency's decision in implementing that statutory language. High Sierra Hikers Ass'n v. US. Forest Service, 436 F. Supp. 2d 1117, 1129 (E. D. Cal. 2006)("If the statute is clear and unambiguous, no deference is required and the plain meaning of Congress will be enforced"). Thus, the statutory language which says "no exclusive use" means just that, no exclusive use. Under this clear statutory language, if an area is closed for one user group, it must be closed for all user groups. NPS has no deference to impose exclusive use, regardless of its reasoning. However, as discussed herein, that is exactly what NPS has done by setting aside areas for the exclusive use of hikers by banning equestrians.
[Recreational Group, #138]

The DEIS then openly admits that it sets up areas for the exclusive use of hikers, stating that "Visitors traveling with stock would continue to have access to most trails in the parks, with some trails reserved for hiker use only." DEIS (Executive Summary at xix)(emphasis added).
[Recreational Group, #138]

However, these restrictions on stock use are contrary to the legal authority set out above. In addition, many if not all of these restrictions appear to be based on NPS's decision to favor the opinions of a minority of hikers/backpackers who have stated a preference not

to see either pack or saddle stock, and use those preferences as a basis to set up areas for the exclusive use of hikers. This methodology is not only contrary to the legal authority set out above, it is inherently ripe for abuse by any user group, which might have as an objective the goal of eliminating another user group from the area.
[Recreational Group, #138]

As NFRA discussed in its comments, the alternatives in the DEIS designated certain meadows for exclusive use of hikers and backpackers by prohibiting pack and saddle stock users in those meadows. For example, page 100 of the DEIS explicitly acknowledges that some trails "would be designated hiker-only where there are threats to sensitive resources or visitor safety issues." See id. At 115 (listing 42 miles of trails that are hiker only). In addition, in a summary of impact of the alternatives on stock access to the wilderness areas. NPS stated that the alternatives would establish between 32. 1-109. 7 miles of trails for the exclusive use of hikers. See Att. 1. However, as discussed above, establishing areas for the exclusive use of certain user groups violates the law which applies to these areas. While NPS apparently has assumed that it can allow exclusive use as long as it has some basis for doing so, the applicable law is very straightforward. The unequivocal prohibition on exclusive use means that, if one group is excluded, all groups must be excluded. Therefore, it does not matter what the reason for it may be, no exceptions can be made to allow exclusive use. Because of these requirement, the alternatives set out in the DEIS which NPS admits provide for the exclusive use of certain trails by hikers/backpackers are not in accordance with law, as otherwise required by the Administrative: Procedure Act. 5 USC § 706(2)(A)("A"), and should never have been considered as legal options. NFRA has previously raised this point in prior comments, but it appears to have fallen on deaf ears at the agency level (Footnote 3-We have been unable to locate any references to this applicable federal law in the DEIS.)
[Recreational Group, #251]

Because there is no rational basis for NPS to give exclusive use of areas to hikers/backpackers based on a very few self-serving assertions that seeing a stock user reduces their wilderness experience, the DEIS violates the APA.
[Recreational Group, #251]

Trails Proposed Closed to Stock I oppose proposals to create hiker-only trails based on criteria that include perceived conflicts. Legislation establishing Sequoia Nat'l Park (1926) prohibits the creation of exclusive use: "No exclusive privilege shall be granted within said park, or on or over the roads and trails therein, except upon ground leased for the erection of buildings or camps thereon." 16 USC § 45d. Consequently, if stock use were prohibited from any trail or area, backpackers would effectively have an "exclusive privilege" on that trail or in that area.
[Individual, #119]

"Social Value" as a Basis for Closing Meadows to Grazing. Alternative 2, which is the preferred alternative, describes itself as emphasizing site-specific actions to protect wilderness. In support of closing seven additional meadows along the John Muir Trail (JMT) and the High Sierra Trail (HST), these seven meadows would be closed to grazing in order to expand the network of meadows closed to grazing for scientific and social value (emphasis added). We understand that certain hiker groups are urging SEKI to close meadows to grazing in order to provide them with an opportunity to view ungrazed meadows. We believe this is the basis for the "social value" component of the recommendation in the PA to close an additional seven meadows along the JMT and the

HST. However, 16 USC Section 45d is very clear that this exclusive privilege arrangement is not allowed. Section 45d provides that no exclusive privilege shall be granted within said park, or on or over the roads and trails therein, except upon ground leased for the erection of buildings or camps thereon.
[Recreational Group, #230]

It is further questionable whether or not the Park Service has authority to designate exclusive use trails or areas, at least with respect to Sequoia National Park. If stock use were to be prohibited from any trail or area, as currently proposed in WSP alternatives 2 through 5, hikers and backpackers would effectively have an exclusive privilege on that trail or in that area. The legislation states that No exclusive privilege shall be granted within said park, or on or over the roads and trails therein, except upon ground leased for the erection of buildings or camps thereon(16 USC §45d).
[Recreational Group, #171]

*The numerous trails set out in the DEIS for the exclusive use of hikers/backpackers violate the plain language of applicable laws which prohibit setting aside areas for the exclusive use of any group. The areas covered by the DEIS are the Sequoia-Kings Canyon Wilderness and John Krebs Wilderness. With regard to pack and saddle stock activities in these two wilderness areas, Congress stated that these areas were to be managed in a manner "consistent with the statutory authority under which the Sequoia and Kings Canyon National Parks were created" as well as the Wilderness Act. House Report No. 110-694 (*4). Thus, to determine whether the proposed management of these areas is consistent with federal statutes, it is critical to analyze the statutory authority which created these Parks.*
[Recreational Group, #251]

While horseback riding and pack and saddle stock are authorized uses within the Sequoia and Kings Canyon National Parks, the Secretary has the authority to manage such uses in accordance with laws applicable to the park, and consistent with park planning documents. The use of pack and saddle stock is an appropriate and historically accepted recreational activity, as documented in the 2006 General Management Plan for the parks. The Secretary may authorize horseback riding in, or the entry of recreational or commercial saddle or pack stock into, an area designated as wilderness by this Act. The Committee intends that any decision made to authorize these activities shall be consistent with the statutory authority under which Sequoia and Kings Canyon National Parks were created, and the Wilderness Act, including section 4(d)(5) related to commercial services. Any authorization of these activities shall be subject to conditions and restrictions deemed necessary to protect park resources and wilderness values. (Emphasis added). As set out above, the statutory authority under which the Sequoia National Park was created included a prohibition on exclusive privileges. Therefore, it is clear that NPS's regulation of pack and saddle stock users cannot result in NPS providing exclusive privileges to hikers/backpackers in this area. Any such outcome is contrary to the explicit federal law which applies to these areas.
[Recreational Group, #251]

Response: The provision of the parks' enabling legislation referenced in the comment is 16 USC § 45d. This section states that, "No exclusive privilege shall be granted within said park, or on or over the roads and trails therein, except upon ground leased for the erection of buildings or camps thereon." This statute was an early precursor to today's concession laws, which allow NPS to enter into contracts with private entities for the provision of visitor services such as lodging and food service establishments. The type of

exclusive use that is prohibited by Section 45(d) is one that excludes the general public from an area. Restricting trails to certain uses does not confer exclusive privilege because the trail remains open to the general public. The WSP/EIS recognizes that stock use is a traditional use of the parks' wilderness, and allows the continued use of stock in the wilderness, subject to appropriate restrictions to preserve wilderness character.

Sequoia and Kings Canyon National Parks General Management Plan

Concern 32: The reference to the GMP statement "The use of stock for administrative and recreational purposes is still recognized as a traditional, historically and culturally significant, and legitimate activity that will continue in the wilderness of Sequoia and Kings Canyon National Parks" and the substitution of the word "recreational" for "commercial and private" needs to be retracted from the WSP/EIS.

> *Under INTRODUCTION in Vol. 2, p. D-5, is this startling statement-the last sentence of the first paragraph: "The use of stock for administrative and recreational purposes is still recognized as a traditional, historically and culturally significant, and legitimate activity that will continue in the wilderness of Sequoia and Kings Canyon National Parks (NPS GMP 2007)." Comment: SEKI, ourselves, and everyone else has consistently referred to the three categories of stock use-administrative, commercial, and private. Do you think that you have evaded the court's order and pulled the wool over everyone's eyes by substituting the word "recreational" for commercial and private? Your own statistics show that some 80% of recreational stock use is commercial. This is a deceitful and dishonest statement, a deliberate reference to the GMP that was forbidden by the court. It needs to be retracted*
> [Recreational Group, #254]

Response: The decision of the GMP ROD that recreational stock use at some level would occur was not vacated by the court. Because the court vacated references to commercial stock use, the WSP/EIS examines alternatives that include differences in terms of commercially supported stock use, including alternative 4, which would greatly reduce commercial support of all kinds. It is not necessary for the WSP/EIS to reexamine the GMP decision to allow recreational stock use at some level within the parks' wilderness.

Concern 33: The document should not take the same approach as the GMP took on carrying capacity. The WSP/EIS is currently written as to allow the parks several ways to avoid taking action.

> *It may well be unintentional, but the document is so written as to allow the parks several ways to avoid taking action. It implies that the parks are drawing a line in the sand, but it really provides the parks multiple opportunities to move that line. It is the equivalent of designing a beautiful set of goalposts. But then allowing those goalposts to be relocated to a more convenient location after the plan is completed. That is the approach the GMP took on carrying capacity; it kicked the can down the road for some implementation plan to handle the messy details. The WSP is that implementation plan for the parks' wilderness areas. It is time to clearly draw that line in the sand; not kick the can down the road again.*
> [Individual, #97]

Response: The purpose of selecting visitor capacity standards is to provide managers with a rational means of determining when management action should be taken to correct or improve an undesirable

condition that has resulted from visitor use. While the WSP/EIS does provide these types of visitor capacity standards, it does not dictate particular management actions that must be taken when a standard is exceeded. The WSP/EIS provides the flexibility to respond with site-specific management actions that are consistent with the particular instance in which the standard is exceeded.

Concern 34: The WSP/EIS should provide the full background of what the GMP said that the wilderness plan should do, it should explain fully how the WSP/EIS is linked to the GMP, and it should recognize the direction that is provided in the GMP.

> *The WSP appears to be the implementation plan for the parks backcountry areas that the GMP was proposing. The WSP acknowledges that the 2007 GMP called for the development of a wilderness plan as a tiered implementation plan. The WSP should provide the full background of what the GMP said that the wilderness plan should do. It should explain fully how the WSP is linked to the GMP. The WSP should recognize the direction that is provided in the GMP. Some of that direction is provided by management prescriptions. Some of it is provided by carrying capacity text in other parts of the GMP.*
> [Conservation/Preservation, #184]

> *Since the WSP is a tiered implementation plan off the GMP, it should do at least three things: 1. Clearly identify how the spatial area being planned for in the WSP (the parks wilderness areas) relates to the spatial area that the GMP included in the three GMP backcountry management zones. 2. Explain what direction the GMP provided for management of the three GMP backcountry management zones. 3. Explain what direction the GMP provided for the proposed wilderness plan.*
> [Conservation/Preservation, #184]

> *The GMP envisioned that the wilderness plan would be the tiered implementation plan for implementing the carrying capacity provisions of the 1978 National Parks and Recreation Act in the three GMP backcountry management zones. The WSP should describe what that direction was and clearly state that is part of the purpose of the WSP.*
> [Conservation/Preservation, #184]

Response: Information on how the WSP/EIS is linked to the GMP is adequately covered in the WSP/EIS, located in the following sections of "Chapter 1: Purpose and Need": "Goals and Objectives," "Relationship to Other Planning," "Purpose and Significance of the Parks," "Key Elements Considered in the Alternatives," "Issue and Impact Topics," and "Elements and Topics Outside the Scope of the Plan." In addition, information on the portions of the GMP vacated through a court order (High Sierra Hikers Association v. U. S. Department of the Interior, 848 F. Supp. 2d 1036 [N. D. Cal. 2012]) and how that affects the decisions made in the GMP is included in the "Purpose and Need of the Plan," "Background," and "Key Elements Considered in the Alternatives – Stock Use" sections of chapter 1.

Concern 35: The WSP/EIS appears to diverge from the GMP without justification because it did not review alternative sites for a potential commercial pack station.

> *Lastly, the GMP states that alternative sites would be reviewed for a potential commercial horse station. The WSP appears to diverge from the GMP without justification.*
> [Conservation/Preservation, #184]

Response: As explained in the "Purpose and Need" section of "Chapter 1: Purpose and Need" in an order dated May 29, 2012, the U. S. District Court for the Northern District California issued an opinion in a

lawsuit that challenged the parks' GMP (High Sierra Hikers Association v. U. S. Department of the Interior). The Court's order "vacate[d] all portions of the GMP and ROD, which provide programmatic guidance regarding the type or level of stock services necessary in the Sequoia and Kings Canyon National Parks wilderness or direction as to need, appropriateness, or size of developments, structures, or facilities used completely or partially for commercial stock services." Where the GMP is referred to in this document, only those sections not vacated by the court order apply. Therefore, all decisions made related to the commercial pack station at Wolverton through the GMP no longer apply.

Concern 36: Alternatives 4 and 5 appear inconsistent with several aspects of the parks' GMP and NPS policy. Alternative 4 fails to meet the stated objective to provide visitors with a greater range of wilderness experiences and alternative 5 would prohibit any off-trail travel by horse and stock users.

> *Draft WSP/EIS Does Not Represent a Reasonable Range of Alternatives For example, Alternatives 4 and 5 appear inconsistent with several aspects of the parks General Management Plan (GMP) and NPS policy. Alternative 4 fails to meet the stated objective to provide visitors with a greater range of wilderness experiences should the proposal to prohibit open meadow grazing by recreation pack stock be implemented (our rationale follows in subsequent pages of this comment letter). In addition, Alternative 5 would prohibit any off-trail travel by horse and stock users.*
> [Recreational Group, #171]

Response: Each alternative meets the stated objectives to a different degree and reflects public input received during the scoping process. The alternatives carried forward for analysis must meet project objectives to a large degree, although not necessarily completely.

CEQ has defined reasonable alternatives as those that are economically and technically feasible, and that show evidence of common sense (CEQ 1981). Alternatives that could not be implemented if they were chosen, or that do not resolve the need for action and do not fulfill the stated purpose in taking action to a large degree, should be eliminated as unreasonable before impact analysis begins. Unreasonable alternatives may be those that are unreasonably expensive; that cannot be implemented for technical or logistic reasons; that do not meet the parks' mandates; that are inconsistent with the parks' statements of purpose and significance or management objectives; or that have severe environmental impacts — although none of these factors automatically renders an alternative unreasonable.

Concern 37: The NPS fails to explain why the WSP/EIS ignores a "no-stock" option that was previously presented to the public in the GMP.

> *A "no-stock" alternative was present in the General Management Plan; yet NPS fails to explain why the WSP/DEIS, which tiers off the GMP, ignores an option previously presented to the public. The NPS's exclusion of the no-stock alternative was improper because it is a viable, yet unexamined alternative and the NPS failed to provide any adequate justification for its exclusion. The courts excused the NPS from examining a "no-stock" alternative in the EIS for the GMP because the purpose of that document was not to provide a detailed assessment of stock management options. High Sierra Hikers Ass'n, 848 F. Supp. 2d at 1052. The court determined that the detailed assessment would be part of the "future WSPs." id . A "no-stock" alternative is well within the scope and purpose of the WSP/DEIS as articulated by the NPS, and without such an alternative the agency cannot make "most intelligent, optimally beneficial decision" that NEPA's "reasonable alternative" requirement is designed to ensure. See id.*
> [Recreational Group, #235]

Response: In the 2007 GMP, the parks previously analyzed the alternative of eliminating stock use in the parks' wilderness areas and did not select this alternative (alternative A, see GMP page 123). Instead, the parks selected an alternative that, according to the GMP ROD, would allow for continued stock use, stating, "Use of stock continues, both as a means of access to wilderness by visitors, and for the administration of wilderness and protection of wilderness values. A formal system of resource monitoring is used to adaptively adjust stock use through regulation and local closures." The parks need not re-evaluate this portion of the plan of record in subsequently tiered plans. The WSP/EIS, as a tiered document, has analyzed alternatives that are entirely consistent with the intent of the GMP ROD.

Administrative Procedure Act

Concern 38: Grazing by recreational stock is a form of resource extraction that is impermissible under NEPA and the Wilderness Act.

> *The NPS's WSP/DEIS allows for unpermitted resource extraction from wilderness areas, and is impermissible under NEPA, the Wilderness Act, and may be an abuse of discretion under the APA.*
> [Recreational Group, #235]

Response: NEPA requires the NPS to evaluate the environmental impacts of a proposed action and to consider alternative courses of action. NEPA does not require a substantive outcome and has no provisions specific to wilderness management or grazing. In the WSP/EIS, the NPS has considered alternatives with varying levels of stock use and has evaluated the environmental impacts of the alternatives, as required by NEPA.

The Wilderness Act does not prohibit grazing. Grazing is allowed in wilderness areas where it was established prior to wilderness designation. Grazing of recreational and administrative stock has been an established practice in these parks for decades, well before the parks' wilderness was designated in 1984.

In addition, NPS regulations distinguish the use of pack animals from herding, pasturing, and grazing of livestock for agricultural purposes, which is prohibited in most national parks including these parks. The regulations allow superintendents to designate areas and conditions for the use of recreational pack and saddle stock, which is what the alternatives in the WSP/EIS do.

NPS *Management Policies 2006* Section 8.6.8.1 states that grazing incidental to recreational stock use is allowed in parks in a manner consistent with the policy direction articulated in Section 8.2.2.8 of these management policies. Section 8.2.2.8 explains that recreational stock use is authorized provided it is managed to avoid unacceptable impacts and that plans for recreational stock use should address social, biological and physical carrying capacity considerations. In the WSP/EIS, the NPS considered alternatives with varying levels of recreational stock use and evaluated the environmental impacts of each alternative. The environmental analysis in the WSP/EIS demonstrates that none of the alternatives would result in unacceptable impacts. The decision to include grazing by pack and saddle stock in the alternatives under consideration in the WSP/EIS is therefore consistent with applicable law and NPS policy.

National Historic Preservation Act

Concern 39: The document violates the National Historic Preservation Act (NHPA), the Wilderness Act, and NPS *Management Policies 2006* because the alternatives have an improper and detrimental impact on the historic and protected aspects of stock use.

The DEIS violated the NHPA because the alternatives in the DEIS have an improper and detrimental impact on the historic and protected aspects of stock use in the area.
[Recreational Group, #251]

NPS agrees that the use of pack and saddle stock is still recognized as a traditional, historically and culturally significant, and legitimate activity that will continues in the backcountry of Sequoia and Kings Canyon National Parks. Therefore, the historic stock activity in the backcountry of Sequoia and Kings Canyon National Parks is protected by the Wilderness Act, the specific statutes establishing both the John Krebs Wilderness and the Sequoia-Kings Canyon Wilderness areas and the NHPA as well. Because of this determination by Congress, NPS's consideration of alternative in the DEIS that ban the use of stock in these areas is improper.
[Recreational Group, #251]

Furthermore, pack stations on the eastern and western portions of the Sierra Nevada Range are eligible for listing on the National Register. These stations and trails they use for their historic operations comprise a historic district/landscape. In addition to the pack stations, portions of these areas that include the trails used by packers are eligible for being an historic district/landscape and are within the area covered by the DEIS. As such, the entirety of these areas will be impacted by the decisions made in the DEIS.
[Recreational Group, #251]

However, the DEIS failed to comply with the law by failing to recognize this status. Pursuant to the Section 106 of NHPA and NEPA, NPS must first identify historic properties within the relevant areas which can be adversely affected by the agency decision. NPS failed to do that with respect to these areas which are eligible for listing on the National Register.
[Recreational Group, #251]

Request Management Policy 6. 3. 8 Cultural Resources be observed. Request the activity of packing and stock use as cultural use vs a recreational use.
[Business, #182]

Response: The Wilderness Act does not require that stock has access to wilderness. Rather, the Wilderness Act mandates the preservation of wilderness character while allowing visitors to access wilderness in a compatible manner.

The National Historic Preservation Act recognizes five property types: districts, sites, buildings, structures, and objects (PL 89-665; 16 USC 470 et seq. as amended; Section 101 (a)(1)(A)). These categories are used in the National Register of Historic Places. Thus the NHPA does not apply to “historic uses.” Even though historic uses are not considered under the NHPA, the NPS does identify resource categories to help focus attention on management requirements within identified NHPA property types (NPS-28). One of those categories is ethnographic resources. Ethnographic resources are concerned with peoples associated with parks, with their cultural systems or ways of life, and with sites, structures, and natural resources (NPS-28). The NPS recognizes in the WSP/EIS that stock use is a historically and culturally significant traditional use that is an appropriate means for fulfilling the recreational purpose of wilderness (see the “Key Elements Considered in the Alternatives — Stock Use” section of “Chapter 1: Purpose and Need,” which says, “Private and recreational stock use is a historically and culturally significant traditional use that is an appropriate means for fulfilling the recreational purpose of wilderness”). While there has been no formal evaluation of stock use as an ethnographic resource in the

Sierra Nevada, the WSP/EIS does not preclude the continued use of stock for recreational and administrative purposes in park wilderness.

NPS *Management Policies 2006* Section 6.3.8 does not specifically address the historic use of wilderness. It states that "the laws pertaining to historic preservation also remain applicable within wilderness but must generally be administered to preserve the area's wilderness character." Cultural resources that have been included within wilderness will be protected and maintained according to the pertinent laws and policies governing cultural resources using management methods that are consistent with the preservation of wilderness character and values. The laws related to cultural-resource protection, per 6.3.8, include the Antiquities Act and the Historic Sites, Buildings and Antiquities Act, as well as subsequent historic preservation legislation, including the National Historic Preservation Act, the Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act. The WSP/EIS is consistent with these laws and with NPS *Management Policies 2006.*

Concern 40: Historic pack stations have been denied the Section 106 historic evaluation process of NHPA. Because the WSP/EIS has not completed a Section 106 review of the planning area, including trails, meadows, sites, and structures, the document is unable to accurately assess for adverse effects.

> *We do not feel the parks have applied the Section 106 process of the National Historic Preservation Act, a part of the NEPA process, in the DEIS. The constraints placed on the historic facilities; pack stations located outside of the planning area is considered outside of the scope of the parks planning process, but directly limits, constrains their access, ability to perform their public service for which they were originally designed. Identified in the DEIS as commercial stock, no recognition/identification has been given as to where the commercial stock originates from. According to the NEPA/NHPA law, it is the responsibility of the federal agency in their planning efforts, to first identify historic properties which can potentially suffer an adverse effect from said federal project. Because the DEIS has not completed a complete Section 106 review of the planning area, including trails, meadows, sites, structures etc. , it is unable to accurately assess for adverse effects. The Inyo National Forest completed a 2005 John Muir and Ansel Adams Wilderness ROD, and later a 2007 Commercial Pack Station, Outfitter Guide Permit Issuance ROD, and now we have the NPS WSP. Please consider that by addressing federal planning projects separately; first addressing wilderness, then non-wilderness, USFS planning and now National Park Service planning, this disjointed mode of federal planning (instigated by litigation) separates a large land mass, between USFS and NPS managed lands, between front and backcountry areas, which then effectively disconnects the historic pack stations from each planning area on a map, but not outside of limiting controls and regulations. Because of this disjointed planning process presented by the involved federal agencies, the historic pack stations have been denied the Section 106 historic evaluation process of the National Historic Preservation Act (NHPA).*
> [Business, #182]

Response: During the planning process, the parks' cultural-resource staff reviewed the alternatives and determined the area of potential effect and the impacts on listed historic properties, or those that are potentially eligible for listing on the National Register of Historic Places (NRHP). This information is included in "Chapter 3: Affected Environment" and in "Chapter 4: Environmental Consequences" and was provided to the California State Historic Preservation Officer (SHPO). Only one potentially eligible property would be affected by the proposed action: the Bearpaw Meadow High Sierra Camp, specifically the ranger station with the camp area. The SHPO concurred with the determination of effect ("Appendix S: Consultation with the California State Historic Preservation Office").

However, because the entire wilderness area has not been surveyed, there are cultural resources that have not yet been formally assessed per section 110 of the NHPA. The parks have historically and will continue to work to ensure compliance with Section 110 of the NHPA by locating, inventorying, and nominating cultural resources that may be eligible for listing on the NRHP. If, however, there are features that have not yet been formally assessed, the parks have a responsibility to do so as directed in Section 110 and will work to achieve this goal. Prior to implementation of any action that may have an adverse effect on cultural resources, including potential cultural landscapes and potential historic structures (such as drift fences and hitch rails), a separate 106 process would be initiated for that action. If adverse effects cannot be avoided, the parks will coordinate with the California SHPO and the Advisory Council on Historic Preservation to develop measures to mitigate the potential adverse effects in compliance with section 106 of NHPA.

Concern 41: Drift fences and hitch rails should be evaluated via the Section 106 process of NHPA since they are features associated with the historic pack stations, which are a larger part of the cultural landscape. None of these features should be removed until this evaluation has been completed and further development of the cultural/traditional landscape has been considered.

> *Drift fences and hitch rails should be evaluated via the Section 106 process of NHPA as associated features of the historic pack stations, a part of a larger cultural landscape extending beyond park boundaries. We appreciate the discussion on drift fences, their importance, and how to manage. Request none removed until evaluation completed and further development of cultural/traditional landscape considered.*
> [Business, #182]

Response: The NPS must weigh the effects that all proposed alternatives may have on resources, both cultural and natural. In some cases, impacts that benefit natural resources and features could have an adverse effect on cultural resources. Prior to implementation of any action that may have an adverse effect to cultural resources, including potential cultural landscapes and potential historic structures (such as drift fences and hitch rails), a separate 106 process would be initiated for that action. If adverse effects cannot be avoided, the parks will coordinate with the California SHPO and the Advisory Council on Historic Preservation to develop measures to mitigate the proposed adverse effects in compliance with section 106 of NHPA.

Concern 42: The JMT and all other trails should be evaluated for historic significance, per the NHPA and the National Trails System Act of 1968. The parks should consider the volume and types of visitor traffic and the need for continued commercial services in the planning process. Because the formal trail system in the parks predates wilderness designation, historical use should be considered.

> *Request evaluation of the JMT and all other trails for historic significance, per the NHPA and the National Trails System Act of 1968. Also, we request the parks consider the volume and types of visitor traffic, and need for continued commercial services in the planning process. Because the formal trail system in the parks predates wilderness designation, historical use should be considered. Trails should preserve the diversity of users, giving a generous nod to stock users.*
> [Business, #182]

Response: "Appendix K: Trail Management and Classification System for Sequoia and Kings Canyon National Parks," attachment 4 outlines the trails considered historic, the priority for evaluating these trails, and the strategy for maintaining these trails to preserve their historic features. This information was

provided to the California SHPO for their review and the parks will continue to work with the California SHPO to evaluate and protect these historic resources.

Code of Federal Regulations

Concern 43: Commenters stated that the 60-day comment period was unfair due to the time needed to review the amount of material presented in the WSP/EIS. There was concern that the WSP/EIS is dense, repetitive, and sometimes incomprehensible, or alternatively, that the WSP/EIS is lacking in analysis and self-serving. Commenters suggested that the document did not reasonably inform the public of how the document can be utilized by the NPS to "plan actions and make decisions" and fulfill the NEPA requirements 40 CFR 1502.9(a) for the wilderness environment.

> *VIOLATIONS OF NEPA REQUIREMENTS 40 CFR 1500. 2 "Environmental impact statements shall be concise, clear, and to the point, and shall be supported by evidence that agencies have made the necessary environmental analyses." Comment: The DEIS/WSP is none of those things. It is dense, repetitive, and sometimes incomprehensible. As to analysis there isn't any. The document is replete with assertions, statements, claims, and conclusions masquerading as analysis. But there is no analysis. 40 CFR 1502. 8 Writing "Environmental impact statements shall be written in plain language . . . so that decisionmakers and the public can readily understand them. Agencies should employ writers of clear prose or editors to write, review, or edit statements, . . . " Comment: Much of the prose is vague and ambiguous, and is subject to multiple interpretations. Many sentences and paragraphs that purport to be statements of fact are unsubstantiated. Some are contradictory. Many statements consist of bureaucratic boilerplate language that serves no purpose other than to substitute for documented facts and reasoned analysis. 40 CFR 1502. 2 (a) "Environmental impact statements shall be analytic rather than encyclopedic." Comment: The creators of this DEIS have loaded it with every iota of useless prose and redundant information in their arsenal. At two volumes and 1,234 pages it is truly encyclopedic, and organized in such a manner as to provide obfuscation rather than clarity.*
> [Recreational Group, #254]
>
> *This DEIS is concerned with only one thing: doing business as usual. It is entirely lacking in analysis, entirely self-serving, entirely intended to ratify existing policy, and entirely functions as a barrier to public involvement.*
> [Recreational Group, #254]
>
> *As a preliminary matter, High Sierra reminds the NPS that the CEQ regulations encourage agencies to limit the length of their NEPA documents. 40 CFR Sect. 1502. 7; 43 CFR Sect. 46. 405. At 1,234 pages, this WSP/DEIS is extraordinarily and unnecessarily long and not within the "normal" page limits of 300 pages. The length of this WSP/DEIS is not explained away by clear reasoning, plain language, or arguments or in-depth analysis. High Sierra believes that the WSP/DEIS contravenes the CEQ regulations on this point. See 40 CFR Sect. 1500. 2, 1502.8, 1502.2(a).*
> [Recreational Group, #235]
>
> *Thus how the WSP/DEIS can be utilized by the NPS to "plan actions and make decisions" (40 CFR Sect. 1501.1) and fulfill the NEPA requirements (see 40 CFR Sect. 1502.9(a) (regarding draft statements)) is difficult to comprehend. The WSP/DEIS does not reasonably inform the public of what that means for the wilderness environment*
> [Recreational Group, #235]

> *Time Allowed to Comment. We understand that the Sequoia and Kings Canyon National Parks Backcountry Access Act of 2012 placed a stringent time limitation on SEKI to adopt its WSP. This is particularly unfortunate for BCHA, BCHC, and HSU and the commercial packers who are directly impacted by the WSP. We are being given approximately 60 days to comment on two volumes of materials that are approximately four inches thick. The matters dealt with in these two volumes are matters that numerous SEKI employees and even independent contractors have been working on for several years. The members of the HSU who are participating in this comment process are individuals who are employed and can only study and prepare comments in their spare time. It is inherently unfair to give us only a 60 day period to submit our comments in writing. Government should do better for its citizens.*
> [Recreational Group, #230]

Response: The NPS has made extensive efforts to involve the public throughout the planning process. Public scoping, which occurred from April 11 to August 31, 2011 and included several public meetings, resulted in more than 900 comments that helped shape the plan. In addition, preliminary draft alternatives were presented to the public for a 48-day public review and comment period, which allowed the public to review alternatives and options for how the key topics would be addressed in the plan. This extra step during the public scoping period allowed the parks' staff to meet with the public and receive input and make updates to the alternatives prior to the draft plan being distributed for public review. More than 200 comments were received on the preliminary draft alternatives. During the 60-day public review of the WSP/DEIS, the parks' staff held six public meetings, including one webinar, to reach out to the public and answer questions about the plan and its alternatives. Also, supplemental information and fact sheets were prepared to allow the public to review summary materials on the plan, so they could focus on those topics of most interest to them. The parks received more than 250 comments during the public review period for the WSP/DEIS, and no formal requests were made for an extension of the public review period.

The WSP/EIS will provide site-specific management direction to the more than 97% of the parks' acreage that is wilderness for the next 15-20 years. As a key management document for the future of the parks' wilderness, it is important that the WSP/EIS include adequate information to allow the public to understand the management options presented and evaluate the effects of the alternatives. Public input during the scoping process shaped the content and number of alternatives presented in the WSP/DEIS. The public identified many important issues that should be addressed in the WSP/EIS, including stock use, commercial services, and the use of campfires. During scoping, the NPS held workshops to gather feedback from the public on six preliminary alternatives. Based on public review, the NPS determined that five alternatives were adequate to fulfill NEPA's mandate that a WSP/EIS present a reasonable range of alternatives. The alternatives are presented in "Chapter 2: Alternatives" with accompanying graphics. The environmental effects of each alternative are presented in "Chapter 4: Environmental Consequences." Where appropriate, supporting data has been included in appendices.

In addition, when determining the content of the WSP/EIS, the NPS followed the NPS Wilderness Stewardship Planning Handbook (NPS 2014a), which provides direction for wilderness stewardship plans. Among other things, NPS policy requires that wilderness stewardship plans include a minimum requirements analysis and a determination on the amount of commercial services that will be authorized in wilderness. The Programmatic Minimum Requirements Analysis is found in appendix M and an Extent Necessary Determination for commercial services is found in appendix B.

Concern 44: The **WSP/EIS** does not include consultation letters with the U.S. Fish and Wildlife Service (USFWS) and other California agencies on the potential impacts on Yosemite toads and mountain yellow-legged frogs. The NPS is required to prepare and include a biological assessment in its environmental review.

The NPS has failed to meet the requirements of the Endangered Species Act, ("ESA") 16 USC
[Recreational Group, #235]

Sect. 1531 et seq., and the California Endangered Species Act, Cal. Fish and Game Code Sect. 2050 et seq., in its evaluation of the impacts on both the Yellow Legged Mountain Frog and the Yosemite Toad. NPS identified YT as threatened under the ESA and the MYLF as endangered under the Federal ESA in April 2014, effective June 30, 2014. See 79 Fed. Reg. 82,24256 (April 29, 2014). The MYLF was listed as endangered under the California Endangered Species Act in 2012. California Fish and Game Commission: notice of findings. Southern mountain yellow-legged frog (Rana muscosa), Sierra Nevada mountain yellow legged-frog (Rana sierrae). (February 2012). High Sierra has stressed the impact stock use, particularly grazing in SEKI meadows, has on these species and is disappointed that no coherent biological assessment is present in the WSP/DEIS despite the status of these species at the time the WSP/DEIS was issued.
[Recreational Group, #235]

NPS is required to prepare a biological assessment for the SEKI WSP/DEIS to "evaluate the potential effects of the action on listed and proposed species and designated and proposed critical habitat and determine whether any such species or habitat are likely to be adversely affected by the action and to determine whether formal consultation or a conference is necessary." 50 CFR Sect. 402. 12(a). The requirement is present for Federal actions that are "major construction activities." 50 CFR Sect. 402. 12(b). A "major construction activity" includes an undertaking "which is a major Federal action significantly effecting the human environment as referred to in the National Environmental Policy Act." 50 CFR Sect. 402. 2. The WSP/DEIS is obviously a major Federal action under NEPA and as such the NPS is required to include a biological assessment in its environmental review.
[Recreational Group, #235]

Though the contents of the biological assessment are at the agency's discretion, the NPS did not provide sufficient information to meet the purpose of the ESA and did not make a clear determination regarding the effects of the WSP/DEIS on the MYLF and the YT.
[Recreational Group, #235]

The NPS has data and impacts regarding the species strewn throughout the WSP/DEIS, but does not make a coherent and definitive determination regarding the overall effect of the proposed action.
[Recreational Group, #235]

The ESA establishes an interagency consultation process to assist federal agencies to comply with this duty. Under the ESA, "agency action" includes "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies." 50 CFR Sect. 402. 02.
[Recreational Group, #235]

The NPS has failed in its obligation to consult with the Fish and Wildlife Service and California agencies regarding the effect of the WSP/DEIS on the MYLF and the YT.
[Recreational Group, #235]

The WSP/DEIS states that NPS did consult (WSP/DEIS at 551-552), but Appendix G to the WSP/DEIS does not provide any materials demonstrating a response from FWS or California agencies regarding the MYLF and the YT in connection with the WSP/DEIS. [Recreational Group, #235]

Moreover, the WSP/DEIS states in the Summary of Impacts table that most alternatives would have a "beneficial effect" on the YT and MYLF. WSP/DEIS at 260 - 261. As stated above, any effect, even that which may be beneficial, triggers the formal consultation requirement. 51 Fed. Reg. 19,926, 19,949 (June 3, 1986). All alternatives, other than Alternative 4, would allow visitor use to continue at current or increased levels, leading to increased encounters. Id . The NPS's statement that stock access and grazing restrictions would decrease these impacts and thus provide beneficial impacts does not relieve the NPS from its obligation to consult. It appears that the NPS has determined that the WSP/DEIS will have an effect on both the YT and the MYLF. Therefore, it is required to consult regarding the impacts of the WSP/DEIS under the ESA. [Recreational Group, #235]

Response: As stated in "Chapter 5: Consultation and Coordination," informal and formal consultation with the USFWS under the Endangered Species Act is ongoing. A thorough analysis of the effects of all alternatives was included in "Chapter 4: Environmental Consequences" of the WSP/EIS, including a determination of effects for listed species, which fulfills the requirement of a biological assessment (per Director's Order 12 6.2.g and f). This information was provided to the USFWS who, at the time of this writing, is preparing a biological opinion which will be included in the WSP/FEIS.

CHAPTER 2: ALTERNATIVES

Elements Common to All

Concern 45: Helicopter use and military overflights are disruptive to visitors' wilderness experience. Administrative helicopter use should be reduced, and military overflights should be reduced during the peak summer months. Additionally, pilots should be required to fly at a predetermined speed and height over the parks to minimize impacts from noise. Commercial air tours should not be permitted.

Considering permitting commercial air overflights, would needlessly re-open the military overflight issue. Base commanders are not prohibited from flying over SEKI wilderness. They have agreed to conduct their training elsewhere in the interest of preserving our nation's wilderness. Commercial air tours are not compatible with preserving these two parks' wilderness, nor with natural quiet and I urge that this activity not be considered. [Individual, #141]

Reduce administrative helicopter use. The NPS at SEKI uses an extraordinary amount of unnecessary helicopter use in the SEKI Wilderness for administrative purposes, rather than using wilderness-compatible means of transportation. In fact, SEKI has a national reputation as one of the worst offenders of administrative helicopter use anywhere in the National Wilderness Preservation System. The use of helicopters should be limited to emergencies involving the health and safety of visitors and administrative personnel. NPS wilderness rangers and trail crews are perfectly capable of accessing wilderness on foot or with stock and should be setting the example for other wilderness visitors. [Conservation/Preservation, #166]

I strongly encourage the NPS to request that the military suspend their overflights during the summer months of June, July and August, leaving the remaining nine months to conduct their exercises.
[N/A, #195]

The vast majority of the disruptive noise is from jets that abruptly accelerate or climb or dive. If the Parks Service and Navy could identify the elevation and speed that creates the least disruptive noise, and the Navy required its pilots to fly at that elevation without varying speed or elevation, at least the noise would be far more uniform, constant "background" noise, much less disruptive to the wilderness tranquility than jets abruptly accelerating, climbing, diving, etc.
[Conservation/Preservation, #163]

Response: The parks perform minimum requirement analyses for all helicopter flights that are not conducted on an emergency basis to comply with the Wilderness Act (Section 4(c)), and have specific criteria that are reviewed prior to approving flights/landings (see "Appendix I: Minimum Requirements Analysis"). It is a stated management preference that wilderness administrative operations seek non-motorized means to accomplish tasks before resorting to helicopters. Helicopter use is one measure that will be monitored as an aspect of wilderness character (see table C-2 in "Appendix C: Wilderness Character Monitoring Strategy"). The parks do not support the implementation of commercial air tours over these parks wilderness and have addressed this in the "Elements Common to All Alternatives, Aviation" section of "Chapter 1: Purpose and Need.." Military overflights are also addressed in this section of the WSP/EIS, which discusses the parks' lack of authority over the airspace but that the parks work cooperatively with the military to control and mitigate impacts.

Concern 46: Drones should be banned from NPS units and especially in wilderness.

We strongly support the decision to prohibit the use of privately owned drones at SEKI, as well as other national parks, especially inside of wilderness. We understand the National Park Service is in the process of establishing rules for drones nationwide. The Sierra Club would like to participate in that process and help establish rules for the use of drones in National Parks and Wilderness.
[Conservation/Preservation, #60]

Response: The NPS has a temporary ban on all drones except those approved for management uses in all national parks. It is anticipated that this will become a permanent ban. Chapter 36, Code of Federal Regulations, Section 2.17 also prohibits delivering or retrieving objects or persons by airborne means, except in emergencies or as approved by the Superintendent through a permit, on all park-managed lands. These parks believe that drones are incompatible with the wilderness experience and degrade wilderness character.

Concern 47: The WSP/EIS should include opportunities for education, including backpacking and fire safety.

Education of fire safety and regulations and permits prior to backpacking would be appropriate as good stewards of this park land.
[N/A, #65]

Frontcountry facilities: The education of backpackers when they receive their permit is very important for the protection of our wilderness.
[N/A, #195]

Response: Every alternative in this WSP/EIS strongly supports education as a critical element of wilderness character preservation and experience ("Management Actions Applicable to All Alternatives," pages viii and 33). See "Appendix H: Wilderness Information and Education Strategy" for details on educational goals and methods.

Suggests New Element for Common to All

Concern 48: All of the alternatives should have areas with trails and those without trails.

> *All alternatives should have the same two-tier management system: areas with trails and areas without trails. In trail corridors, the trail itself should be the only permanent human fixture, other than a few essential signs (only at trail junctions) and structures (e.g., existing bridges) that are critical for visitor safety.*
> [Individual, #180]

Response: There are trailed and trail-less areas included in all alternatives, and each alternative proposes different levels of allowable development. The preferred alternative seeks to balance reducing development from existing levels while providing those facilities that properly support the use and enjoyment, and public purposes (recreational, scenic, scientific, educational, conservation, and historical use) of wilderness.

Concern 49: There should not be permanent structures in wilderness other than the trails.

> *There should be no toilets, no bear boxes, no drift fences for stock, or any of the other intrusions that the Park Service has allowed to proliferate in the wilderness in recent decades. In trail-less areas, a person should be able to experience wilderness with no signs, no human structures, no bear boxes, no fire rings, and no livestock.*
> [Individual, #180]

Response: The Wilderness Act provides general prohibitions on structures (and other features and actions) in wilderness in Section 4(c). This is a general, not an absolute, prohibition. It is informed by language that is meant to ensure that only those structures that can be demonstrated to be the "minimum required" to administer the area as wilderness will be allowed.

Concern 50: The WSP/EIS should include a strategy to prepare for climate change.

> *Adoption of a policy that recognizes and prepares for the effects of rapid climate change in the region of Sequoia and Kings canyon NP.*
> [Individual, #176]

Response: To develop a full management response to climate change is outside the scope of the WSP/EIS planning effort. Text has been added to the WSP/FEIS ("Chapter 3: Affected Environment," "Chapter 4: Environmental Consequences," and "Appendix H: Wilderness Information and Education Strategy") discussing climate change and its effects on wilderness character, and how the parks would adaptively manage visitor use in response to changing climatic conditions. The parks are currently working on a Resource Stewardship Strategy that will integrate adaptive-management strategies for natural and cultural resource management in order to respond to climate change.

General Comments on Key Topics

Concern 51: Based on data in the WSP/EIS, stock users comprise a small percentage of the parks' users. The continuation of stock use in the parks will continue to impact the parks' resources, including wilderness. The NPS should protect the resources for the majority of the visitors, not make accommodations for a small user group.

> *In Vol. 1, page 327, is Table 67, which shows the number of clients served by category during a four-year period, 2009 through 2012. The number of clients served annually by pack and saddle stock during those years ranged from 469 to 819, an average of 643.5. For this tiny number of people, the NPS at SEKI willingly and willfully sacrifices "wilderness character," promotes wilderness exploitation and degradation, and negatively impacts the experiences of all those who travel on foot-that is, for 93% of the total visitors to SEKI wilderness. Why is this your policy?*
> [Recreational Group, #254]

Response: The parks are public lands managed to provide for the use and enjoyment of the whole public, whether their preferred method of recreation puts them in a minority or a majority. The NPS disagrees that the current levels and types of stock use "sacrifices wilderness character," and the NPS will not support actions or policy that lead to the elimination of an appropriate wilderness use just because it is conducted by a small amount of the public. There are significant and adequate controls and restrictions in place to ensure that wilderness character is preserved. There is no supporting information that even suggests that "all those who travel on foot," or even a majority, are negatively impacted by visitors who choose to use stock to recreate on their public lands.

Concern 52: The WSP/EIS appears to be biased towards those visitors who do not want commercial stock use to continue in the parks. However, commercial stock outfitters provide services to parks' visitors, and without commercial services, these people would likely not visit the parks.

> *The Wilderness Stewardship Plan has an anti-commercial packing bias. There is an apparent disconnect with the fact that the commercial pack stations are there to serve the public. The majority of trail closures, camping closures, grazing closures, and party size restrictions are geared towards commercial stock groups, with private stock users also being affected. This will have a net effect of fewer trips, with fewer people visiting the Parks.*
> [Recreational Group, #201]

Response: The WSP/EIS does contain significant controls and restrictions on all commercial services (not just those related to stock) provided to the public. This is a direct reflection of the expressed mandate of the Wilderness Act. In the Act, Section 4(d)(5), which established that commercial services provided in wilderness are discretionary ("may be performed"), must support proper activities to realize wilderness public purposes, and will be allowed to the "extent necessary." These parks know and understand that in many situations commercial services support public need to properly experience wilderness and have developed the Extent Necessary Determination (appendix B) to document and guide the provision of these services.

Concern 53: The WSP/EIS should address ways stock users should be responsible for animal waste using the Leave No Trace© principles. Manure bags should be required by all stock users to mitigate the impacts from stock use.

For all alternatives, manure in corrals is to be removed from parks (WSP/DEIS at 219) however, the WSP/DEIS does not provide any information on this point. Namely, the estimated pounds of manure generated each year in corrals by stock, whether the corrals are constructed to avoid runoff or seepage into groundwater or wetland or riparian areas or surface waters, how the corrals are cleaned of manure (e.g., whether they are scraped down), how manure is transported out of the park and the impacts of different methods, the effects of a concentrated manure source on wildlife near the corral areas, the effect of excess nutrients on nearby soils, and potential germination of seeds in stock manure. In fact, NPS dismissed the idea of manure bags (WSP/DEIS at 221) but did not address other ways stock users should be responsible for animal waste. This approach is totally contrary to the "leave no trace" principles and a violation of the pristine character of the wilderness.
[Recreational Group, #235]

I also support actions that don't appear in any of your alternatives, such as requiring "manure catchers" on stock animals see (www. bunbag. com)
[Individual, #117]

Reduce the impacts of packstock manure by requiring "manure catchers" on all stock animals or scattering of animal manure to keep it off trails and out of surface waters. All stock users should be required to attach manure catchers to their animals, or at a minimum, dump the manure at least 25 feet away from trails and campsites, and even farther away from surface waters. It is particularly important to keep packstock manure out of and away from surface waters.
[Conservation/Preservation, #166]

You have stated in Vol. 1, page 221, that you will not consider manure bags for stock animals. So what are you going to do about stock-animal waste? You have stated that total stock use in 2013 was more than 6,000 days, which means that those animals have dumped more than 300,000 pounds of raw animal sewage on SEKI's trails and campsites and in water sources in the few months of the season.
[Recreational Group, #254]

Response: Manure bags are known to chafe the skin of stock, and the parks do not consider them a feasible alternative for use on stock traveling long distances and for long periods on trails in wilderness. This information has been added to the “Alternative Elements Considered but Dismissed from Detailed Analysis” section of “Chapter 2: Alternatives.” Manure handling mitigations have been added to the plan to guide stock users in properly treating stock manure. The parks will communicate these practices to wilderness stock users. Manure handling protocols are discussed in the “Measures to Protect Wilderness Character and Visitor Experience” section of chapter 2.

Suggests New Key Topic to Address

Concern 54: Drought conditions that California has experienced for the past three years should be addressed in the WSP/EIS.

DROUGHT- This topic is not one of the elements of the draft plan, but think it needs to be a major consideration in planning for wilderness stewardship. The current severity of 3 years of drought has impacted the entire Sierra range. I ask that all planning, especially for stock use, include consideration of the impacts of the drought on meadows and waterways.
[Individual, #145]

Response: Information has been added to the final WSP/FEIS discussing how changing climatic conditions (e.g., prolonged drought, warming temperatures, and more severe storms and flooding) will affect wilderness management and key resource topics. This is also part of the adaptive management approach as discussed in detail in "Chapter 2: Alternatives," "Appendix A: Visitor Capacity," and "Appendix D: Stock Use and Meadow Monitoring and Management Strategy."

Concern 55: The WSP should discuss climate change and the interaction of climate change impacts on the consequences of the alternatives.

> *The DEIS (p. 37) wrongly dismissed assessing the interaction of the effects of the alternatives with those of climate change, by speciously asserting that " . . . available information is not adequate to quantify the interaction of climate-change impacts on the consequences of the alternatives." This statement is in conflict with available scientific information, which includes many quantitative estimates of climate change effects (e.g., decreased low flows in streams, changes in snowmelt timing) published in scientific journals. However, it also misleads, because the general trend and type of climate change impacts that interact with the many of the consequences of the alternatives are generally agreed upon and have been increasingly documented (Beschta et al. , 2013) (e.g., low flows in streams, changes in snowmelt timing (Stewart et al. , 2005), increased air temperatures, etc.). This information is adequate to assess general interactions of climate change effects and many of the consequences of the alternatives' allowed stock activities (Beschta et al., Table l, 2013). The DEIS must be revised accordingly.*
> [Business, #238]

Response: Text has been added to "Chapter 1: Purpose and Need" "Chapter 3: Affected Environment" and "Chapter 4: Environmental Consequences" of the WSP/EIS to assess the interaction of the effects of the alternatives with those of climate change.

Concern 56: Alternative 5 should include the removal of danger trees, as utility companies are required by state and federal law to remove hazard trees in or adjacent to utility rights-of-way.

> *The draft Wilderness Stewardship Plan/DEIS identifies Alternative 5 "Emphasize Opportunities for Solitude" as the National Park Service's environmentally preferred alternative. In this alternative, the Plan states on page 385 that hazard tree removal would be halted. California Public Resources Code Section 4293 requires owners of power lines to maintain vegetation at a certain distance away from power lines and requires a utility to fell, trim, or cut hazard trees to remove the threat that the tree may fall on a power line, unless the utility does not have the legal right to perform the work. Consequently, SCE has a practice of removing hazard trees that could fall on power lines and could cause a wildfire, resulting in potentially significant damage to Park resources and the public. Additionally, the National Electric Reliability Council's Vegetation Management Standard FAC -003-2 requires utilities to manage vegetation so that it does not adversely impact the reliability of the transmission grid. More recently, in response to the severe drought conditions in California, the CPUC adopted resolution ESRB-4 directing the state's investor-owned utilities to take appropriate actions to prevent fires associated with or threatening their facilities; actions include vegetation management and removal of hazard trees in or adjacent to utility right-of-ways. If Alternative 5 is selected, the Wilderness Stewardship Plan should be amended to address the conflict with national and state directives regarding hazard trees.*
> [Business, #200]

Response: With the elimination of designated campsites in wilderness under alternative 5, the requirement to remove hazard trees from the areas around designated sites would also be eliminated. Maintenance of structures and mitigation of threats to structures in utility corridors would continue to be permitted under the conditions established in the special use permit granted for the utility corridor.

Suggests Change in Alternative(s) for Element 1: Visitor Use Levels

Concern 57: The use of trailhead quotas was generally supported by most commenters. Some commenters proposed increases to quotas, while others proposed decreases. Some commenters stated that all wilderness visitors, including those supported by commercial services, should compete equally for limited trailhead quota space.

The impacts of people and pack animals should be monitored, and then limited by quotas, if the environment is too heavily trod or grazed.
[Individual, #56]

Commercial pack animals should be subject to a limited trailhead quota system because of the highly negative impact they have on the park back country, because the trails are already crowded, and because backpackers have a quota system.
[Individual, #130]

I support the continued use of trail head quotas, which should be based on resource impacts and adjusted as necessary. I urge the Park Service to continue monitoring and the use of adaptive management to minimize impacts on wilderness resources. Additional areas where these techniques may be appropriate are: Bearpaw Meadow, Dusy Basin, and Monarch Lakes.
[Individual, #145]

By further limiting outdoor recreation opportunities as proposed in the preferred alternative 2 we are going to limit access to our wilderness areas to an ever shrinking elite. I would urge you to increase the number of permits by at least 10% epecially on the most heavily used trails.
[Individual, #83]

Trailhead Quotas: I prefer Alternative 3, Trailhead quotas would be increased by 10% in some areas. There are obviously areas where the characteristics of the entrance trailhead(s) and the dispersed geography that can be reached in one or two days of hiking would permit an increase in the quota. At the same time, there may be other trailheads where the quota should be decreased. Trailhead quotas should also be based on ones trip destination, not simply the trailhead one enters the wilderness.
[Individual, #88]

17. Maintain a single trailhead quota system for all wilderness visitors (i.e., no separate quotas for commercial visitors). All visitors are required to obtain permits through the same quota system, then visitors who have a wilderness permit and truly need commercial services may employ the services of an outfitter/guide.
[Recreational Group, #123]

All visitors to the SEKI should utilize the same wilderness permit application system for their visits. After obtaining a permit, they can make their logistical decisions like the rest of us.
[Individual, #162]

Response: The preferred alternative would initially retain the existing trailhead quotas established by the 1986 Backcountry Management Plan (BMP), and apply new quotas to a few trails that did not have them (see the "Alternative 2, Element 1" section of "Chapter 2: Alternatives"). Since 1986, use levels have not been shown to lead to unacceptable impacts in most wilderness locations. Where undesirable impacts are occurring, the preferred alternative would initially address these impacts through means other than reducing trailhead quotas (table 23). However, the preferred alternative also allows for changes to trailhead quotas in the future if undesirable impacts are detected through monitoring of specific areas (see the "Alternative 2, Element 1" section of chapter 2). Expanding and reducing trailhead quotas in overall ways were analyzed in alternative 3 (expanded) and alternative 5 (reduced). The trailhead quota system proposed in all action alternatives would apply to all wilderness visitors, and would not give preference to any user groups, whether private or commercially supported (see the "Alternative 2, Element 1" section of chapter 2).

Concern 58: Existing destination quotas should continue to be applied. However, there is no need for destination quotas in some areas, such as Dusy Basin. Other areas, such as White Chief, Eagle Lake, and the Mosquito Lakes, should have an individual destination quota instead of one general trailhead quota.

> *Destination Quotas: I agree with Alternative 2: Existing destination quotas would continue to be applied. However, I wonder about the intent of Additional destination quotas may be added for specific areas (e.g., Bearpaw, Dusy Basin, Guitar Lake, Hamilton Lake, Monarch Lakes, Rae Lakes, and other areas). In Dusy Basin, for example, most of the basin is off-trail, not near the Bishop Pass Trail corridor. There is no need for a destination quota in the off-trail portions of Dusy Basin.*
> [Individual, #88]

> *I support destination quotas for places that need them instead of trail quotas. Trail quotas do not adequately ensure that the number of overnight campers at one destination will not be too high. For example, there should be a separate quota for White Chief, Eagle Lake, and the Mosquito Lakes instead of one for the trailhead.*
> [N/A, #195]

Response: The preferred alternative continues to apply destination quotas in the few areas where they are now in place. No new destination quotas would be added at this time, though many areas would be monitored to detect undesirable impacts from visitor use, including the Mineral King lakes (see the "Alternative 2, Element 1" section of "Chapter 2: Alternatives"). In these locations, the application of destination quotas would be one of several potential management responses to resolve problems associated with visitor use.

Concern 59: Commenters requested that the NPS not adopt trailhead quotas of adjacent land management agencies, and that NPS should indicate that working with other agencies is difficult.

> *19. The NPS shall not rely on trailhead quotas set by surrounding US Forest Service (USFS) units, but shall make its own determination of the adequacy of entry quotas. Where USFS entry quotas are too high to preserve all attributes of SEKIs wilderness character, the NPS shall use its own authority to limit commercial services (as under item #1, above) and enforce NPS entry limits with or without cooperation from surrounding units.*
> [Recreational Group, #123]

Although somewhat unclear, the Draft WSP seems to suggest that the parks are proposing the following actions for those two popular areas: Mount Whitney (Crabtree-3): The document proposes Consulting with USFS regarding area use levels. The term consulting is a euphemism bordering on obfuscation. The parks know that what needs to be done is to lower the number of hikers who use this very popular trail. Evolution Basin and Valley (McClure-1): The document proposes Consulting and coordinating with USFS and Yosemite on quota reductions for PCT/JMT. Quotas may be reduced at certain trailheads. Impose overnight stay limit. Consulting and coordinating with other agencies and park units to reduce quotas on popular trails is a significant undertaking. Success in such a venture is far from certain. That should be disclosed in the Description of the Alternative and in the Environmental Consequences sections of the document. The document should disclose what the parks fallback plan is if those efforts fail to work.
[Individual, #97]

Proposed improvements to the Lamark Col trail make sense assuming the improvements are done with great sensitivity. An option might be to have the Inyo National Forest further reduce the entry permits per day from the current number, which I believe is 8/day, to a smaller number.
[Individual, #141]

Response: These parks have generally not seen unacceptable impacts attributable to high trailhead entry quotas, whether the trailhead is managed by the NPS or adjacent agencies (e.g., U.S. Forest Service [USFS]). Relative to the levels of visitor use associated with the preferred alternative, the current USFS quotas on the east-side of these parks are viewed as appropriate. Also, USFS trailhead quotas have been derived through a separate planning process that was subjected to court review. These parks recognize that changing trailhead quotas is a significant action and may require interagency coordination, but such coordination is entirely possible. There has been, and will continue to be, regular consultation and coordination between these parks and appropriate land management agencies on wilderness issues, including visitor capacities and ways to mitigate undesirable impacts.

Concern 60: Day-use quotas should not be required, but the parks need to be aware that use could change and new restrictions may be needed to manage day-use. The WSP/EIS does not appear to follow the GMP guidance on day-use.

Based on my experience, I don't think these parks require day use quotas in any area at this time.
[Individual, #27]

I do not support the idea of having day use quotas for hikers except for exceptionally high use areas like Mt. Whitney.
[N/A, #195]

What is the plan for managing use on trails in day use areas of the wilderness close to the frontcountry? In several places (e.g., page M-4) the document says that SEKI wilderness can be broadly understood as three different types of locations: 1. day use areas close to the frontcountry . . . It is not clear how the parks intend to manage visitor capacity in day use areas of the wilderness close to the frontcountry.
[Individual, #97]

The GMP forecasts that visitor use, especially day use, could grow appreciably during the life of that plan. The GMP said While visitation at Sequoia and Kings Canyon

> *National Parks has generally remained flat, it could grow appreciably during the life of this plan. Depending on the vision selected, growth of up to 30% could be accommodated, primarily in frontcountry areas. This would necessarily result in a shift toward increased day use, particularly as regional populations are expected to double over the next two decades. The WSP should recognize that this increased visitor use could reasonably occur in those day use areas close to the frontcountry. It needs to propose a reasonable approach for detecting and managing that visitation increase, should it occur.*
> [Conservation/Preservation, #184]

Response: The preferred alternative does not propose to implement any day-use quotas or permits initially, but day-use would be monitored and quotas and permits would remain an option if unacceptable impacts were detected in the future (see "Appendix A: Visitor Capacity"). The day-use permit system managed by the Inyo National Forest for the east-side approach to Mount Whitney would be unchanged by this plan.

The GMP did not specifically forecast a potential increase in day-use areas of the wilderness but did project an increase in visitor use in low-use frontcountry (nonwilderness) areas. Overall, visitor use in Sequoia and Kings Canyon National Parks has been stable since 2007 when the GMP was completed. There has not been a substantial increase in visitation; visitation peaked in 2010-2012 but has since decreased to levels below the 2007 level. However, trails suitable and frequently used for day-use were considered in the visitor capacity framework, which states: Day-use levels would not receive any new controls such as permits or quotas. Day-use would be required to comply with off-trail party-size limits. Day-use would continue to be monitored and may be the subject of people at one time or other monitoring methodologies to ensure that biophysical resources and wilderness experiences are not adversely impacted. If monitoring were to indicate degradation of wilderness character, management actions would be taken. These could consist of increased education, controls on parking, or other actions to deal with site-specific problems (see appendix A).

Concern 61: Visitor-use levels should vary across the parks and allow for high levels of use in some areas.

> *There will be times where high visitor use needs to be permitted, with finding ways to deal with that (such as increased "clean-up patrols," perhaps by volunteers, and continuing to provide privies) other than reducing that use will be preferable. It is not okay to remove all of the desirable high sierra locations from all but the super athletes. I think the Pear/Emerald vicinity, in particular, needs to be accepted as a place with high visitor use.*
> [Individual, #4]

> *My recommendation would be to allow continued intensive use of certain popular destinations - with strict enforcement of existing (and some new) regulations and use restrictions - while allowing modest flexibility in restrictions for responsible visitors, especially in more remote, less frequently visited areas.*
> [Individual, #178]

> *Mount Whitney Management Area In this area we would hybridize the Alternative 2 proposal with Alternative 3 principles - in particular, permitting added use in the area as described in Alternative 3 allows for use to be better managed and gives the public more opportunities to use this area.*
> [Business, #196]

Response: For all action alternatives, the visitor capacity framework ("Appendix A: Visitor Capacity") provides for varying use levels across the parks. The preferred alternative provides for relatively high use to be allowed in some very popular areas (e.g., around Mount Whitney, out of Roads End, and somewhat less around Emerald and Pear lakes) (see appendix A). Other areas would be managed for lower levels of use.

Concern 62: The NPS should use trail counter devices instead of visitor surveys to determine the level of use, especially in higher use areas, before implementing any further restrictions on trail quotas or building new trails.

> *Element 1: Visitor Use Levels I think using actual trail counter devices in areas of concern (versus just random surveys) should be used before making any final decisions on trail quotas or trail buildings. Special attention should be paid to Whitney exit quotas and PCT /JMT numbers.*
> [Individual, #158]

Response: Automated trail counters are one of many ways to collect monitoring data. The parks have chosen a standard method of collecting trail encounter data through direct observation, following established collection protocols as it provides more detailed information (e.g., mode of travel and direction of travel is recorded) for analysis (see table A-6 in "Appendix A: Visitor Capacity"). Trail counters could be used to augment direct observations in the future.

Concern 63: The "moderate" visitor use standard is too high except for several places where day-use and overnight use overlap. Moderate use would result in the meeting of more than 100 persons in a day of hiking. The visitor use levels should be reviewed and modified occasionally based on visitor input.

> *Element 1: Visitor-Use Levels The numbers contained within Table 13, however, give me pause. What you term "moderate" use would result in the meeting of more than 100 persons in a day of hiking. This level is too high for all except a handful of places where day-use and overnight use overlap.*
> [Individual, #129]

> *Trail encounters is a social issue, not an issue of impact on the wilderness resource. The standards used in Alternative 2 are reasonable but we prefer those in alternative 4 for encounters with other wilderness users. However this standard should be reviewed periodically based on input from wilderness visitors.*
> [Conservation/Preservation, #60]

Response: The establishment of trail encounter standards ensures that visitor encounter frequency will not rise above a set standard, thus protecting the solitude quality of wilderness character. The standards proposed in this WSP/EIS are consistent with the desired conditions that this plan seeks to achieve. Standards do not dictate what a particular wilderness user would experience, but rather place a maximum limit on visitor encounters that could be experienced at the highest use periods. Data collected over the years of 2012-2014 do not suggest that every hiker would experience the maximum encounter frequency that the standard would allow. It is reasonable to anticipate that actual encounter frequencies will be below the standard on most days of the quota season, even if the conditions at times of peak use approach the encounter standard. Visitor encounter standards can be reviewed in response to new information obtained from monitoring, staff observation, or visitor input.

Concern 64: The WSP/EIS should define the visitor capacity measures more clearly. As they are written, readers could interpret the measures differently. There should be a better description and more detail for each measure.

> *Definition of measures. The three visitor capacity measures (Weighted Value per Campsite, Grazing capacities, and number of encounters) are not described clearly. As such, they could be subject to different interpretations about how they should be measured. This is particularly true for the trail encounter measure. Measurements are only useful if they can be replicated; if two people can take the same measurement and get similar results. The visitor encounter measure is not described in a precise and meaningful way, and thus the stated measure and standard could be interpreted to describe very different conditions. Many of the most critical details in the carrying capacity framework appear to be put off to future monitoring plans. But these are not just technical details; these details can have a significant effect on the problem analysis. And that in turn has an effect on whether management action is triggered to bring conditions back within standard. These details are critical to protecting the visitor experience.*
> [Conservation/Preservation, #184]
>
> *The WSP should clearly define the three visitor capacity measures so that there is a common understanding of how to interpret and measure them. Critical details that affect the meaning (the value) of those measures should be defined in the WSP, not put off to some future monitoring plans to work out. The WSP should be the document that defines the measure and standard, not the monitoring plans.*
> [Conservation/Preservation, #184]
>
> *In general, the visitor capacity framework section contains the right categories to guide future management. Yet several of these categories appear to be lack the details that would help the public gain confidence that implementation of the WSP will indeed protect wilderness resources.*
> [Conservation/Preservation, #184]

Response: Each of the visitor capacity measures are clearly defined in "Appendix A: Visitor Capacity." The methods to determine the status of these measures are conventional in the field of visitor capacity and have been regularly utilized, in these parks and elsewhere. Future monitoring protocols and plans will further detail methodologies for monitoring, data collection, and analysis. The WSP/EIS has defined the applicable measures and set the standards from which future management actions may be taken. Additional details on monitoring are included in "Appendix C: Wilderness Character Monitoring," and "Appendix D: Stock Use and Meadow Monitoring and Management Strategy."

Concern 65: The proposed changes to the Evolution Basin and Valley portion of the Pacific Crest Trail (PCT)/JMT would impose an overnight stay limit under the preferred alternative. This change and impacts of the change are not presented in the WSP/EIS and should be further detailed.

> *One of the proposed actions for the Evolution Basin and Valley portion of the PCT/JMT is to impose an overnight stay limit in Alternative 2. That would certainly reduce the encounter rate because through-hikers would not have as many encounters with people who are camping in the basin. But this idea is not clearly communicated in the document. The proposed action will make a significant change to how people use Evolution Basin and Valley. The parks are proposing to convert this area of the parks to more of a through-hiking experience and reduce the opportunity for camping, a wilderness experience that many people now enjoy. That change in use pattern is not clearly*

> *described in the Description of the Alternative, nor is it adequately assessed in the Environmental Consequences section. This is true for the actions being contemplated for the other popular trails. The proposed change in visitor use patterns should be clearly described in the Description of the Alternative, and the impact on the visitor experience should be assessed in the Environmental Consequences section.*
> [Individual, #97]

Response: The establishment of a night stay limit in either Evolution Valley and or Evolution Basin is an option open to future implementation for the preferred alternative. As with other new or changed restrictions on visitor use, it has been evaluated and additional narrative has been added to "Chapter 2: Alternatives" and "Chapter 4: Environmental Consequences" to reflect this option. Visitor use restrictions are discussed throughout the document (e.g., table 23).

Concern 66: The WSP/EIS should discuss visitor capacity in terms of all users, not separating them and therefore creating tension among the user groups. As trends change, visitor use will as well. The visitor capacity standards should be written with more flexibility so they can change as the parks' visitation changes.

> *Visitor Capacity discussion, separates commercial from non-commercial uses, and stock vs non-stock uses, and pits user types against one another. Does not address historical use. Request the parks avoid hard fast annual visitor capacity numbers, as access dates, economics, social values (fads) will vary, as well as on the ground evaluations and findings. We request the parks create a mechanism for flexibility that is more able to complement wilderness purposes, and maintains/addresses the 5th value of wilderness character.*
> [Business, #182]

Response: The visitor capacity framework looks at combined visitation for most factors, including encounter frequency, overall visitor-use days, and campsite impacts. There is some segmentation by mode of travel, primarily in assessing and applying limits to use supported by commercial services (i.e., stock-based and hiking-based). This is not meant to create user conflict but to serve as a method for the parks to measure different uses, which in turn can aid in making informed management decisions. Capacities are established pursuant to both law and policy (NPS *Management Policies 2006,* Section 8.2.1, and various court decisions). The separation of commercially supported visitation and private user visitation is a direct outcome of court decisions on the "extent necessary" clause of the Wilderness Act, which mandates that commercial services are discretionary in wilderness (see "Appendix B: Extent Necessary Determination for Commercial Services"). Limits established on visitation supported by commercial service providers are in response to these legal determinations. The total annual visitor use levels, as described in "Chapter 2: Alternatives" and "Appendix A: Visitor Capacity," are flexible and would not individually trigger management action to reduce use, unless specific on-the-ground conditions were determined to be out of standard.

Suggests Change in Alternative(s) for Element 2: Trails

Concern 67: Lack of funding is an inadequate rationale for implementing a trail classification system. If there are insufficient funds for trail maintenance, the response should be to increase participation (by qualified volunteers, if possible) or increase resources allocated to trail maintenance. "Downgrading" trails to lesser maintenance means visitors (especially stock users) lose access.

> *It appears that the Trail Classification System, and specifically TC1, is promoted as one means by which to lighten the maintenance workload of park trail crews and direct increasingly scant resources to high-use trails or other park program. However, we would argue that the general availability or lack of budget resources should not be a determinant for establishing a trail classification system.*
> [Recreational Group, #186]

Response: The trail management and classification system is not being adopted primarily to save trail maintenance costs. As described in the WSP/EIS, the trail classification system is primarily a means to ensure appropriate levels of development and the desired range of visitor recreational opportunities ("Appendix K: Trail Management and Classification System for Sequoia and Kings Canyon National Parks").

Concern 68: A trail receiving limited stock use is not a reason to close it; these trails should be kept open to preserve opportunities for future stock users who want more solitude.

> *The rationale for many of the trails being closed to stock use is that there is little to no use currently occurring. Then there is really no need to formally close those trails, and they should instead remain open for future visitors who may want to travel to lesser used areas of the wilderness.*
> [Recreational Group, #186]

Response: Trails are closed to stock because of the potential for resource impacts and use conflicts. As trails were being considered for closure for the above reasons, an analysis of each trail segment was conducted to determine the current stock use and to see if the closure would have a significant effect on current stock recreational use. After that, a case-by-case analysis determined whether the route or trail would be closed to stock. For example, in Upper Goddard Canyon, there are sensitive wetlands and amphibian populations. In order to accommodate current use levels, the WSP/EIS proposes to change the designated unmaintained route to a maintained Class 1 trail open to stock. In McGee Canyon, also with sensitive wetlands, recent use is essentially nonexistent. At this location, the WSP/EIS proposes to abandon the designated unmaintained route and thereby close the area to stock travel.

Concern 69: The trail classification system must take into account the suitability of a given trail for stock travel. The proposed system does not take this into account, and trails may suffer erosion damage as a result.

> *I cannot fully agree with your division of the maintained trail system into two wilderness categories (classes 2 and 3). The reality is far more complex. The key point here, which is not expressed in your plan, is that trail use and trail condition must be considered together. Specifically, trails that cannot sustain use by pack stock without suffering erosion damage should not be open to such use. You do not address this important connection and I urge you to do so.*
> [Individual, #29]

Response: The trail management and classification system has tools besides trail classification to address the suitability of a trail for stock travel. Trail classification speaks to the amount of development a trail or trail segment has. Trail routing, surrounding terrain, and the presence or absence of particularly sensitive resources are at least equally important in terms of a trail's susceptibility to erosion damage from use. For this reason, under the WSP/EIS, trails are considered as open or closed to stock travel independently of their trail class.

Concern 70: The trail classification should be clearly described so that all visitors know the conditions they may encounter.

> *The new trail designation is good, so hikers and stock users can select what is best for them. Class 2 trails should be clearly described for commercial stock, as I've had unfortunate incidents occur in that regard.*
> [Individual, #8]

Response: Trails classification is described in detail in "Appendix K: Trail Management and Classification System for Sequoia and Kings Canyon National Parks." In addition, upon implementation, information on wilderness trails classifications will be provided to the public on the parks' website and in maps and guides.

Concern 71: The trail classification system appears to limit trails to those that exist already in the parks with the potential for new Class 1 trails if needed for the protection of resources. The NPS should reestablish and maintain existing trails that are not currently up to standard in wilderness.

> *There are a limited number of main trails in Kings Canyon like the Bubbs Creek, Woods Creek, John Muir Trails. However, there are use trails (60 Lakes Basin), unmaintained trails, (Taboose Pass and Sawmill Pass) and abandoned trails (JMT into Lake Basin and Center Basin). Why not spend the money to reestablish and maintain these trails. It would provide incentives to backpackers who are timid or lack navigational skills to access some of these less visited areas. This would also reduce the amount of backpackers/hikers per trail mile. Those who backpack in SEKI not only benefit from the experience, they are the strongest and most vocal advocates for the parks. I would not mind one bit even being charged a trail maintenance fee IF those were dedicated funds only used for trail construction and maintenance.*
> [Individual, #7]

> *My main concern is with "Element 2: Trails" (at least as described in the Summary), where Alternative 2 appears to allow new trails only (1) in Class 1 and (2) if needed to protect resources. I hope you are not entirely blocking the possibility of any new Class 2 trails, such as to the Suwanee Grove or above the Wuksachi Lodge, or even Class 1 trails if they could be for reasons of providing access to minimally used areas suitable for those who are not super athletes.*
> [Individual, #4]

> *Trails: As many trails as possible should be kept in good shape, so that safety is enhanced and the trails are useable by pack animals. For example, I don't think the trail over Sawtooth Pass is useable by stock anymore.*
> [Individual, #128]

Response: The preferred alternative currently limits the construction of new trails. If the NPS were to construct a new trail, further NEPA evaluation (i.e., an environmental assessment) would be required. If a new trail is established by visitor use, and resource damage is occurring, it would be reasonable to determine what class of trail would be most appropriate on a case-by-case basis based on site conditions and levels of use. Therefore, the preferred alternative has been modified to allow the construction of new trails under criteria provided in the trails management system ("Appendix K: Trail Management and Classification System for Sequoia and Kings Canyon National Parks").

Concern 72: New trails should not be constructed in the Mount Langley area. The substrate is mostly sand; therefore, using the current cairn system would be sufficient.

> *Alternative 2 Element 2 Trails: I am opposed to placing the proposed trails in the Mt. Langley area in this category. They would be more appropriately placed in Alternative #3. I believe this area is a stronghold for raising the lambs of the Mt Langley heard. Although some repots state that humans don't interfere with the sheep, I am unaware of any reports that address lambing areas.*
> [Individual, #158]

> *Furthermore, having a trails crew, using explosives to build trails, and increasing visitor use through ease of access could also be detrimental. "Building" a trail in the upper Soldier Lake/Mt Langley summit area would be a waste of resources as well as this mountain is primarily sand. I think the current "cairn" project is low impact & appropriate, but it will take several years to catch on. But, visitors will just cut switchbacks & ski the sand if a trail is "built."*
> [Individual, #158]

Response: The preferred alternative includes designating a trail to Mount Langley as a Class 1 trail. This trail would not be formally "constructed" but would use a cairn system to designate a route to the top of Mount Langley.

Concern 73: Bridges in the wilderness area should continue to be maintained under the WSP/EIS. An additional bridge should be added on the Franklin Lakes Trail over the lower Franklin Creek.

> *I support continuing to repair and maintain all bridges in the wilderness area. In addition, a bridge is needed on the lower Franklin Creek crossing on the Franklin Lakes trail. This crossing can be very challenging throughout the summer in a normal snow year, especially with a backpack. A small, removable bridge similar to the one on the Eagle Lake trail would be adequate.*
> [N/A, #195]

Response: Franklin Creek is not suitable for a bridge. In the spring, the flow is too high to install a removable bridge safely, and when the spring runoff subsides, the water in the creek is very low so a bridge is not needed.

Suggests Change in Alternative(s) for Element 3: Campfires

Concern 74: Commenters expressed differing opinions about what the appropriate campfire elevations should be in the WSP/FEIS. In addition, campfires are valuable to visitors because they provide warmth and cooking.

> *In regards to Element #3 concerning campfires, I feel that the current elevation limits are quit adequate, especially in the wilderness areas.*
> [Business, #224]

> *Campfires: I strongly recommend Alternative 4, followed by Alternative 3.*
> [Individual, #27]

We support the elevation limit of 9,000 feet in Alternative 3 for campfires. A simple elevation limit would be unambiguous, easy to understand and to enforce.
[Conservation/Preservation, #60]

I support the elevation limit of 9,000 feet in Alternative 3 for campfires. Designating different elevation limits for campfires depending on local conditions can be confusing for wilderness visitors.
[Individual, #145]

Elevation should not be the sole determining factor for campfires. There are wooded areas above 10,000 ft. that have the down wood resources that could be used for social and warmth campfires in higher elevations. In order to manage the wood resources that the Park has, we recommend that the Park compile an inventory of the resources. The compilation, similar to what was done in the preparation of the meadow management plan, would then permit site specific campfire management. Campfire management could feasible permit fires in an area for several years and then have the area rested, rotating to allow regrowth of the resources above 10,000 ft. This could be particularly helpful in areas where avalanches have fallen and the public could utilize some of the fallen wood.
[Business, #196]

The Wilderness Stewardship Plan prohibiting fires about 10,000 feet elevation would greatly impact the ability of folks to enjoy the back country by making it difficult to cook and stay warm when the temperature drops. The park lands to be enjoyed would then be discouraged for the purpose it was created. Additionally, I believe it would cause a greater risk of runaway fire because of the excess dead timber on the forest floor should there be a lightening strike there. We have seen great fires recently because of the cut backs on clearing the forest floor.
[N/A, #65]

Response: Campfire restrictions serve twin purposes of protecting fossil wood resources and protecting down wood resources in less productive environments. Short-term prohibitions on campfires are used to prevent human-caused fires. As explained in the "High-elevation Long-lived Tree Species" section of "Chapter 3: Affected Environment," higher-elevation environments in the Sequoia and Kings Canyon Wilderness have limited wood production and are more likely to have fossil wood resources.

Using elevation as a trigger point to restrict campfires provides an objective location that can be easily determined by wilderness users. Setting the elevation limit on campfires to 10,000 feet in Kings Canyon National Park and the Kern drainage, and 9,000 feet in the Kaweah and Tule drainages protects downed wood resources in less productive areas and protects fossil wood where it is likely to be present.

Depletion of downed wood resources and consumption of fossil wood resources is more likely in higher elevations where campfires are permitted and may lead to damage to living trees, standing dead trees and destruction of fossil wood. As described in the "Preferred Alternative, Element 3" section of "Chapter 2: Alternatives," in areas where available wood could be burned without unduly depleting ground fuels or consuming fossil wood resources, variances could be established to permit campfires at higher elevations. In addition, in specific areas at lower elevation, where downed wood resources are at risk of being depleted, regulations prohibiting campfires could be implemented.

Setting these elevation limits on campfires also protects opportunities for unconfined recreation by allowing campfires on nearly half of the parks' land while continuing to protect the natural environment. Lowering the elevation to 9,000 feet wilderness wide would prohibit campfires in 65% of the parks' land,

which would have significant impacts on opportunities for unconfined recreation. Eliminating campfires in wilderness was evaluated under alternative 4; however, prohibiting campfires entirely would have significant impacts on opportunities for unconfined recreation.

While many wilderness users use campfires to supplement cooking, the majority have access to and uses portable stoves for cooking purposes.

Suggests Change in Alternative(s) for Element 4: Food Storage

Concern 75: Comments on food-storage boxes were varied, including removal of all food-storage boxes, removal of some food-storage boxes, retention of all existing food-storage boxes, and addition of more food-storage boxes.

> *Leave all food storage boxes and privies.*
> [Individual, #8]
>
> *I would also urge that the use of bear boxes be continued. Canisters just aren't practical for a party of any size over several days.*
> [Individual, #87]
>
> *Bear boxes: Remove all bear boxes not in certain heavily used areas: the JMT/PCT (maintain the boxes for PCT through hikers), Paradise Valley, Kearsarge Lakes and require bear-proof canisters for all backcountry travel regardless of where one is going. Even if someone is going to a remote, off-trail area, he or she will have to pass through and probably camp in areas with what you term a history of bear issues.*
> [Individual, #88]
>
> *Removing food storage lockers is a mistake, they are one of NPS successes, even though Lower Tent Meadow or Frypan are low use, they are bear habitat areas that could become problem areas.*
> [Individual, #127]
>
> *Remove all food lockers from the SEKI Wilderness. With the availability of lightweight bear-proof food canisters, SEKI should remove all food lockers from the SEKI Wilderness.*
> [Conservation/Preservation, #166]

Response: Food-storage boxes are one of several techniques that can prevent wildlife from obtaining human food. The boxes can negatively affect basic wilderness character, including the qualities of being undeveloped, of solitude, and of aspects of primitive recreation involving self-reliance. They can also improve certain aspects of wilderness character, including naturalness, by reducing human impacts on wildlife behavior. The alternatives in the WSP/EIS consider a wide range of possible approaches to balancing the effects of food-storage boxes in the parks' wilderness, from removing all such boxes (alternatives 4 and 5) to adding up to 35 more (alternative 3).

One of the goals and objectives of the WSP/EIS is "removal of installations that are unnecessary for the protection of other wilderness character qualities" (see the "Desired Conditions" section of "Chapter 1: Purpose and Need"). The preferred alternative (alternative 2) seeks to meet this goal through location-specific actions, maintaining a minimal number of food-storage boxes "in areas where the risk of affecting native wildlife [with human foods] is high" ("Alternative 2, Element 4" section of "Chapter 2:

Alternatives"). Boxes whose presence do not maximize preservation of wilderness qualities overall would be removed.

Every food-storage box was considered for removal or retention (table 15 in chapter 2) in consultation with wilderness rangers, the parks' wildlife biologist, and the WSP Interdisciplinary Team. Those boxes proposed for retention meet the minimum-tool requirement in those locations where a combination of factors makes the positive impacts of their presence greater than their negative impacts — even in some container-required areas. These locations demonstrate two or more of the following characteristics: ongoing, significant bear issues;

- first night or close-in locations where visitors are likely to have more food than they can carry within one container per person;
- no suitable opportunities for counterbalancing food; and/or
- containers alone have not succeeded in successfully controlling bears' access to unnatural foods.

Where the results of removing a box are in question, the preferred alternative calls for testing the effect of removing it before expending funds to do so.

Despite the fact that the parks' wilderness includes large areas of bear habitat, many areas have not had significant problems with bears accessing human foods. Given the parks' intention to continue education about the importance of food storage ("Elements Common to all Action Alternatives" section of chapter 2 and "Appendix H: Wilderness Information and Education Strategy"), and the availability of trees in some areas for counterbalancing, problems are not expected to develop in these locations. If human activity and bear problems change over time, the preferred alternative allows the parks to adapt management in specific locations that have improved or worsened, using the minimum requirements analysis process.

The park website will continue to advise that people not rely completely on finding food-storage boxes in specific locations, as the boxes can break and become nonfunctional, or become unavailable due to misuse by other travelers (NPS 2014b). Educational efforts on food-storage options and techniques, including suggestions on how to maximize use of containers during long trips will continue and be enhanced. In the preferred alternative, commercial services would also remain an option for long-distance travelers to get resupplies rather than carrying more food than can be stored.

Concern 76: All food-storage boxes should be removed from the parks' wilderness as they are not the minimum tool necessary for the administration of wilderness.

> *The minimum tool for food storage is the canister for hikers and the bear-resistant pannier for stock parties. Your plan should rely on these minimum-tool solutions.*
> [Individual, #129]

Response: As found through a minimum analysis process, food-storage boxes are necessary in some locations to protect native wildlife and provide a diversity of opportunities for primitive recreation. However, one of the goals and objectives of the WSP/EIS is "removal of installations that are unnecessary for the protection of other wilderness character qualities" (see the "Desired Conditions" section of "Chapter 1: Purpose and Need"). The preferred alternative seeks to meet this goal through location-specific actions, maintaining a minimal number of food-storage boxes only "in areas where the risk of affecting native wildlife [with human foods] is high" ("Alternative 2, Element 4" section of "Chapter 2: Alternatives"). Boxes whose presence do not maximize preservation of wilderness qualities overall would be removed.

Concern 77: The WSP/EIS should address why food-storage boxes are necessary in wilderness when other surrounding wilderness lands do not use these boxes.

> *Your proposal to continue the use of food storage boxes in wilderness in not supportable under the Wilderness Act. Quite simply, food storage boxes are not the "minimum tool" that the act requires. This is clearly reflected by the point that the wilderness areas that surround the SEKI wilderness do not use these boxes.*
> [Individual, #129]

Response: Levels and types of usage in the parks may differ from that in some surrounding wilderness areas. The different types of use in the adjacent forest lands, including hunting, impact wildlife behaviors in a different manner than in parks where there is no hunting. In addition, the level of success in protecting wildlife from accessing human foods in surrounding areas may not meet the level desired by the parks. The minimum requirements analysis process has confirmed that food-storage boxes may meet the minimum tool requirement in some areas.

Concern 78: Education should be the focus for preventing wildlife from obtaining human food, not the use of food-storage boxes.

> *We suggest an ultimate goal of removing all of the food storage boxes. As suggested in other alternatives portable containers may be required as the ultimate solution. In the near future we urge you to move in that direction accompanied by education of wilderness users to help them realize that adequate food storage is good not only to protect their own provisions but also for the wilderness resource and the bears.*
> [Conservation/Preservation, #60]

Response: No matter which alternative is selected, the parks will continue to stress wilderness education topics including food storage ("Management Actions Applicable to all Alternatives" section of "Chapter 1: Purpose and Need"), and to cooperate with managers of surrounding areas to achieve benefits to the wilderness ("Planning Efforts of Adjacent Lands" section of chapter 1).

Concern 79: Regarding portable food-storage containers (or canisters), comments included a range of suggestions: a call to use them everywhere; the opinion that they are not practical for longer trips; the belief that backpackers are unlikely to be completely compliant with the use of food-storage containers; and that requiring containers in certain places and allowing counter-balancing in other areas is confusing to visitors.

> *Food Storage: I think it's simpler to require canisters everywhere than a complex pattern of where canisters are required and where properly counter-balanced hanging is allowed.*
> [Individual, #27]

> *I would also urge that the use of bear boxes be continued. Canisters just aren't practical for a party of any size over several days.*
> [Individual, #87]

> *Your proposal to continue the use of food storage boxes in wilderness in not supportable under the Wilderness Act. Quite simply, food storage boxes are not the "minimum tool" that the act requires. This is clearly reflected by the point that the wilderness areas that surround the SEKI wilderness do not use these boxes. The minimum tool for food storage*

> *is the canister for hikers and the bear-resistant pannier for stock parties. Your plan should rely on these minimum-tool solutions.*
> [Individual, #129]

Response: Portable food-storage containers have proven very successful in many areas of the parks. Where bear- and human-activity levels combine to make portable containers insufficient, the preferred alternative proposes that a minimum number of boxes remain — even in some container-required areas. Where the results of removing a box are in question, the preferred alternative calls for testing the effect of removing it before expending funds to do so.

If human activity and bear problems change over time, the preferred alternative allows the parks to adapt management in specific locations that have improved or worsened, using the minimum requirements analysis process.

Many visitors are very familiar with the parks' wilderness and know what food-storage options are best used in which locations. Other visitors have learned it readily or use existing references, such as the parks' website, handouts, and Wilderness Office staff, to ensure that there is no confusion. One of the goals of wilderness education, which is critical to implementation of every alternative ("Management Actions Applicable to All Alternatives" section of "Chapter 1: Purpose and Need"), is to help visitors understand various regulations and where they apply before their trip into wilderness. The parks will continue to enhance educational efforts on food-storage options and techniques, including suggestions on how to maximize use of containers during long trips.

Concern 80: The WSP/EIS should include options for through-hikers on the PCT to rent canisters before they enter the parks with a drop point for canisters available when they exit the parks.

> *Remove all food lockers from the SEKI Wilderness. With the availability of lightweight bear-proof food canisters, SEKI should remove all food lockers from the SEKI Wilderness. If the concern is for through-hikers on the Pacific Crest Trail (PCT) who don't want to have to carry canisters all the way to Canada, those hikers could pay for a canister rental before the start of their hike. The canisters could then be picked up at the Cottonwood Pass trailhead just south of SEKI. The PCT hikers could then drop off the canister after they exit SEKI the next time they leave Wilderness for a food re-supply.*
> [Conservation/Preservation, #166]

> *While I understand that the NPS is encouraging the use of portable storage containers, I feel that it is unwise to assume that all backpackers will carry containers and will carry enough of them to hold all of the food, toiletries and garbage that they have, especially if they are on an extended trip.*
> [N/A, #195]

Response: Administering the canister program is an operational and implementation issue, not a planning decision. However, canisters are available for rent in a variety of locations within and outside of the parks and the NPS would consider expanding this program as funds allow.

Concern 81: The parks' funds should not be used for removal of the food-storage boxes.

> *Leave all food storage boxes and privies. Funds should not be spent to remove structures conducive to wilderness protection.*
> [Individual, #8]

Response: Under the preferred alternative, some funds would be spent to remove those food-storage boxes that do not meet one of the goals and objectives of the WSP/EIS: "removal of installations that are unnecessary for the protection of other wilderness character qualities" ("Management Actions Applicable to All Alternatives" section of "Chapter 1: Purpose and Need"). The preferred alternative seeks to meet this goal through location-specific actions, maintaining a minimal number of food-storage boxes only "in areas where the risk of affecting native wildlife [with human foods] is high" ("Alternative 2, Element 4" section of "Chapter 2: Alternatives"). Some long-term savings of funds would result in that funds would no longer be required for maintenance and repair of those food-storage boxes that get removed (there would be fewer boxes to maintain). The same is true for efforts to revegetate trampled areas that tend to surround food-storage boxes.

Concern 82: Commenters suggested specific changes to the locations and number of food-storage boxes in Tyndall Frog Ponds, Laurel Creek/Lower Funston, Crabtree, Kern Hot Springs, and Franklin Lake.

> *Table 15 shows two bear boxes at Frog Ponds. There is only one but I think/concur that is should be removed as there is one near the Shepherds Pass trail junction on the north side of the JMT/Tyndall creek crossing, a much more popular campsite.*
> *Table 15 also snows three boxes at Laurel Creek. Perhaps these are the ones locate in Lower Funston Meadow?? If so, only one is needed at Lower Funston Meadow. Perhaps, a new one could be bumped to upper Funston as those are old boxes that are/will be non-functional soon.*
>
> *Lastly, Crabtree is a very popular area where I have heard from reliable sources that at least one bear is seen once annually. This has been in the Lower Crabtree Meadow. This is also where hordes of PCT hikes. base camp before ascending Whitney, a day or two after resupplying at Horseshoe Meadow. I would definitely leave this bear box over the upper one, however. The ranger station area is usually pretty congested, enough to scare any bear away. But, I see no point in removing either bear box as they are so close to the ranger station and easily maintained.*
> [Individual, #158]
>
> *Under Alternative 2, the Kern Hot Springs is a high use area. Both bear boxes should remain there. Franklin Lake is also a high use area. I have seen people camping below the dam on numerous occasions, using the bear box there. I strongly support leaving both bear boxes at Franklin Lake.*
> [N/A, #195]

Response: In the course of preparing the WSP/EIS, every food-storage box for which the WSP Interdisciplinary Team could find evidence was considered for removal or retention (table 15 in "Chapter 2: Alternatives"). This was done in consultation with wilderness rangers, the parks' wildlife biologist, and various field staff. Because a single, simultaneous parks-wide inventory of functioning food-storage boxes does not exist, and because boxes are sometimes moved by visitors or their removal was not recorded, the exact number in the wilderness when the WSP/EIS was written is a very close approximate.

A correction to the number of food-storage boxes submitted in one comment resulted in a change specified throughout the WSP/EIS from "87" to "approximately 86." Two amendments have also been made in table 15 ("Alternative 2, Element 4" section of chapter 2):

- The table indicates two boxes at Tyndall Frog Ponds. There is only one.

- The table also lists three boxes at Laurel Creek. This area is far more commonly referred to as Lower Funston Meadow.

In the preferred alternative (alternative 2), boxes would remain only where food-storages boxes meet the minimum-tool requirement. These locations demonstrate two or more of the following characteristics:

- ongoing, significant bear issues,
- first night or close in locations where visitors may have more food than they can carry within one container per person,
- no good opportunities for counterbalancing food, and/or
- containers alone have not succeeded in successfully controlling bears' access to unnatural foods.

If human activity and bear problems change over time, the preferred alternative allows the parks to use the minimum-tool requirement process to adapt its management in specific locations that have improved or worsened.

Regarding Crabtree Meadow, it is the parks' experience that the majority of hikers arriving in the Crabtree area are carrying portable food-storage containers and that, by the time they reach Crabtree, they are not in need of food-storage boxes. In addition, the large-capacity box at the Crabtree Ranger Station almost always has space available. The occasional sighting of a bear in the Lower Crabtree area has not been associated with access to human food for many years.

Suggests Change in Alternative(s) for Element 5: Human-waste Management

Concern 83: All privies should be retained in wilderness, especially in heavily used areas. Some new privies should be installed, and commenters suggested locations where new privies would and would not be appropriate. In addition, the parks' funds should not be used for removal of the privies.

> *Leave all food storage boxes and privies. Funds should not be spent to remove structures conducive to wilderness protection.*
> [Individual, #8]

> *Element #5 Human Waste. Human waste is considered hazardous waste and a health hazard. Human waste in high use areas should have access to a confined outhouse. This would help eliminate so many "cat-holes." Packing out human waste should be up to the users own basis.*
> [Business, #224]

> *I support the approach to privies and restroom described under Alternative 3. Privies should be repaired and maintained in high use areas, such as Monarch, Franklin, Eagle, and Mosquito Lakes and not be removed and additional ones added in other high use areas, such as Guitar Lake.*
> [N/A, #195]

> *As for privies in the wilderness, I would favor more rather than fewer as I believe they would diminish the likelihood of human excrement contaminating the local water supply, although that would depend on their construction, and studies should be done to test that hypothesis before their widespread deployment.*
> [Conservation/Preservation, #170]

> *Privies should be installed at Guitar, Eagle, Franklin and Monarch lakes and maintained. Pack out waste kits are not likely to be used.*
> [Individual, #8]

> *You should RE INSTALL the toilet at Heather Lake which you closed down although you put 3 of them nearer to Emerald Lake. You should allow a toilet at Hockett Meadows as there is already one for the ranger & researchers that go there.*
> [Individual, #16]

> *Because of the number of overnight visitors to Eagle and Mosquito Lakes, the privies should remain there as protection to the environment. Human waste packs are less likely to be used.*
> [Individual, #69]

Response: Structures, such as privies, in wilderness are generally inconsistent with the preservation of wilderness character. In the preferred alternative, each existing privy has been evaluated for removal or retention based on specific criteria (see the "Alternative 2, Element 5" section of "Chapter 2: Alternatives"). As a result of this evaluation, the NPS is proposing to remove seven privies and add one privy. Some additional privies/restrooms may be removed if testing of pack-out human-waste kits proves successful in several specific areas (see table 16 in chapter 2). Wilderness is also to be a place of self-reliance and this self-reliance is supported by users taking responsibility for their actions, rather than relying on developments in wilderness. Some long-term savings of funds would result in that funds would no longer be required for maintenance and repair of removed privies or for revegetation of trampled areas that tend to surround privies to be removed.

Concern 84: Commenters suggested the use of new types of waste removal systems, including military style toilets that use enzymes to break down waste and solar dehydrating toilets.

> *WHY not use a MILITARY STYLE WASTE REMOVAL SYSTEM that is/was used in IRAQ and is NOT that expensive. The enzymes eat up the defecation and the water was recycled to drink. They work up at 10,000 ft!*
> [Individual, #16]

> *It would be easy to increase the capacity of the few heavily used trails by widening the trails and by installing bathrooms. Solar dehydrating toilets have been proven to work well in the Rocky Mountain National Park.*
> [Individual, #83]

Response: These parks and other local land management agencies have had limited success with composting toilets, and in many cases, have actually removed them due to their ineffectiveness and high level of maintenance. In addition, adding any new structures (developments) to wilderness is counter to the preservation of wilderness character. One of the desired conditions of this WSP/EIS is to reduce development in wilderness, thus improving wilderness character ("Desired Conditions" section of "Chapter 1: Purpose and Need"). These parks will continue to assess new waste management systems and technologies and will be open to adopting them as they prove reliable and effective in the wilderness environment.

Concern 85: Pack-out waste kits should be required in higher use areas such as the Mount Whitney Management Area. Waste disposal cans could be placed at all trailheads in higher use areas.

I believe commercial users with stock support should be required to use wagbags &/or pack out human waste in the Whitney zone.
[Individual, #158]

Human Waste. I am in favor of measures to mitigate the pollution problem, specifically at Guitar Lake. We at SYMG have been packing out our wag-bags for many years now (Over Cottonwood Pass since we can't exit via Trailcrest). This is a good solution and measures should be put in place to require all users to use wag bags. SEKI/INYO should place wag bag disposal cans at all trailheads associated with the Whitney Region.
[Business, #90]

Response: The preferred alternative continues the strongly recommended use of pack-out waste kits in the Mount Whitney Management Area (table 23 in "Chapter 2: Alternatives"). Requiring commercial service providers to remove human waste in the Mount Whitney Management Area and elsewhere is an operational determination and not an aspect of this WSP/EIS, but will be considered as a condition of assigned Commercial Use Authorizations. Used pack-out waste kits are considered normal household waste (provided they are the commercially produced type, e.g., WAG BAG® and Restop 2®) and can be deposited in existing waste receptacles at trailheads.

Suggests Change in Alternative(s) for Element 6: Party Size

Concern 86: Party sizes should be reduced for day, overnight, and off-trail uses for hiking as well as for stock parties. Large group sizes cause the most damage to resources and affect other visitors' wilderness experience.

I think that stock group sizes of twenty are too large (and twenty persons) and have far too great an impact on the wilderness. Such groups tend to be noisy, loud and disruptive of the wilderness tranquility. I would suggest a maximum size of 8 stock and 8 people.
[Individual, #147]

The Park Service should substantially lower maximum party size limits from 15 people and 20 head of stock to a maximum of 15 heartbeats in the preferred alternative. Large group sizes seriously detract from the experience of wilderness visitors (as work conducted in SEKI and surrounding national forest lands clearly demonstrated way back in the 1990s).
[Individual, #180]

Hikers: I strongly feel that all the on-trail day use party sizes are too large for those of us who hike solo or in groups of less than 5 to have enjoyable and quality day hikes. 25 or even 20 people can't really hike together anyway. I prefer having overnight use limits like those in Alternatives 5 and 4. However, the preferred Alternative 2 would be acceptable for enjoyable wilderness experience if the day use party size were reduced. Parties of 20 for day use have too much potential for noise and disruption.
[Individual, #127]

Reduce group size limits. The group size limits in the Preferred Alternative are far too excessive, and will degrade the SEKI Wilderness's wilderness conditions and character. Alternative 5's limits are far lower and better, but even some of the limits in alternative 5 (on-trail day-use party size limit of 20) are too high.
[Conservation/Preservation, #166]

Response: The commenters suggest using a "beating hearts" method for setting party-size limits. In deciding on party-size limits, the NPS rejected both the "people and stock sum" and the "beating hearts" methods of setting stock party-size limits: the former because it fails to take into account the effects of adding people and stock together, and the latter because it unnecessarily restricts the choices of stock parties (affecting the unconfined quality of recreation). Party sizes for hiking and stock groups on- and off-trail were set in the WSP/EIS after a careful analysis of wilderness character impacts, and after consideration of things like consistency, simplicity, anticipated perceived fairness, and the availability of other means of controlling impacts. The various reasons set forth by the commenters were taken into account in this analysis of party size.

Concern 87: The number of pack animals per person should be limited, such as one pack animal per three visitors.

> *10. Group size limits (maximum), except for essential NPS administrative uses: Persons per group (on trails): 12 Persons per group (off trails): 6 Stock animals per group (on trails): 10 Stock animals per group (off trails): 0 Max heartbeats for commercial stock parties where clients ride (animals packer/s riders, on trails): 14 Max heartbeats for commercial stock parties where all clients walk (animals packer/s, on trails): 7 11. For all commercial stock groups, whether the clients walk or ride, there shall be a limit of no more than one pack animal per three persons. Employees of commercial outfits (including, but not limited to, packers, cooks, attendants for disabled persons, etc.) ALL count as persons in the calculation. For example, a group of four clients with one packer and one assistant (i. e. , six persons total) may use no more than two pack animals.*
> [Recreational Group, #123]

Response: The commenters suggest setting limits on the number of stock allowed to limit how much gear stock parties can carry per person. In setting party-size limits, the NPS rejected any ratio system for setting the number of stock per party to limit their gear as unnecessarily restrictive of recreational choices (Remedy Order, High Sierra Hikers Association vs U.S. Department of the Interior C-09-04621 RS, page 9: "It is not appropriate for one group of the parks' users to impose its vision of wilderness etiquette over others.").

Concern 88: The NPS should gradually reduce the sizes of stock parties, eventually eliminating them.

> *Initiate phased reductions of pack animal traffic on the trails of the High Sierra, with the goal of their eventual elimination. . . gradually reduce the number of permits. . . reduce the size of pack trains allowed. . . Parks personnel spoke of planned reductions in pack animal traffic. Somehow these have never been accomplished*
> [N/A, #48]

Response: Riding and packing stock are legitimate primitive recreational uses of wilderness and are allowed per the GMP. The WSP/EIS is not revisiting the question of allowing recreational use of stock in the parks' wilderness. Focusing on a person's physical inability to hike distracts from the issue that choosing to hike or ride or climb or boat is a question of personal recreational preference.

Concern 89: There should be no reduction in hiking party size. Party sizes can be large for various reasons, including for a variety of experience levels and for youth groups. In the case of affected resources, the number of permits should be limited, but the hiking party sizes should remain the same.

I do not understand the need to reduce party size as a way to reduce overall impact o There can be good reasons for larger groups; just to pick three examples: - A multi-generational family of hikers who are carrying on and passing the tradition of loving the wilderness on to the next generation - Chaperoned groups of youth being introduced to the wilderness experience - Less experienced hikers being guided by more experienced hikers, whether or not under the auspices of a not-for-profit organized hiking group or commercial outfitter o If the concern is with overly impacting a particular area, rather than reducing group size, the focus should be on reducing the total number of permits allowed in the affected area o So, in general, I am against the idea of reducing the allowed groups sizes for hikers - I do not understand the need to reduce group size and/or total number of hikers off-trail o Unless there is a particular area that is clearly being over-used - i. e. which is showing physical signs of over-use, why limit this activity more than on-trail activity? o In its nature, off-trail travel is not as common as on-trail travel, since those who travel off-trail tend to be a smaller number of individuals, since they need to be able to do so, both physically and mentally (i. e. by relying on navigation skills) - I wish to reiterate again, that this does not apply to stock animal travel o So I am against the idea of reducing group size or number of hikers off-trail (without clear physical damage of an area being an issue)
[Individual, #39]

Response: Hiking party size on-trail in the preferred alternative has not changed from the no-action alternative. Off-trail party size is reduced from 15 people to 12. Trailhead quotas (the "number of permits") limit the total number of visitors using an area, and therefore provide some protection from impacts associated with the total number of people. These include things like litter, feces, firewood use, and some trampling impacts. However, some impacts depend on the size of a party more than on the overall total number of people in an area. These include things like expansion of trampling impacts in campsites, and effects on opportunities for solitude for other visitors (both traveling and in camps), and formation of informal trails. The party-size limits are therefore needed in addition to total use limits in order to preserve wilderness character. It is appropriate for there to be lower off-trail party-size limits because off-trail travel more quickly creates informal trail impacts than on-trail travel.

Concern 90: The WSP/EIS does not adequately justify the reasoning for reducing stock party sizes. The number of stock users has decreased in the parks; therefore, the party-size limits are unnecessary. The party sizes are inconsistent with those of adjacent forests. Additionally, the results of the visitor survey do not support a reduction in stock party sizes.

Proposals to Limit Maximum Stock Party Size Not Supported it appears that the maximum party sizes indicated for alternatives 2 through 5 make little sense (and thus are not reasonable) by their proposals to decrease maximum on-trail party size to less than what we understand to be consistent with adjacent forests (i.e., 15 people/25 head, total maximum party size of 40). We request that the WSP/EIS better clarify both the objective(s) in determining maximum party size (both on-trail and off-trail) and how the NPS selected alternative compares with maximum party size limits on adjacent national forests.
[Recreational Group, #186]

Results of the parks 2011 Wilderness Visitor Survey, for example, do not support a reduction in the maximum party size for stock users. Of the nearly 600 hikers/backpackers who answered the question, 86.6% of respondents reported they had either no or a Small Problem seeing Groups With Too Many Horses. Only 5.7% ranked it as a Big Problem (Report, p. 77, Table 34h). Based on these numbers alone, the WSP/EIS

> *fails to document public demand as supporting a decrease in maximum stock party size. If there were other rationale, we would hope this would be made clear in the WSP/EIS.*
> [Recreational Group, #186]

> *For Recreational Stock Users, WSP/DEIS at xiii, Alternative 2's proposed party size actually decreases from Alternative 1's No Action I Status Quo option, but the number of stock allowed is still too high for what the recreational stock visitor numbers support. WSP/DEIS at xiv. If there is a decreasing number of recreational stock users, it does not make sense for NPS to permanently adopt party size numbers for certain areas.*
> [Recreational Group, #235]

Response: The objectives in setting party sizes for all groups were to preserve wilderness character, including preserving the most unconfined primitive recreation consistent with other qualities of wilderness character. In terms of stock party size, the maximum number of people allowed is the same as for hikers; the maximum number of stock allowed on-trail is the same as in the no-action alternative. The combined total number of stock and people in a party on-trail is restricted to protect against the potential for large campsite impacts and to preserve opportunities for solitude for other groups. The off-trail party size is limited to less than on-trail to protect against the likelihood of informal trail impacts, as well as to ensure that off-trail areas present opportunities for greater solitude than on-trail. Although the total amount of stock use in the parks has decreased, not all impacts of stock travel are closely tied to the total amount of stock. Instead, some impacts (e.g., campsite impacts, impacts to solitude, and establishment of informal trails) are more directly related to the size of a party. To protect against those impacts, party-size restrictions are needed. The Inyo, Sierra, and Sequoia USFS lands currently have limits of 15 people and 25 head of stock, with some of Inyo and Sierra NFs having additional limits of 1.33 head of stock per person. These party-size limits are not consistent with Sequoia and Kings Canyon National Parks' party-size limits under the preferred alternative but were considered under alternative 3 (although consistency was not complete in that case either, as alternative 3 did not include the 1.33 head per person limit). Although the visitor survey provided information useful to the analysis, it was not primary in driving or determining the party-size limits in the preferred alternative.

Concern 91: One commenter stated that the WSP/EIS is unclear on whether the number of stock users proposed is cumulative or total.

> *It is unclear whether the number of stock users proposed is cumulative or total*
> [Recreational Group, #235]

Response: It is unclear what the commenter means by "cumulative or total." Table 18 in "Chapter 2: Alternatives" provides the maximum party size for people, the maximum party size for stock, and the maximum combined party size for people and stock. The new combined size limit reduces the total potential party size for stock. In the past, a stock party with 15 people could travel with 20 head of stock for a combined party size of 35. Under the NPS preferred alternative, a stock party with 15 people could take only 13 head. Assuming a more common ratio of about 2 riders for 3 head, the preferred alternative would allow for a stock party comprising 11 riders and 17 head.

Concern 92: The WSP/EIS should set party-size limits for day-use trails.

> *I would like to see party-size limits for day use on certain trails, such as certain areas of Giant Forest, Mist Falls, and the Lakes Trail (Pear Lakes).*
> [Individual, #88]

Response: The preferred alternative does set a day-use party size of no more than 25 people per group, but does not impose additional party-size limits on specific trails where day-use occurs. However, additional party-size limits may be imposed if visitor use monitoring indicates that is necessary to preserve wilderness character, as is stated in the "Alternative 2, Element 6" section of "Chapter 2: Alternatives."

Suggests Change in Alternative(s) for Element 7: Camping/Campsites, and Night Limits

Concern 93: Campsites for stock should be designated and stock parties should be required to use them. Designated stock campsites would limit the overlap with backpackers.

> *All stock parties should be required to stay at designated stock camping sites located no more than ï¿½ mile from designated stock trails. Designated stock sites would allow hikers to avoid the severe impacts and intrusion on the wilderness experience that comes with stock use.*
> [Individual, #180]

> *Overnight camping sites for stock are also needed. Alternative 2 proposes setting aside some sites in the Atwell Mill Campground, which would work well since many stock parties use the Atwell/Hockett Trail. Camping sites and a staging area also could be added at the Tar Gap Parking Area and/or at the site of the former commercial pack station. In high use areas, stock groups should have their own stock camps and be required to use them to limit the overlap with backpackers.*
> [N/A, #195]

> *Overnight camping by commercial stock parties at designated stock camps only (as in other western national parks, such as Yellowstone and others).*
> [Recreational Group, #123]

Response: As described in the preferred alternative in the "Alternative 2, Element 7" section of "Chapter 2: Alternatives," the locations of established stock camps would be identified and the NPS would recommend their use." In specific popular areas, stock users may be required to camp in designated stock camps. These areas may include Woods Creek Crossing, Rock Creek Crossing, and Big Pete Meadow. If an area is designated as a required stock camping site/area, backpacker camping would be prohibited. Criteria used for establishing stock-only campsites would include the areas' historic visitation by both backpackers and stock users."

Concern 94: The use of stock campsites may need to be rotated to minimize impacts.

> *Generally speaking, it may be appropriate to designate sites in some areas, but with stock camps in particular, use will need to be rotated if the stie becomes too impacted.*
> [Individual, #158]

Response: The practice of rotating stock campsites is an operational issue but may be warranted if stock camps are designated.

Concern 95: Close-in campsites should require a reservation.

> *Under "Element 7: Close-in Camping" for Alternative 2, ! like the idea of more close-in camping spots, but I wonder if some of these should be designated sites by reservation*

> *only. Could this close-in camping include such things as (a) an extension of the Muir Grove trail to a campsite at Hidden Spring (I previously said Big Spring by mistake) or (b) campsites above Wuksachi on Clover Creek (sufficiently far above any water intake for the lodge) or near the Suwanee grove?*
> [Individual, #120]

Response: Requiring reservations for the use of particular campsites decreases opportunities for unconfined recreation and is generally unnecessary to protect resources. The proposed new close-in camps are generally in areas that previously have had no camping and are expected to have low use. The capacity of the new camping areas would be managed through the use of trailhead quotas, which would be established on the associated trailheads. If determined necessary in the future, a reservation system could be implemented as an operational measure.

Concern 96: Night limits may unnecessarily restrict commercial outfitters. In areas such as the Mount Whitney Management Area, certain closures might make it necessary to spend more time in one area.

> *Night Limits. I am not in favor of night limits. Related specifically to commercial use, night limits are especially problematic since we are not allowed to exit via trailcrest. That means we are essentially obligated to spend additional nights in the Whitney Zone following any reasonable itinerary. If night limits were implemented, I would request that serious consideration be given to allowing commercial services to exit via Trailcrest.*
> [Business, #90]

Response: Night limit restrictions apply equally to all user groups. As described in table 9 in "Chapter 2: Alternatives," "Night limits exist to protect popular areas from crowding and campsite proliferation." Popular areas require more regulation in order to prevent impacts to resources, to maintain access for all users, and to maintain opportunities for solitude.

Concern 97: Visitors who obtain permits and follow site-specific night limits should not have to follow a yearly night limit.

> *Camping Night Limits: I do not agree with any of the alternatives. A total nights per year limit is ridiculous. I know people who exceed the limit stated in all the alternatives who are some of the most responsible adherents to Leave No Trace principles. For retirees or the unemployed, if they obtain a wilderness permit and do not exceed the per night limits in specified locations, there should be no limit on the total number of days spent per year in the wilderness.*
> [Individual, #88]

Response: Annual night limits provide a mechanism to prevent individuals from residing in wilderness. Individuals residing in the wilderness diminish opportunities for solitude and unconfined primitive recreation and increase the potential for developments in wilderness**.**

Concern 98: The 7-night limit as described under alternative 3 is appropriate for a single location.

> *Regarding "Element 7: Night Limits," I mostly support Alternative 3 for night limits. I do not see any reason to allow stays in a single location beyond seven nights (other than for trail crews and the like). I'd rather have slightly more visitors while maintaining, or*

> *lowering, the amount staying each night by reducing the number of nights allowed in most locations.*
> [Individual, #4]

Response: There is no evidence that wilderness users are impacting natural resources or opportunities for solitude by staying at one site for extended periods of time except in some particular popular high-use areas. As described in the "Wilderness Character, Campsite Condition" section of "Chapter 3: Affected Environment," at current use levels, campsite condition in wilderness has improved markedly. Campsite condition was evaluated in the late 1970s and repeated in the mid-2000s. The surveys showed an increase in the percentage of Class 1, (minimally impacted) campsites from 37% to 60%. Under alternative 3, the potential increase in wilderness user numbers would necessitate more stringent regulation of how long users could stay in one location to prevent undesired resource and social impacts; at current use levels, the regulations are unneeded.

Concern 99: The greater limitations for campsites presented in alternative 4 would provide better protection to minimize impacts from campsites.

> *Standards are needed to assess campsite impacts. We prefer the standards for campsite impacts in Alternative 4 rather than those in alternative 2. Techniques like prohibition of campfires, minimum distance from streams and lakes, limits on the length of stay, etc. will be needed in many areas. In some highly used areas designated campsites may be appropriate-even though such designation could be looked at as a trammeling activity.*
> [Conservation/Preservation, #60]

> *I support the standards for campsite impacts in Alternative 4 rather than those in Alternative 2. I would suggest that an increase In trail head education be appropriate, in the form of trail head signage which includes clear diagrams, as well as visitor education during the permitting process.*
> [Individual, #145]

Response: As described in the "Alternative 2, Element 7" section of "Chapter 2: Alternatives," standards for campsite condition are established using the value of Weighted Value per Campable Mile (WVCM). This measure is evaluated on a larger scale than a specific campsite, taking into account conditions in the entire subzone.

Campsite condition in the wilderness has improved markedly in the last 30 years, as described in the "Wilderness Character, Campsite Condition" section of "Chapter 3: Affected Environment." Campsite condition was evaluated in the late 1970s and repeated in the mid-2000s. The surveys showed an increase in the percentage of Class 1 campsites from 37% to 60%. This improvement is believed to be the product of better education for wilderness users and decreased numbers of users. To attain higher campsite condition standards than those in alternative 2, more stringent regulations would need to be put in place and use levels would need to be decreased. More stringent regulations or reduced user levels would unnecessarily and negatively affect opportunities for unconfined recreation and would not substantially reduce other impacts.

Concern 100: The campsite use presented for alternative 5 is preferable, especially the differing distances to first allowable campsites based on conditions and eliminating designated campsites; however, the 10-night stay should be reduced.

> *I strongly support most of the recommendations outlined in alternative five for campsite use. First allowable campsite distance is very important and I would support differing*

> *distances depending upon the area. One concern I do have is the length of time visitors would be allowed to occupy one campsite, which seems a little excessive at 10 days. Eliminating designated camping fits nicely within this alternative though consideration of co camping zones in some areas would be supported by most users.*
> [Individual, #35]

Response: The first allowable campsite location is the same across all alternatives, see table 19 in "Chapter 2: Alternatives." There is no evidence that wilderness users are impacting natural resources or opportunities for solitude by staying at one site for extended periods of time except in some particular popular high-use areas where shorter stay limits have been instituted.

Concern 101: Commenters suggested specific changes to camping restrictions that were outlined for the preferred alternative, including night limits and designated campsites.

> *I do not agree with the 1-night limit at Hamilton Lake and 1-night limit per lake at Rae Lakes. The limit should be changed to 2 nights. A limit is necessary, but only one night prevents people at Hamilton from a layover day to hike to Precipice Lake and Kaweah Gap. That hike is one of the most spectacular hikes on our planet. A few dayhikers every day will not destroy the experience for those going beyond those destinations. At Rae Lakes, a 2 night limit would allow people to use a layover day to go to Sixty Lakes Basin or simply further explore the area. I also completely disagree with a stay limit in Dusy Basin: A basin-wide limit is not needed. The first lake immediately off the trail is overused; the rest of the basin is not.*
> [Individual, #88]

> *Designated Camping at Guitar Lake and possibly Lower and Upper Crabtree Meadows. I am not in favor of this if it means pre-planning for specific dates/camps on the part of wilderness users. Especially on these long-distance trails, it is very common for itineraries to change. That could be because hikers are slower or faster than expected, or just because they choose to spend time in places that they find special, only known to them when they actually get to that place, and impossible to plan for pre-trip. With wilderness permitting entry date on the front end of a trip, and designated camping spots/dates in the Whitney Zone on the back end, these regulations would inherently work against users being able to take advantage of those special places or moments.*
> [Business, #90]

> *There is definitely a need for backpackers' campsites in Mineral King. Some of the sites in Cold Springs Campground could be set aside for one-night stays for backpackers. Camping sites for backpackers also could be added at the Tar Gap Parking Area, which already has a pit toilet.*
> [N/A, #195]

Response: As described in table 9 in "Chapter 2: Alternatives," "Night limits exist to protect popular areas from crowding and campsite proliferation." Popular areas require more regulation in order to prevent impacts to resources, to maintain access for all users, and to maintain opportunities for solitude. In the areas where there are 1- or 2-night camping limits, there are other nearby locations that users can camp to comply with the night limit.

Suggests Change in Alternative(s) for Element 8: Stock Use

Concern 102: The parks should implement a hiking-only trail system that includes some relatively easy trails, in addition to the trails that allow stock. If stock could not be completely restricted from these trails, they should minimally be used by stock. These restricted trails would allow backpackers to enjoy the parks without the evidence of stock use.

> *Under "Element 8: Stock Use," I wish there would be some relatively easy trails that are not open to stock use, or at least open only to minimal (low #) use. I don't know how this translates into miles.*
> [Individual, #11]

> *If the decision is to allow some pack animals into the park there needs to be a trail system for backpackers only so they can enjoy the wilderness without all the flies, manure, and deep dust on the trails.*
> [Individual, #130]

> *For those hikers who prefer to not have to put up with fouling and trampling caused by pack stock, the Preferred Alternative should implement the creation of single use trails (foot traffic only). I would suggest that approximately 20% o the trail system be reserved for foot traffic only (no stock).*
> [Individual, #147]

> *I'm OK with commercial stock in the park, they certainly provide a service. But I do think there need to be more restrictions than there currently are. There should be no off-trail use allowed (and some kind of very, very stiff penalties for any offenses like Milestone basin, like banning the offending organization from the park for 5 years), smaller group sizes to help limit impact, and a network of hiker only trails, where hikers can be assured their potential campsites won't be full of horse manure and they won't be walking all day on a trail dotted with horse manure, both old and fresh.*
> [Individual, #198]

> *8. Restrict stock use on a portion of SEKIs trails to establish a modest network of trails that provide a hiking experience free of pollution by manure, dust, and flies. Specifically, restrict stock use as in Alternative 4 (DEIS Vol. 1, pp. 174-176), PLUS no stock travel of any kind (except for essential NPS administrative uses) on Taboose Pass (from John Muir Trail junction to park boundary at Taboose Pass).*
> [Recreational Group, #123]

Response: A network of hiking only trails is considered in alternative 4. Even in alternative 4, though, "relatively easy" trails for hiking only are not realized. A problem with this idea is that the "relatively easy" trails that exist are the parks' most popular Class 3 trails such as the Rae Lakes Loop or the High Sierra Trail. Designating "relatively easy" hiking only trails in practice would prohibit stock use on the most popular trails in the parks. This would be in conflict with the goals and objectives for outstanding opportunities for solitude or primitive and unconfined recreation (see the "Goals and Objectives" section of "Chapter 1: Purpose and Need").

In the preferred alternative, there are some trails designated "hiking only" that are relatively easy. These include the Monarch Lakes, Admiration Point, Little Baldy, Marble Falls, Tokopah Falls, Paradise Creek, and Dorst/Lost Grove trails (table K-1 in "Appendix K: Trail Management and Classification System for Sequoia and Kings Canyon National Parks"). Of these, the Monarch Lakes Trail is open for backpacking

use. Although these trails were designated “hiking only” primarily for reasons of crowding and safety, the fact of their status as “hiking only” provides some access to trails with no stock use. In addition, although most trails in the parks are open to stock, there are numerous trails where stock use is very light where hikers could seek relatively low-stock experiences.

Concern 103: All trails should be open to all users and maintained as such, except those that are currently designated as hiking only trails. By restricting stock from certain trails, the NPS is restricting stock users from experiencing certain portions of the parks; this includes visitors who may not be able to hike to these areas without the aid of stock.

> *Trails should not be exclusively reserved for one type of wilderness user, with the exception of the Mt Whitney Trail from Whitney Portal to the Summit, where stock use is currently not allowed. There should not be any 'hiker only' trails. Such a system penalizes and restricts users who prefer to travel with stock from seeing and enjoying areas in the wilderness on an equal basis with bikers. Hiker only trails also preclude users who need to travel by pack and saddle stock due to disabilities from having the same experience as able bodied visitors. This creates a sense of discrimination. Granting exclusive privileges to certain user groups is not an acceptable Park Service practice.*
> [Recreational Group, #201]

> *We oppose proposals to create hiker-only trails based on criteria that include perceived conflicts. For example, the Monarch Lake Trail a wonderful trail and important to recreational stock users. Its closure would diminish opportunities for unconfined recreation in park Wilderness. This is but one example of the 42 miles of trail proposed closed to stock use in WSP Alternative 2, the Preferred Alternative (DEIS, p. 115)*
> [Recreational Group, #171]

> *We are also concerned with the continuation of the off-trail restriction of eight "individuals" in the Brewer Stringers I Sphinx. Based on our experience in the area, the Brewer stringers should be treated the same as any other off-trail use area. Brewer Stringer is an area that TCR uses on a regular basis during heavy snow years to access the backcountry on a reasonable date. Since 2006 we account for 100% of the stock use at 70-1. 2 and now we will be perpetually kept out of the area. If there are specific concerns about the area a conversation can help manage the issue rather than eliminating access permanently to the only stock user in the meadow in the past decade.*
> [Business, #196]

Response: There are currently very few trails closed to stock use, and these are closed to stock use for reasons of resource protection and visitor safety on high-use, exposed trails. The preferred alternative adds a few trails to the “hiking only” category based on these same criteria. Although alternative 4 considers the effects of having a relatively large set of hiking only trails, the preferred alternative maintains the maximum extent of stock use on trails while protecting sensitive resources and providing for visitor safety on crowded trails.

Concern 104: The visitor survey used in the WSP/EIS as support for creating hiking only trails actually shows a low percentage of users that report conflict among user groups.

> *Designation of Hiker-Only Trails Not Supported by Wilderness Visitor Survey Available data collected by the Park Service, including the parks 2011 Wilderness Visitor Survey, does not support the need for designation of hiker-only trails in park Wilderness. In fact, the survey revealed a remarkably low level of reported hiker-horse conflict. The*

questionnaire used with hikers and backpackers in the field included a question that goes straight to the heart of potential on-trail conflict. Question 31 asked: Did the actions or behavior of any other group or individual interfere with your enjoyment of the wilderness on this trip? (Report, p. 69). Among 622 respondents to this question, nearly 80% (8. 5%) ided No. That overwhelming response should immediately signal to the Park Service that the vast majority of hikers/backpackers in SEKI Wilderness do not view recreational stock use as a conflict. Yet the DEIS fails to disclose and discuss this particular piece of compelling data.
[Recreational Group, #171]

Importantly, of the 134 people who reported conflict (21. 5% o the overall sample), only 54 (or 8. 5% o overall sample) said the conflict was a result of Groups with pack animals. (Report, p. 70, Question 32). Yet the Park Service is proposing to designate hiker-only trails, which would be closed to recreational stock use, based in part on the appearance of conflict as reported by less than 10 percent of hikers and backpackers? This apparent favoritism does not comport with existing law and NPS policy, as described in further detail below.
[Recreational Group, #171]

Response: Alternative 4 in the WSP/EIS considered the effects of having a significant network of trails designated as "hiking only." The reasons for considering this were not based so much on the visitor use survey as they were based on public comment during scoping. The preferred alternative considers closing trails to stock use for reasons of resource protection and visitor safety on high-use or exposed trails and maintains the maximum extent of stock access on trails consistent with those goals.

Concern 105: The WSP/EIS does not properly validate the need to close certain trails to hiking, commercial or private stock use, or both.

At present, stock use by private parties currently comprises only two percent (2%) ll overnight use in park Wilderness. For the period between 2002 and 2012, Wilderness stock-use permits averaged about 2% o total permits issued each year by the NPS and adjacent national forests combined (draft WSP/EIS, p. 334). Moreover, recreational stock use in the parks by private individuals, like Back Country Horsemen, today is less than half (58%) he levels documented by the NPS in the 1980s, when the 1984 California Wilderness Act was enacted (Source: NPS, Summary of Stock Use Nights in Sequoia & Kings Canyon National Parks - 1960-2009). Given statistics that point to the drastic curtailment of private stock use, the draft WSP/EIS fails to justify the need for the Park Service to impose further restrictions on private stock users. If localized conflicts are thought to indeed exist, we implore the Park Service to seek first to implement targeted visitor outreach, education, and/or other means of separating incompatible recreational uses (a concept at SEKI to which we do not subscribe) instead of targeting private stock users who represent only two percent of all overnight Wilderness use.
[Recreational Group, #171]

Alternatives 2 through 5 Appear to Violate NPS Policy as They Represent De Facto Closures to Recreational Stock Use As described previously, there appears to be no reasonable basis to support the restrictions proposed in alternatives 2 through 5 relative to which trails remain available for private recreational stock use. To structure WSP alternatives that include reductions/restrictions to hiking or stock use appears to us to represent a de facto closure that is neither warranted nor supportable.
[Recreational Group, #171]

Response: The Wilderness Act does not require that stock has access to 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 parks' wilderness, the NPS identified resource impacts specific to stock use; in response, the WSP/DEIS and WSP/FEIS propose a number of methods to address these impacts that are compliant with the direction of the Wilderness Act.

Concern 106: The WSP/EIS does not separate private stock users from commercial and administrative stock users. Therefore, trail closures and reduction in stock use is not properly justified.

> *Lastly, no attempt was made to distinguish in the draft EIS/WSP between potential resource impacts associated with private stock use (and its corresponding 2% o all overnight park Wilderness visitation) versus potential impacts associated with the remaining 98% o overnight use associated with either backpacking, commercial outfitters (including stock-assisted trip) or the parks administrative use of pack stock. Thus, proposed reductions in trail miles available to private stock users in WSP alternatives 2 through 5 are wholly unwarranted, unjustifiable and have not been documented as being necessary to preserve wilderness character.*
> [Recreational Group, #171]

Response: The commenter notes that stock restrictions are not generally shown as separating the private stock user from commercial service providers or administrative stock users, reasoning that since such a small fraction of total stock use is from private stock users that additional restrictions on them are unwarranted. It is true that in creating alternatives for the WSP/EIS, a conscious decision was made not to separate private from other stock users in terms of deciding where stock use (travel, camping, grazing) would be allowed. This decision was made specifically to avoid restricting private stock users unnecessarily, while allowing the greatest possible extent of stock access consistent with protecting wilderness character. The NPS imposed additional restrictions on commercial service providers and administrative stock use where warranted. In areas where commercial service providers or administrative stock use has the potential to displace or limit private stock use, steps were taken to protect private stock users (e.g., reserving Lower Whitney Creek Meadow for private grazing only in the Whitney area).

Concern 107: Regulating stock use to a level that would prevent impacts to the parks' resources would be too burdensome on the parks' finances and staff.

> *Horses and mules should not be allowed in national Parks. Although regulations, if adhered to, could prevent some of the damage, they could not prevent all of it and would likely be unenforceable as a practical matter. Such enforcement would likely be at public expense besides. The environmental impact of horses & mules is adverse to the quality of Sequoia & Kings Canyon National Parks and their presence should be banned in all alteratives preferred by the National Park Service.*
> [Individual, #139]

Response: The effects of regulating stock use are considered in the analysis (see the "Park Operations" section of "Chapter 4: Environmental Consequences").

Concern 108: The NPS should not create any new stock-supporting facilities at campgrounds and trailheads, including campsites, drift fences, gates, and parking. Adding facilities such as these could encourage more personal and commercial stock use.

(cont'd) DEIS Alternative 2 Element 10 - In addition to opposing the Atwell Mill changes for stock, the entire concept of creating new stock campgrounds and ANY new structures/facilities that support stock use is contrary to the Wilderness Act. Essentially, the stock community is asking the NPS to install facilities in the wilderness to ensure their commercial viability. Although this is done in the name of allegedly minimizing impact, that is not truly the case. Every drift fence, post, gate, and stock campground is a means of enabling a commercial end that could not otherwise exist at current levels or even the levels proposed in DEIS Alternative 2. Without all of the stock supporting facilities in the wilderness allowed by DEIS Alternative 2 and paid for by the rest of us, stock use would have to be reduced to levels that might not be commercially viable but that would FINALLY approach the minimum impact/leave no trace standard that the NPS demands of HUMAN visitors.
[Individual, #46]

(cont'd) DEIS Alternative 2 Element 10 - Further, I do not see any basis for allowing commercial stock use or travel from ANY trailheads that lack a pack station. Cedar Grove pack station can access north and south including Roads' End. Wolverton pack station, if it is in fact commercially viable, could access the cutoff and Sevenmile Hill to the HST, and go from there. Mineral King pack station can either become economically viable or close. Pack stations outside of the parks can handle the rest from where they are located. There is no need to provide for ANY facilities to support commercial stock use at ANY other trailhead, such as parking, paving, extra large clearings, gates, posts, fences, etc. Such additional facilities are a pure subsidy to commercial enterprise in wilderness that is contrary to the intent of the Wilderness Act. The DEIS Alternative 2 fails to account for how new frontcountry stock supporting activities at the Middle Fork Kaweah and South Fork in particular would "harden" the landscape at these locations and completely change their character, mix of uses, and day-to-day impacts on the trailhead environment and the trails themselves.
[Individual, #46]

Please arrange to keep stock out of fragile areas (such as the Dusy Basin). I request that the NPS set aside trails free of stock, so that walkers can enjoy the parks and the landscape will be relatively less harmed. I strongly agree that NO NEW facilities should ever encourage more stock use or commercial use. I understand the history of the commercial packers, but I feel strongly that the numbers must be carefully controlled and incrementally reduced. The sizes of the trains and the parties must be adapted to the present foot traffic in these parks, and the packers must use bear contrainers just like everyone else.
[Individual, #164]

Response: The establishment of facilities in frontcountry locations is not directly under the mandate of the Wilderness Act, as they are not in wilderness. Use into wilderness that may be supported by these facilities has been analyzed for its effects on wilderness character throughout “Chapter 4: Environmental Consequences.” Facilities in wilderness (e.g., drift fences and food-storage boxes) for public and administrative use, have been evaluated and subjected to a minimum requirement analysis to ensure they are the minimum required to meet the purposes of the Wilderness Act (see “Appendix M: Programmatic Minimum Requirements Analysis”), as required by Section 4(c) of the Wilderness Act. Note that any changes to frontcountry facilities proposed by this WSP/EIS will also be subject to additional site-specific NEPA analysis and compliance.

Concern 109: Stock use should be limited to the trails; all cross country travel by stock should be banned since off-trail use by stock is damaging.

> *All cross country use by stock should be prohibited- - -no exceptions! Even light off-trail use by stock is extremely damaging, as it only takes a few large animals to establish trails of use. Prohibition of cross-country stock use is decades overdue.*
> [Individual, #180]

> *Stock should not be allowed to go off trail, except within 0. 5 miles of the trail to find a camping spot.*
> [N/A, #195]

> *Establish a network of trails and meadows closed to stock use. We are not suggesting building new trails, but dedicating a network of existing trails for hikers. Restrict stock animals that travel off maintained trails. Scientists have long recommended that stock animals be required to stay on designated, maintained trails. The NPS should limit off-trail stock groups to a much smaller size limit than for on-trail groups. (A maximum group size of 6 seems to be a limit supported by research.) Off-trail use by such groups should be closely monitored and regulated so the impacts of their travel are "no-trace," in other words, not persisting from year to year.*
> [Conservation/Preservation, #166]

Response: Limiting all stock travel to formal trails is considered in alternative 5. The potential for informal trail impacts was analyzed in the “Soils” section of “Chapter 4: Environmental Consequences.” The potential for nonnative plant introductions was analyzed in the in “Nonnative Plant Species” section of “Chapter 4: Environmental Consequences.”

Concern 110: The NPS should limit the areas where stock are allowed. In areas where camping with stock is not permitted, stock should be limited to 0.25-mile from the trails.

> *Off-trail stock: In other areas open to camping with stock, travel would be allowed up to 0. 5 mile from trails and routes in areas where they are allowed to camp and up to 100 yards from day-use trails. For other areas, the 0. 5 miles should be changed to 0. 25 miles.*
> [Individual, #88]

Response: All alternatives call for restricting access in no-stock camping areas to 100 yards from trails.

Concern 111: All stock use should be banned from high elevation areas where the resources are more sensitive; however, stock should be allowed in off-trail areas below the treeline. Signage would help guide stock users in determining what areas are accessible.

> *Off trail use, by both hikers and those using stock for overnight camping is an issue that needs careful consideration. High elevation alpine areas and other particularly sensitive areas should be monitored carefully with steps taken to minimize excessive impacts in those areas. There are certain areas near trails in sub-alpine zones below the tree line where off trail camping by stock may be acceptable but these areas should always be specifically designated and carefully monitored.*
> [Conservation/Preservation, #60]

It is time to restrict horses to sub-sub-alpine regions of the park: a reasonable plan would be that signs saying no campfires above 9000' or 9600' or 10000' have an additional sign attached to those posts saying no horses above those elevations, either. It is simple, workable, and would protect the alpine and sub-alpine wilderness environments from large, heavy, shod pack stock and large parties traveling as a group in those fragile environments.
[N/A, #154]

Prohibit stock use in fragile high-elevation lake basins. These include Center Basin, Dusty Basin, Lake Basin, Milestone Basin, Miter Basin, Wallace Lakes Basin, and Wright Lakes Basin. Even relatively small numbers of stock cause significant harm in these fragile areas. In order to avoid the impacts, NPS would have to limit the numbers so severely that it would make administration very difficult. Stock users desiring to visit these fragile areas should incorporate enough time in their schedules to hike into these basins if they wish to visit them.
[Conservation/Preservation, #166]

Response: "Stock use" includes three different activities: travel, camping, and grazing. Stock travel at higher elevations is almost exclusively on trails. Restricting stock travel from trails designed and constructed for stock use would not assist in the preservation of high elevation areas. In terms of camping and grazing with stock, existing information indicates the preferred alternative would have no unacceptable impacts. Campsite resource conditions have improved at all elevations in the parks since designation (Cole and Parsons 2013). For grazing, the WSP/EIS imposes site-specific (rather than broad or general) restrictions to ensure the widest possible recreational access consistent with preserving wilderness character and the parks' resources (see the "Topics Dismissed from Detailed Analysis" section of "Chapter 1: Purpose and Need").

Concern 112: Stock use should be limited to administrative uses and those visitors who are physically unable to hike.

The use of stock should be limited to trail and facility maintenance and groups that carry people with disabilities.
[Individual, #83]

I strongly urge you to eliminate all livestock from these parks, except perhaps for the special administrative uses when no other options are viable. Even where and when stock are used, they should be prohibited from high elevation basins and lake drainages like Dusy Basin, Darwin Canyon, Evolution Valley, etc. When stock are used by the NPS manure catchers should be required.
[Individual, #94]

The impact of pack animals needs to be reduced by greater limitations on the permits for their use, perhaps restricting the transport of excessive supplies and amenities (tiki torches, inflatable rafts and furniture?) and even able-bodied visitors
[Individual, #229]

1. Allow commercial horseback riding and packstock services in SEKIs wildernesses only to the extent that is truly necessary and proper under the Wilderness Act. Commercial stock are allowed for recreational purposes ONLY for clients/parties who: i) are physically incapable of hiking and/or carrying a backpack of his or her own; ii) need stock support to facilitate a wilderness-dependent activity (not simply desire convenience,

> *comfort, or a horseback ride); iii) are willing to travel with the minimum necessary gear (i. e. , lightweight gear/food normally carried by a backpacker); and iv) do not displace non-commercial visitors (i. e. , commercial stock services NOT allowed for entry points and times of year for which trailhead quotas normally are filled).*
> [Recreational Group, #123]

Response: The Wilderness Act, including Section 4(d)(5), makes no mention of visitors' physical needs or provides any restriction on items brought into wilderness other than those identified in "Prohibition of Certain Uses" in Section 4(c). Individual visitor's physical status is therefore not used as criteria for the necessity of stock support.

Riding and packing stock are legitimate primitive recreational uses of wilderness, and are allowed per the GMP. The WSP/EIS is not revisiting the question of allowing recreational use of stock in the parks' wilderness. Focusing on a person's physical inability to hike distracts from the issue that choosing to hike or ride or climb or boat is a question of personal recreational preference.

Concern 113: The NPS should reduce the level of stock used for administrative purposes to the extent necessary only. Administrative stock use should be reduced at the same magnitude as private and commercial stock use.

> *the Park Service should dramatically curtail administrative use of stock. All WSP alternatives should specify that use of administrative stock will be limited to the absolute minimum extent necessary to perform essential functions. Those essential functions should be clearly defined. If administrative stock are not being used for such functions, they should be removed from the wilderness and pastured in the frontcountry.*
> [Individual, #180]

> *According to SEKI data administrative stock use in 2012 constituted over 40% of total use and was greater than commercial use. (P348) Users do not distinguish between a commercial mule and an administrative pack animal. They all leave manure on the trail. If guided and non-guided stock are limited, so too should the Park stock.*
> [Business, #205]

Response: Administrative activities that provide for the preservation of wilderness character are allowed under the Wilderness Act (Sect. 2(a)). Administrative stock use is subject to the same minimum impact guidance as visitors. During implementation of the plan, the extent of administrative stock use will be analyzed under the minimum requirements process. For grazing purposes, the preferred alternative states, "Administrative grazing would be managed to limit impacts on public grazing (Note: with rare exceptions, visitors are given preference for limited grazing resources)" (see "Alternative 2, Element 8" section of "Chapter 2: Alternatives").

Concern 114: Stock should not wear bells, as it disrupts the natural soundscape.

> *5. No bells on stock animals in wilderness (to preserve the natural quiet).*
> [Recreational Group, #123]

Response: If free-grazing stock use is allowed, then visitors need some means to track and recover their stock. Current means available are bells or electronic tracking collars. Bells disturb the wilderness soundscape for some visitors, while electronic tracking collars disturb other visitors who object to modern technology in wilderness. Conversely, some visitors enjoy hearing the bells on stock, and others have no objection to modern electronics. These are impacts on the opportunities for solitude and undeveloped

qualities of wilderness character. Given no clear advantage of either method in terms of preservation of wilderness character, the WSP/EIS does not prescribe or proscribe either one.

Concern 115: Stock use at the South Fork Trailhead should not be increased, as proposed under alternative 2. This area currently allows use of the foothill trails without stock presence and it should remain that way. Modifying the trailhead for stock use would likely damage some of the trees that are part of the attraction of the area.

> *I would like to be clear that I am adamantly opposed to developing the South Fork trailhead to increased use of stock proposed in Alternative 2 for the following reasons: 1. The only trails closed to stock in the foothills, which means the only accessible winter trails in the Park, are the chaparral Marble Falls trail and the Paradise Creek trail. The majority of foothill trails are used by foot hikers so with Ladybug a foot only trail, there would still be only 3 actually closed to stock. One of the most unique characteristics of Sequoia Park is the fact that it extends down into the foothill region and has this incredible trail system in the foothills with winter access. 2. The Ladybug trail is easy, short and beautiful with all those ladybugs usually hibernating right in the middle of the trail, an ideal trail for children to see the ladybugs. So many who could not achieve a harder hike, may still learn to appreciate the solitude and beauty of nature on Ladybug trail. I hate to think of what stock would do to that trail and to the ladybugs. The trail itself is unsuitable for stock, being too narrow in places and would require extensive improvement 3. I cannot imagine a way to improve the trailhead for turnaround for stock vehicles without removing or damaging some of the beautiful old oaks in the parking area and destroying parts of this wonderful small shady vale of South Fork Campground which is habitat for Hutton's Vireo through late November and Varied Thrush in the winter. Even development below the road's end will destroy beautiful habitat. I have never seen stock on the Garfield Grove trail and use is minimal on the Ladybug trail, so it is not a great loss for stock users. I believe there should be some alternatives available for families without the extra resources to support stock travel. They should be able to enjoy a trail free of manure, flies and churned dust produced by stock. 4. There is plenty of room at the North Fork and Middle Fork trailheads for improvements and both the N Fork trail and Colony Mill Rd are wide and can easily accommodate stock, since they were actual roads.*
> [Individual, #206]

Response: Stock use is currently allowed at the South Fork trailhead. The NPS is proposing to modify the existing parking area and/or campground to allow for stock trailer turnaround and/or a stock trailer parking area. Site specific planning and compliance would occur prior to modifications, and methods to minimize impacts on the area would be considered.

Concern 116: The WSP/DEIS fails to identify unacceptable impacts on natural and cultural resources of the parks from the use of stock; therefore, the changes in stock management are unwarranted.

> *Park management direction-both stated and implied-in the GMP indicate there are few documented resource concerns or user conflicts associated with the existing park Wilderness trail system. Yet Alternatives 3 through 5 include reductions in the amount of trail miles available for recreational stock use. The draft WSP/EIS is deficient as it is not clear on what basis formed the rationale for these proposed reductions. As stated previously, pack stock use by private parties has decreased substantially over the past several decades. It would follow that adverse or unacceptable impacts resulting from*

> *stock use on Wilderness trails would therefore be substantially fewer at present than the WSP baseline datum of 1984 (or 2009 for the John Krebs Wilderness). Lastly, the draft WSP/EIS fails to document unacceptable impacts-be it to water quality, cultural or natural resources-that can be attributed to use of private horse and pack stock in park Wilderness.*
> [Recreational Group, #171]

Response: Management actions to preserve wilderness character, such as regulating stock use, are within the authority of the NPS and are compliant with the Wilderness Act, the National Park Service Organic Act, the parks' enabling legislation, and other laws and policies. In accordance with 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. NPS *Management Policies 2006* Section 8.2.2.8 explains that recreational stock use is authorized in national parks provided it is managed to avoid unacceptable impacts and that plans for recreational stock use should address social, biological, and physical carrying capacity considerations.

In the course of evaluating current conditions in the parks' wilderness, the NPS identified resource impacts specific to stock use; in response, the WSP/EIS proposes a number of methods that are compliant with the mandate of the Wilderness Act to address these impacts. In the WSP/EIS, the NPS considered alternatives with varying levels of recreational stock use and evaluated the environmental impacts of each alternative. The environmental analysis in the WSP/EIS demonstrates that none of the alternatives would result in unacceptable impacts.

The number of stock and where stock can travel and graze in wilderness are regulated to protect wilderness character. Stock numbers are controlled by trailhead quotas, party-size limits on and off trail, visitor service-day limits placed on commercial services ("Appendix B: Extent Necessary Determination for Commercial Services"), and grazing-capacity limits placed on individual meadows and forage areas ("Appendix D: Stock Use and Meadow Monitoring and Management Strategy"). Additional stock access restrictions and mitigation measures, such as meadow opening dates and trail improvements, would work to minimize impacts on the parks' resources.

Suggests Change in Alternative(s) for Element 8: Stock Use - Grazing

Concern 117: The NPS should reduce or eliminate all stock grazing in wilderness, including administrative stock grazing, as grazing causes undue stress on the parks' resources.

> *I suggest that the NPS eliminate ALL grazing of any kind in the parks. Given the susceptibility of the park regions to global climate change, additional stresses on the park areas (from grazing, for example) must be avoided. While monitoring (of grazing impacts) can help, this is not a panacea for reducing damage. It is essential that park areas are adequately protected for future generations.*
> [Individual, #147]

Response: The NPS recognizes that grazing has the potential to impact vegetation, water quality, and soils. These impacts are described and evaluated in "Chapter 3: Affected Environment" and "Chapter 4: Environmental Consequences" of the WSP/EIS. The elimination of grazing by stock in wilderness is considered under alternative 4 of the WSP/EIS. Each of the alternatives that allow for grazing to continue, including the preferred alternative, mitigates these impacts to acceptable levels through the continued monitoring and adaptive management of stock use and grazing. Grazing management is addressed in detail in "Appendix D: Stock Use and Meadow Monitoring and Management Strategy."

Concern 118: Stock users should be required to pack in weed-free feed for their stock and the stock should be fed this feed prior to entering the parks. In addition, stock should be physically inspected for seeds as this would help prevent the spread of invasive plants into sensitive habitats.

> *The WSP should prohibit grazing park-wide. All stock users should be required to pack in weed-free feed for their animals, so that SEKI's beautiful meadows are no longer mowed down by grazing stock. Many other national parks have adopted this requirement. Limit "administrative" grazing by NPS stock. Currently, SEKI owns numerous stock animals that are allowed to graze and trample the park's fragile meadows all summer long. NPS packers periodically haul fresh food to trail crews, but then leave the animals to graze in the wilderness until time to exit the mountains to fetch another load of supplies. It should be the opposite: NPS stock should leave the mountains between re-supply trips, not graze the park's fragile meadows all summer long.*
> [Conservation/Preservation, #166]

> *Just a caution on grazing - it needs to be strictly controlled to stop trampling of meadows and the plants and animals in them - stock should be for the most part required to bring their own feed to lessen the impact on meadows and streams.*
> [Individual, #67]

> *stock users should be required to carry pelleted feed that is certified as weed free. They should be fed a weed free diet for several days before entering the wilderness, and all stock animals should be inspected before they are allowed into the backcountry to ensure that they are not transporting seeds of invasive plants.*
> [Individual, #180]

> *The DEIS also fails to reasonably assess the effectiveness of proposed measures related to stock management effects (App. D) and nonnative vegetation strategy (App. N) with respect to limiting the spread of nonnative vegetation. This is a serious deficiency in the DEIS, because the approaches in App. N and App. Dare unlikely to be effective in stemming ongoing nonnative vegetation invasions due to the lack of required effective measures to reduce the spread of nonnative vegetation. Instead of applying more effective measures to limit nonnative vegetation spread and establishment, such as those previously discussed, App. N and App. D primarily rely on detection of infestations and post-detection treatments. It has long been recognized that post-detection treatments are generally ineffective at stemming nonnative vegetation invasions and are far more ineffective than preventing nonnative vegetation establishment. These limitations of the nonnative vegetation strategies in App. D and N must be adequately assessed and disclosed in the FEIS.*
> [Business, #238]

Response: The role of stock as a dispersal vector for nonnative plants is recognized and evaluated in the WSP/EIS. Under all of the action alternatives, the threat of introducing nonnative plants is minimized by requiring that all stock feed brought into wilderness be limited to commercially processed pellets, rolled grains, or fermented hay. These products are less likely to contain nonnative plant propagules than is certified weed-free feed, which may still contain invasive plant propagules that cause problems in wildlands. Therefore, this measure is considered more protective than allowing “weed-free” hay products in wilderness. In the frontcountry areas, where early detection and control is more feasible than in wilderness, state-certified weed free forage would be required when hay products are used as feed or bedding.

Stock users are encouraged to purge their animals for at least three days on pellets, rolled grains, fermented hay, or certified weed-free forage prior to entering the parks. They are also encouraged to inspect and clean stock and equipment for any plant parts, seeds or soil that may have adhered to animals, tack, or equipment, and to handle loads and tack in such a way as to avoid picking up plant parts or soil. Pack station concessions contracts, commercial use authorizations, and outreach and educational materials will continue to include these guidelines. These are identified as desired practices rather than requirements due to the impracticality of enforcement.

The NPS strategy for preventing the introduction and spread of nonnative invasive plants is presented in detail in "Appendix N: Strategy for Reducing Nonnative Plants in Wilderness."

Concern 119: Some commenters expressed the view that drift fences and other structures should be removed to enhance wilderness experience, while other commenters believe that removal of these structures would negatively affect the wilderness experience of some visitors.

> *Removal of Drift Fences and Hitch Rails These "structures" protect resources and often serve to project the packer's wilderness experience (lest stock drift beyond meadow and return to trailhead, creating a safety hazard to all on the trail). As such, they serve as a valuable management tool.*
> [Individual, #119]

> *The Park Service should remove all fences, gates, and wire associated with stock use. Drift fences are a significant intrusion on wilderness character and would be rendered unnecessary if stock users carried their own feed and were not turned loose to graze.*
> [Individual, #180]

> *(cont'd from 392881) Next, the WSP badly needs to review how it evaluates fences and, above all, not build any new ones. These are yet another unacceptable intrusion on wilderness character brought on by allowing stock. Although the table for stock fences justifies most as protecting meadows, this is untrue in almost all cases. Almost every fence is there for the convenience of stock packers to prevent their stock from returning to their base or crossing a drainage. For instance, the fences at the 2ND San Joaquin bridge, Lower Evolution meadow, Big Pete (maybe has some slight justification), Ladder, Stillwater, above the Swinging Bridge at Woods and, as noted, most others, do not protect meadows and should be removed. If packers want to find their stock, they should use modern electronic tracking devices with alarms when they go beyond a certain distance. It is no longer acceptable for them to have the NPS build and maintain such major physical intrusions on wilderness character.*
> [Conservation/Preservation, #116]

> *The elimination of drift fences and hitch rails is totally unwarranted and will lead to greater difficulties in managing stock use properly. The current system of drift fences and hitch rails actually help to protect the natural resources and should remain. Conflicts between stock users and park rangers will likely occur if stock wander into areas where grazing is prohibited if the drift fences are removed. Hitch rails serve as an alternative to having to tie stock to trees. It is irrational to remove them and sets stock users up for failure.*
> [Recreational Group, #201]

> *In multiple management documents SEKI proclaims that stock use is a historic and traditional use that will be continued while being subject to management provisions to*

> *minimize potential damages caused by stock grazing. But the proposed removal of 12 drift fences and gates and the removal of 23 hitching rails in the PA is counter to the preservation of stock use as is the closing of an additional 17 meadows to grazing in the PA. If stock use is concentrated in fewer and fewer meadows, there is a greater potential for damage to the remaining meadows which will result in demands for more closures and more restrictions. The removal of drift fences and gates and hitching rails has a very significant negative effect on the wilderness experience of stock users.*
> [Recreational Group, #230]

> *In general, BCHA and HSU BCH California are opposed to all hitch rail removals on the grounds that their primary benefit is resource protection (protection of trees and soil). High lines are generally used for overnight restraint, not short-term restraint while traveling, and are therefore not suitable for short-term use. In areas where more than one hitch rail is provided, we are not opposed to the excess rails being removed.*
> [Recreational Group, #186]

Response: Recreational stock use is allowed under the action alternatives because it furthers wilderness purposes such as recreation. NPS use of stock is allowed in wilderness for the purposes of administering and patrolling wilderness. Drift fences and hitch rails prevent recreational and administrative stock from leaving designated grazing areas and entering areas where grazing is prohibited. The value of all stock-related structures and facilities (e.g., drift fences and hitch rails) for meeting the planning objectives for each alternative has been evaluated and a range of options for their management is provided. Tables 51a and 51b in "Chapter 2: Alternatives" of the WSP/EIS articulate the reason for retaining or removing each such structure under alternatives 2, 3 and 5. Those that are retained have been determined to be the minimum necessary for administering the wilderness in accordance with the Wilderness Act and the wilderness management goals of each alternative (see "Appendix M: Minimum Requirement Analysis"). Under alternative 4, which prohibits all grazing, the removal of all such structures in order to emphasize the undeveloped quality of wilderness is considered and evaluated. The preferred alternative reduces the number of these installations in wilderness but retains those that that are determined to be the minimum requirement for recreational and other wilderness purposes and for administrative operations. Other methods, including the use of high lines and other temporary means of restraining animals, are allowed, and encouraged through outreach and education.

Concern 120: Commenters suggested changes to trail meadow closures and stock facility removal including increasing stock use nights in certain meadows, opening certain meadows to grazing, maintaining certain meadows for private stock grazing only, retaining certain drift fences, and restricting stock from high-elevation basins and trails.

> *Tom Sears Meadow should be open for commercial stock use grazing. Sandy Meadow should have 400 stock use nights. There are numerous stringers in the area where the stock disperse to, and there is much more capacity that the current regulations allow. Strawberry Meadow was cut off to commercial grazing in 2013 with no notice and no analysis. It was closed to private stock grazing in 2014. It should be re-opened. Lower Crabtree was only 39 for the season. It should be 100 for a normal year. Upper Crabtree had only 79 for the season, where it should be at 150. There are many tributaries and stringers that are not being utilized. McClure needs to be open to be grazed. Some visitors want to go there to camp, and and the packers should be able to stay there as well with the stock.*
> [Recreational Group, #201]

Meadow Closures 1) Meadows south of Bighorn Plateau and west of the JMT and north of Wright Creek This meadow is an important stopping place along the JMT with no close alternative grazing opportunities. The next closest grazing opportunities are at Crabtree or Sandy Meadow, which is 6 miles distant to the south. Kindle Creek meadow is 5 miles to the north, so would be a 11-mile stretch of no open meadow. 2) Chagoopa Plateau #3 Meadow This meadow is an important stopping place along the HST from Kaweah Gap with no close alternative grazing opportunities. The next closest grazing opportunities are at the Kern River. . Big Arroyo 3 miles away, but that trail is proposed closed under Alt. 2; south and east is Upper Funston, which is 8 miles distant. 3) Grouse Meadow This meadow is an important stopping place along the JMT with no close alternative grazing opportunities. Closest alternative grazing opportunities along JMT is Little Pete, some 4 miles distant. 4) Lower Crabtree Meadow This meadow is a well-liked and important stopping place along the JMT with no close alternative grazing opportunities. Upper Crabtree is about 1 mile to north, often wet (would need drift fence to keep stock out of lake; but Alt. 2 proposes to close it too to grazing?); Sandy is 5 miles distant, Strawberry 1 mile but only 3 acres = 1party at a time; so no viable alternatives. 5) Woods Lake Basin Meadows This meadow is a major stopping point along the Rae Lakes Loop that serves multiple passes and routes. It is the first stopping place when you enter the region from the south. The region is open to stock travel, but any grazing would be prohibited. We find this restriction unacceptable, particularly since there are no close alternate meadows. 6) Taboose Pass Area Closest alternative grazing opportunities are 5 miles distant.
[Recreational Group, #186]

Drift Fence Removal 1) Stillwater Meadow No other drift fences are available to restrict stock access to sensitive meadows or to drift down canyon from Deer Meadow. 2) Shortys Meadow (upper) Important drift fence to keep stock from going over Granite Pass. 3) West Side Roaring River (lower) Important drift fence for private party stock use and sensitive resource protection. Adjacent pastures are NPS use only; need to maintain separation. 4) Grasshopper Important for maintaining stock in the meadow(s) and traveling up canyon. 5) Cold Springs This is the only drift fence in the Upper Kern Canyon in a region with lots of good feed that is well liked by private parties, particularly since no longer used by NPS stock teams. 6) Lower Funston Protects sensitive meadows and keeps stock from going down the Kern Canyon. Has been there 50-60 years and is used frequently. 7) Rattlesnake Canyon #2 & 3 Protects sensitive meadows and keeps stock from going down the Kern Canyon.
[Recreational Group, #186]

Element 8: Stock use Lower Soldier Lake meadow, I believe, should only be open to private grazing otherwise commercial use might increase along with Whitney supported trips. I think there should be at least one meadow open to private grazing in the Mt. Whitney area, perhaps "Rainbow camp?"
[Individual, #158]

Response: Individual suggestions for changes to the preferred alternative related to meadow closures and stock facilities were considered in the context of the planning objectives and the following revisions have been made in the WSP/FEIS:

Meadow Number	Comment	Revision
85-6	Lower Soldier Lake Meadow should be open to private grazing only.	The preferred alternative has been modified to reflect that Lower Soldier Lake Meadow would be open to private grazing only.
80-1	Meadows south of Bighorn Plateau and west of the JMT and north of Wright Creek should be open for grazing.	No change. The description of the area this closure applies to has been revised for clarity.
57-1	Woods Lake Basin Meadow should be open for grazing.	The preferred alternative has been modified to reflect that Woods Lake Basin Meadows would be open to grazing by burros and llamas.
80-5.1, 80-5.2, 80-6	Lake South America Loop and Kern Headwaters should remain open to grazing.	The preferred alternative has been modified to reflect that Lake South America Loop and Kern Headwaters Meadows would be open to grazing by burros and llamas.
67-2	Ouzel Meadow should not have a grazing night restriction.	The preferred alternative has been modified to reflect that the night limit at Ouzel Meadow would be removed.
72-11	Tom Sears Meadow should be open for commercial stock grazing.	No change. Under the preferred alternative, Tom Sears Meadow is open for grazing by commercial outfitters.
83-8	Sandy Meadow grazing nights should increase to 400 nights.	No change. The proposed stock use and meadow monitoring and management strategy includes a process by which grazing level could be modified based on monitoring results.
39-2	Big Pete Meadow should have temporary closures instead of complete closure.	No change. Under the preferred alternative, a portion of Big Pete Meadow would remain open to grazing.
83-4	Upper Crabtree Meadow should have a grazing capacity of 150 nights.	No change. The proposed stock use and meadow monitoring and management strategy includes a process by which grazing level could be modified based on monitoring results.

Concern 121: When deciding on distances between grazing meadows and stock camps and on the number of grazing days, the NPS should take into account long-distance travelers. On longer trips, stock groups can travel up to 10 miles per day; however, under the preferred alternative, there are sections of trails with no grazing for over 20 miles. The long distance between sites could also be detrimental to stock parties with younger or older visitors that cannot sustain longer distances between breaks. In addition, high-use trails have few meadows for grazing opportunities.

> *I request that SEKI takes a holistic approach to stock-use quotas and meadow closures. A good example is for the John Muir Trail, where I understand there will be more site-specific measures being implemented as a result of this new stewardship plan, including closing some meadows for the sole purpose of just having some undisturbed meadows for all wilderness users and researchers to enjoy. I ask that considerations are made for groups traveling on longer trips, such as the JMT, where there needs to be a practical way to travel and still find appropriate camping/grazing. For reference, 8-10 miles of traveling per day is typical and there should be stock-appropriate camping/grazing sites at intervals appropriate to through-travel.*
> [Business, #90]

> *Change grazing restrictions on all trail systems to facilitate shorter travel distances. The maximum distance between allowable camping and grazing areas should be no greater than 3 miles, with camping limits of no less than 2 nights per area. This provides opportunities for visitors to travel with both young and old members of their group and aids in the Parks' mission to facilitate and enhance visitor experiences.*
> [Recreational Group, #201]

> *The proposed changes in the Preferred Alternative creates two sections of trail greater than 20 miles - between Upper Bubbs to the Twin Lakes area and then again from Little Pete Meadow to the northern end of the Park - where there would be no grazing with stock for more than two nights. This would essentially close swaths of the backcountry to stock users who want to camp and explore the area.*
> [Business, #196]

> *Upon close inspection of the draft WSP/EIS and associated tables and maps, we found that few alternate meadows exist in proximity to those proposed closed to stock grazing along high-use trails (PCT, JMT, HST), despite statements by the NPS to the contrary. For example, one such proposed closure (Bighorn Plateau Lake) would result in an 11-mile stretch of the PCT/JMT along which there would be no meadows open for horse/stock grazing. This would make PCT-related travel logistics untenable, particularly if severe weather (e.g., late afternoon thunderstorms) forced a stock-assisted party to quickly set up camp in order to wait out the storm.*
> [Recreational Group, #186]

Response: For visitors traveling along the JMT/PCT within the parks, the average distance between meadows that are proposed to remain open to grazing is less than 3 miles under the preferred alternative. In two places along this route, visitors traveling with horses and/or mules would have to travel over ten miles between meadows available for grazing — 13.7 miles between the Darwin Pocket meadows in Evolution Valley and Big Pete Meadow in LeConte Canyon (when crossing Muir Pass) and 10.3 miles between Upper Bubbs Creek and Sheep Camp (when crossing Forester Pass). For parties traveling with burros and llamas through the Evolution Basin, the maximum required distance would be 7.3 miles. The remaining distances between meadows open to grazing range from 0.5 mile to 8.6 miles. The NPS recognizes that certain meadows along the most popular travel corridors have high logistical value for visitors traveling with stock. Where resource concerns other than vegetation removal do not limit grazing capacity, logistical value would be used as one factor to set allowable utilization rates, and thus the total amount of grazing allowed. A list of the criteria used to evaluate logistical value and a list of the 55 meadows which meet the criteria are presented in “Appendix D: Stock Use and Meadow Monitoring and Management Strategy.”

Under current conditions, 63 of the 83 named meadows along the JMT, PCT, and High Sierra Trail (HST) are open to grazing. Under the preferred alternative, 57 of the named meadows would remain open to grazing.

Concern 122: Closing meadows for scientific, experiential, and social values would be unfavorable for certain visitor groups. Many trails in the parks have historically been used for stock travel and the meadows used for grazing. Closing the meadows would affect the wilderness experience for stock users.

> *Closing Meadows for 'social' value shows a clear bias towards one user group over another. Setting aside meadows, especially along the Pacific Crest Trail (a nationally designated trail for hikers and horses) so that a select group of users will not see any*

stock is establishing a very dangerous precedent. The public would then come to expect the Park Service to cater to other personal preferences the visitors may have. When it is done for one group- others will expect the same.
[Recreational Group, #201]

The John Muir and High Sierra Trails are also historic trails and popular with stock users. They should not have meadows closed for "social value. ' This management action completely ignores the desires of other users who enjoy looking out and seeing the pleasant view of horses and mules grazing peacefully in the meadow at sunset and the early morning. For stock users, watching your animals graze freely around a meadow is one of the highlights and a meaningful aspect of going into the wilderness with horses, mules and burros.
[Recreational Group, #201]

Closure of open meadow grazing for social and scenic value presupposes a fundamental question of whether most hikers and backpackers would have the knowledge and/or experience to identify the cause of a meadow they witnessed as being trampled. For example, deer and bighorn sheep can leave evidence of patchy grazing in park meadows. Also, deer are known to flatten vegetation when bedding down in meadows or other high grasses.
[Recreational Group, #186]

We believe the Park Service has not thought this issue through and, consequently, believe that the proposal to restrict meadow grazing based in part on the desire to protect social or scenic values is unfounded and arbitrary. For example, the Parks stated objective of providing at least one ungrazed meadow per drainage is arbitrary and not supported by the available date. The WSP/EIS alternatives that support this line of thought are flawed, if not outright biased against horse/stock use because they appear overtly preferential to the perceived concerns that might-or might not-be expressed by a vocal minority of hikers/backpackers.
[Recreational Group, #186]

Response: In the years following implementation of the 1986 Stock Use and Meadow Management Plan (SUMMP), visitor use — including by both stock users and hikers — has become increasingly concentrated along the primary trail corridors such as the JMT, PCT, and HST. Although many users appreciate and value the opportunity to encounter and view pack animals in wilderness, others have expressed concern over the effect of grazing impacts (e.g., manure, flies, and appearance of grazed vegetation) on their wilderness experience. Although approximately half of the wilderness meadows were closed to grazing under the 1986 SUMMP, very few of them are along the primary trail corridors. On the approximately 102-mile length of the JMT from the Piute Creek entrance into Kings Canyon National Park to its terminus at the summit of Mount Whitney, three meadow areas (Rae Lakes, Vidette, and Crabtree Ranger Station Meadows) are closed to all grazing. An additional two meadows adjacent to the PCT south of the Mount Whitney area (Guyot Creek and Rock Creek Ranger Station) are closed to grazing. Along the length of the HST between Crescent Meadow and its junction with the JMT, two small meadows (adjacent to Hamilton Lakes and at the Kern Hot Springs) are closed to grazing. As wilderness travel has become more focused on these pathways, the opportunity to experience naturally functioning meadows has become less accessible to a majority of visitors. In order to balance the desire for the availability of grazing resources with this opportunity, the NPS has carefully selected a small number of additional meadows (six) to be closed to grazing along the primary trail corridors. Closure of these meadows to grazing would not preclude visitors traveling with stock from camping there as long as their animals were held and fed.

Concern 123: Reducing the number of meadows where stock are permitted to graze will create more pressure on the grazed meadows, therefore increasing impacts to these meadows. This could lead to further closures for resource protection. Closing meadows to grazing is not justified, as recreational stock use has declined by approximately half since the parks' wilderness was established in 1984.

> *Channeling all of the grazing into fewer meadows will ultimately result in impacts that the Park Service will deem unacceptable, which will lead to more closures. In most of the historic grazing reports, it clearly showed that the best method of managing the meadows was to disperse the grazing. This resulted in better biomass residual, little barren ground, and less vegetative change.*
> [Recreational Group, #201]

> *Please consider how shocked we were when we learned from SEKI staff that the PA proposes to close a total of 28 meadows to grazing, including the original 11 meadows closed in the SUMMP. This is rather incredible increase. While the PA proposes a decrease of "only" 10% of the meadow acreage open to grazing over Alternative 1 (the current status), we consider any decrease to be a threat to our status because when fewer and fewer meadows are open for grazing there is greater potential for impacts on those meadows which can lead to more closures due to those impacts. While SEKI claims that there remain 225 named meadows open to grazing in the PA, a high percentage of those meadows are "off the beaten path" and located in areas where stock users do not routinely go.*
> [Recreational Group, #230]

> *Designation of Meadows Closed to Grazing Near High-Use Trails for Scientific Value Not Supported As documented earlier in this comment letter and in the draft WSP/EIS, the level of current recreational stock use is less than half of what is was when park Wilderness first designated in 1984-the date that forms a baseline by which the Park Service is to measure improvement in wilderness character. In addition, approximately half of all meadows in park Wilderness are either are currently closed or inaccessible to recreational stock. So there appears to be no sound rationale to further restrict meadow grazing in light of these statistics.*
> [Recreational Group, #186]

Response: In the past decade, as shifting use patterns have led to increased visitation along primary trail corridors and concentrated use in popular areas such as around Mount Whitney, temporary grazing closures have been put in place to ensure that meadows are not grazed beyond their capacity and to allow for periods of recovery when conditions warrant. Recognizing that the changes in grazing management proposed under the preferred alternative have the potential to shift use and lead to increased pressure on adjacent meadows, estimated capacities have been developed for each of the open meadows and will be used to guide decisions on the total amount of grazing allowed at a given site. These capacities have been developed to ensure that meadows are protected from the potential adverse effects of grazing and that impacts are kept within limits that ensure the resiliency of meadow ecosystems. The NPS recognizes that certain meadows along the most popular travel corridors have high logistical value for visitors traveling with stock. Where resource concerns other than vegetation removal do not limit grazing capacity, logistical value would be used as one factor to set allowable utilization rates, and thus the total amount of grazing allowed. Although this system would likely lead to mid-season closures in meadows as their capacity to sustain grazing is reached, by planning ahead and working with the parks' staff to identify available grazing resources it would remain possible for stock users to continue to enjoy wilderness travel. In the most popular areas, this may mean that stock users would need to carry feed. To help ensure

that limited grazing resources are available for visitors, in almost all areas administrative grazing would be managed in such a way as to give priority to private and commercial users; exceptions to this include the four pastures associated with ranger stations and reserved exclusively for administrative use and meadows that are critical for supporting trail maintenance activities that rely on stock support. Grazing management is addressed in detail in "Appendix D: Stock Use and Meadow Monitoring and Management Strategy."

Concern 124: The NPS should post grazing information online. That way, stock users could have up-to-date information on the condition of the meadows prior to entering the parks' wilderness, allowing them to plan an appropriate route based on open meadows.

> *Stock parties should be notified before entering wilderness about locations where forage has already been seriously impacted and asked to find alternative campsites where the forage is adequate. It would be helpful to stock parties if current forage conditions in all areas open to grazing including the one half mile zone along trails used by stock, could be posted on line. That information could be used to alter plans, if necessary, for a wilderness visit by stock parties ahead of their entry to SEKI Wilderness.*
> [Conservation/Preservation, #60]

> *Both private and commercial stock parties should be notified before entering wilderness about locations where forage is vulnerable or already seriously impacted and asked to find alternative campsites where the forage is not vulnerable. Late season grazing may be limited due to prior stock visits with some areas closed when adequate forage in not available. If private/commercial stock users must use an area that is compromised, they should be required to tie stock to posts, and use packed-in feed supplies. I support the requirement that all stock be fed weed-free supplemental feed a minimum of 2 days before a trip, and during the trip. It would be helpful to stock parties if current forage conditions in all areas open to grazing, including the one-half mile zone along trails used by stock, could be posted online.*
> [Individual, #145]

Response: Notification of temporary restrictions on wilderness travel for the upcoming year is provided via bulletin and posted online each year in early March. Grazing regulations and trip-planning information, including detailed maps and descriptions of forage areas, is posted online each year at the beginning of the season, sent via mail to all commercial users, and provided to private users on request. Opening date bulletins, which include anticipated opening dates for grazing, are sent out and posted following the early April and May snow surveys. Information regarding meadow status throughout the season — changes to opening dates at the beginning of the season and closures as grazing capacities are reached — is posted online, communicated via phone to commercial operators, and provided to all users who contact the wilderness office or a permitting station by phone or in person, as it becomes available from the field. All users must recognize, however, that such information may not always be available and incorporate flexibility in their trip planning accordingly. Wilderness travel by its nature involves a degree of uncertainty and this is reflected and celebrated in the lack of designated campsites or allocated grazing nights in the wilderness areas managed by the parks.

Concern 125: The SUMMP should continue to be the standard for stock management in the parks. The SUMMP could be modified to include a rotation schedule for which meadows would be open to grazing.

> *The Park Service should continue with the current program of meadow management under the Stock Use and Meadow Management Plan. The Plan should be amended to establish a rotation schedule so that there is never a net loss of meadows to graze.*
> [Recreational Group, #201]

> *Meadows and grazing should be managed using the Stock Use and Meadow Management Plan with minor adjustments. Closures would not exceed 1 year and a rest - rotation schedule should replace the closure system that is currently in effect. The stock use nights need to be flexible if meadows are not being fully utilized.*
> [Recreational Group, #201]

Response: In the nearly 30 years that have passed since the 1886 SUMMP and BMP were adopted, not only have visitor use patterns changed, but much has been learned about meadow systems, potential grazing impacts, and their management. This WSP/EIS seeks to revise these documents according to contemporary wilderness management and planning guidance and to incorporate new information. The purpose and need for this plan, planning objectives, framework, and the relationship of this plan to the 1986 SUMMP and BMP are discussed in detail in "Chapter 1: Purpose and Need" of the WSP/EIS. Under the preferred alternative, many of the decisions made regarding wilderness meadows and stock use in the 1986 SUMMP and BMP are proposed for continued adoption. Under each of the action alternatives which would allow for grazing to continue, management of stock use in the wilderness of the parks would continue to use the grazing management tools described in the 1986 SUMMP.

In their review of stock monitoring and management in wilderness, McClaran and Cole (1993) recognized the strengths of the program established by the 1986 SUMMP. However, they also called attention to two weaknesses: the application of a single uniform grazing standard to all the parks' meadows and the absence of defoliation standards. The management and monitoring systems described in "Appendix D: Stock Use and Meadow Monitoring and Management Strategy" of the WSP/EIS attempt to correct those deficiencies, through: 1) the development of site specific grazing capacities that can be modified to take into account different management objectives at the meadow scale and 2) the continued implementation of residual biomass monitoring in frequently grazed meadows. Rotation schedules would continue to be one tool available to managers when making decisions regarding grazing; however, recognizing the considerable natural variability inherent in meadow systems as well as in visitor use patterns, no formal rotation schedule is proposed for adoption through this WSP/EIS.

Concern 126: The term "logistical value" should be defined in the WSP/EIS and the meadows that meet the definition of "high logistical value" should be identified.

> *The term logistical value appears to be used as a relative means by which to rate the biological value of meadows in the draft WSP/EIS. Yet a definition is not provided in the glossary nor is the term defined anywhere in Chapter 2 or Appendix D. Table D-14 located within Appendix D lists Forage Areas of High Logistical Value (a total of 55 such meadows); however, none of the meadows proposed to be closed to pack stock grazing in alternative 2, 3 and 5 are listed. The Final WSP/EIS must identify what is meant by the term High Logistical Value meadows and which meadows, if any, proposed for closure in the Park Services Selected Alternative meet that definition.*
> [Recreational Group, #186]

Response: The term "logistical value" is defined in "Appendix D: Stock Use and Meadow Monitoring and Management Strategy," as follows:

"Some forage areas have high logistical value to groups traveling with stock. The characteristics used to designate forage areas as having high value are:

- resource concerns other than defoliation do not limit grazing capacity
- closest forage area to a high pass
- first forage area beyond round-trip distance from trailhead
- fires allowed at forage area but not in nearby forage areas
- lack of other forage areas open to grazing nearby
- traditional stock camp
- strategic location for administrative use"

A list of the named forage areas which meet these criteria for high logistical value is provided in appendix D. Logistical value was taken into consideration when identifying meadows which would be closed to grazing under alternatives 2, 3, and 5, and none of the meadows proposed for closure under those alternatives meet this definition.

Concern 127: Grazing limitations should be altered for different stock types. Burros eat less and prefer different plant species; therefore, the grazing nights should be doubled and the meadow acreage should be altered for burros, as these limitations were based on horse and mule eating habits.

> *When discussing grazing reductions we recommend taking into consideration SEKI's own conclusions regarding the differences in consumption between stock types. The methodology of the park concludes that a burro eats 40% of what a horse eats. Based upon that alone night restrictions that are in place for meadow capacity issues, allowable grazing nights should be double for burros. In addition to the quantity of feed that burros eat the types and range of feed that burros eat are different. The meadow acreage is based upon preferences for horses and mules and not that of the burro, which is by nature a desert animal wanting more dry grasses than moist grass. These factors should be taken into consideration, particularly in areas where burros and TCR are the significant user.*
> [Business, #196]

Response: In calculating grazing levels, "Appendix D: Stock Use and Meadow Monitoring and Management Strategy" recognizes and defines the different consumption rates attributable to different animal types in the "Grazing Levels" section. For this reason, annual summaries of reported grazing levels are calculated both as stock nights — an overnight stay by one grazing animal — and as animal unit nights, which reflect the differences between horses and mules, burros, and llamas. Because over 95% of stock use in any given year is attributable to horses and mules, the NPS uses the simpler term, stock night, to communicate regulations and report use statistics to users. Decisions regarding grazing levels, however, take into account the difference between animal types, and thus, capacities given in stock nights are increased should the primary use be by either burros or llamas.

Concern 128: The WSP/EIS describes an alternative where there would be no stock grazing in the wilderness (alternative 4). That alternative should have been "considered but eliminated from further study" as being completely unfeasible for stock trips into and through the wilderness areas in the parks. It would require far more stock per trip to pack adequate feed, and the stock limits were not increased to take that into account.

The Plan goes so far as to describe an alternative where there would be absolutely no stock grazing in the wilderness at all (Alternative 4). That alternative should have 'been considered but eliminated from further study' as being completely unfeasible for stock trips into and through the wilderness areas in Sequoia-Kings. It would require far more stock per trip to pack adequate feed, and of course the stock limits were not increased to take that into account. This is totally unacceptable and should have been treated the same as the proposal for manure bags.
[Recreational Group, #201]

Response: Alternative 4 was added to the WSP/EIS based on public comments, an action which is consistent with NEPA. This alternative was valuable to consider as a wilderness management option.

Suggests Change in Alternative(s) for Element 9: Administrative Structures

Concern 129: The WSP/EIS does not properly characterize the Redwood Canyon Cabin and its historic role in cave research at the parks. The cabin should be identified as a ranger station, a research station, and an ethnographic resource.

The cabin has historic and cultural value. Though not chronologically "historic," the cabin has been the center of ongoing exploration into newly discovered wilderness. Such "new" wilderness is unique to the Park, and very rare in our modern world
[Individual, #113]

In Alternative 2 (The NPS preferred alternative), Element 9 Other Administrative Facilities, the suggested action of terminating the use of and removing the "Redwood Canyon Cabin" is unacceptable and unwarranted. Despite the existence of numerous other structures in wilderness areas it is the only one slated for abatement, with little justification given for it being singled out. The WSP/Draft DEIS is deficient in explaining the history of this cabin, and the historic role it has played in informing management decisions in regards to the cave in particular and Redwood Canyon in general. The body of the WSP/Draft EIS also does not do justice to the need for research to better understand the local environment and inform management decisions.
[Conservation/Preservation, #190]

(cont'd from 329893) The cabin should be identified as a ranger station and research station, having the same functions as other remote ranger cabins throughout SEKI. The cabin is a cultural and historic resource of the Park. Lilburn Cave is identified by the WSP as the longest cave in California. The cabin has played a primary role in the mapping and exploration of the cave. The cavers and researchers who restored the cabin were and are the first explorers of a significant resource within SEKI. The NPS has identified structures used by first explorers within designated wilderness as having historic and cultural significance. If the current direction of the WSP had been applied to Shorty Lovelace's structures by a management plan early in the last century, would Shorty's cabins still exist? In the discussions of removing the cabin, was there discussion of what historians would want to retain, to identify the discovery and exploration of Lilburn Cave? The cabin is an ethnographic resource not identified by the WSP. The cabin, since its first use in the exploration of Liburn Cave, has created a gathering point for researchers and cavers to co-mingle-and the occasional hiker who ventures that far down Redwood Canyon. Songs have been written and stories told of exploration and risks. Individuals have risked their lives in furthering research and exploration of SEKI caves-ballads have been written. There are fantastic stories that park interpreters could

use in describing this group of individuals and the challenges of exploring a unique part of SEKI wilderness. The cabin can be used as part of the story, in addition to providing the other functions mentioned above. If, after reevaluating the cabin with the above points, the NPS still does not believe that the cabin can be retained under existing legislation, the cabin should be allowed to remain long enough for researchers to finish the ongoing research projects. The cabin should remain long enough for its supporters to work with legislators to make a small amendment to the Omnibus Public Land Management Act of 2009, to allow the cabin to remain.
[Conservation/Preservation, #112]

Response: The NPS recognizes the importance of cave research in these parks. Redwood Canyon Cabin is used by cave researchers who focus on research and mapping of Lilburn Cave. A brief history of the cabin and research is discussed in the "Other Facilities and Developments" section in "Chapter 3: Affected Environment." The cabin has not been used as a ranger station. The cabin is not considered an ethnographic resource.

Concern 130: The Redwood Cabin should be retained as it is the minimum tool necessary to allow for research at Lilburn Cave. Research of this type has a high level of risk unique to a cave environment. Without the ability to store equipment and safety gear, researchers would not be able to safely study this important resource of the parks.

SEKI Redwood Canyon unit . . . The storage of gear, cooking and eating equipment, and emergency supplies at the cabin allows Principal Investigators and their support staff to save backpack weight and save their energy for the strenuous caving required in Lilburn. . . loss of use of the cabin through abatement or failure to maintain will result in a lower proportion of their time being devoted to research activities and also loss. . . solar-generated electricity at the Redwood Canyon facility since 1992. This powers a data logger, the Park radio, cabin lighting, and cave telephone. In addition, there are outlets for recharging caving headlamps and powering researchers laptops. . . The alternative to the tubing and filter is boiling and cooling large volumes of creek water for drinking, which consumes the full-time efforts of one individual during an expedition. This limits the personnel-hours donated to project needs without reducing the visitor impact on the area. . . multi-conductor cable was installed in Lilburn Cave in 1976 for carrying water level data to a logging recorder in the cabin. Extra conductors in the cable allowed installation of a simple phone system by which cave parties could contact the cabin. . . an element of safety protocol in Lilburn Cave. . . Simultaneous monitoring of water levels at widely-separated points forms the basis of the long-term study of the ebb-and-flow behavior of Big Spring. . . Loss of the wire would terminate the hydrographic study, cancel an air flow study currently in planning. . .
[Conservation/Preservation, #38]

I am concerned with the proposal to eliminate the research cabin in Redwood Canyon. Storage of this equipment on site reduces disruption to the area (ie, number of trips) and aids in the goals of the wilderness designation. In the event of a rescue at Lilburn Cave, the presence of rescue supplies on site saves many hours in response time and perhaps a life. More importantly, it mitigates the need for helicopter insertion of equipment, in keeping with the requirements of the wilderness designation. Without an adequate safety plan, research in the area would be disrupted especially for volunteers who already donate their time and assume substantial risks out of love for the wilderness. Without a base of operations, efforts to monitor the resources of SEKI would be difficult as trips to collect data become more involved. If all supplies must be carried in, more people must

pitch in. Impacts would be increased on the wilderness in order to maintain current levels of research - in a time in which watershed research is become more vital for the preservation of California's wilderness. Without data, the wilderness cannot be adequately managed. I strongly feel that keeping the cabin in Redwood Cabin is the best way to achieve the management goals of the wilderness in Sequoia-Kings Canyon National Park. Its use by a number of agencies protects the resources for future generations and decreases impact of research on the area.
[Individual, #20]

Only retaining the cabin will meet the "Planning Objective: Administrative structures and developments would be the minimum necessary for the administration of wilderness, similar to current conditions." . . . the cabin itself part of the minimum necessary facilities to support the health and safety of visitors to the cave. . . While there is no current research proposal to study these air motions, the Redwood Canyon Cabin is likely to be part of the minimum necessary facilities for such a study. While drafting the park's cave management plan is at best in its very earliest stages, park management should consider how they will manage Lilburn cave without the support of the cabin. They should pay particular attention to visitor safety and encouraging the research needed to properly manage the Redwood Canyon wilderness. They should do this planning before they decide to remove the cabin.
[Conservation/Preservation, #106]

The presence of the cabin at Lilburn Cave supports significant research and monitoring of that hydrology system through cave exploration and cave diving operations. Therefore the maintenance of the cabin within the wilderness is a crucial part of the minimum requirements to manage this unique aspect of the wilderness of Redwood Canyon.
[Individual, #89]

The WSP only effectively presents two alternatives for the Redwood Canyon cabin and as such does a great disservice to the collaboration that this research and management facility represents and fails to acknowledge or value how the cabin came to be rebuilt by volunteer labor and materials with the direct and close cooperation between the National Park Service and the Cave Research Foundation with the specific intent and successfully attained goal of fostering research, understanding, and management of the unique wilderness resource of Lilburn Cave. As written the Parks preferred alternative fails to acknowledge how the Redwood Canyon cabin is such a minimum requirement and should be amended in consultation with the Park Cave Research office, Cave Research Foundation, and the greater public to direct how the cabin should be preserved and managed to administer the wilderness that Redwood Canyon and Lilburn Cave represent.
[Individual, #187]

Response: The NPS recognizes the importance of cave research in these parks and acknowledges that the Redwood Canyon Cabin is utilized for cave-related research ("Other Facilities and Developments" section of "Chapter 3: Affected Environment"). The need for the cabin to allow for research has been evaluated through the minimum requirement analysis process. This analysis determined that the preferred alternative would be modified to allow for the continued existence and use of the Redwood Canyon Cabin.

Concern 131: The Redwood Canyon Cabin could be moved closer to Lilburn Cave, which would remove the structure from wilderness and provide better access, as the cabin would be close to the road.

> *Moving the Cabin to the closest NP boundary to Lilburn cave would bring the cabin close enough to the cave to still be the minimal amount required to support rescue and research. Takes it out of the wilderness area and closer to road access. We suspect this would be fully supported by the caving/research community.*
> [Business, #131]

Response: Through the wilderness minimum requirement analysis, the NPS explored options for relocating the cabin outside of wilderness. Those options were dismissed because they would create other unacceptable impacts.

Concern 132: The Redwood Canyon Cabin is similar to administrative structures that also occur in wilderness; however, these structures are not considered for removal.

> *I understand that the Park Service proposes removing this cabin, indicating that it is not compliant with their management policies. I also understand that there are several other cabins of the same ilk that are not slated for any discussion about removal. I don't understand why the cabin at Redwood Canyon is being targeted, as it is currently, and has been, an established base of operations for many research activities.*
> [Conservation/Preservation, #26]

Response: The WSP/EIS explored options for all administrative structures located in wilderness (see "Chapter 2: Alternatives"), including the removal of ranger stations.

Concern 133: The Redwood Canyon Cabin should be deemed as a ranger station, as it holds the same importance as the ranger stations that will not be removed under the WSP/EIS.

> *The cabin should be identified as a ranger station and research station, having the same functions as other remote ranger cabins throughout SEKI.*
> [Conservation/Preservation, #112]

Response: The Redwood Canyon Cabin was determined to be not necessary for use as a wilderness ranger station because 1) it is located relatively close to a trailhead; 2) the area can easily be patrolled by day hiking; and, 3) there is minimal visitor activity, other than research, in lower Redwood Canyon. Therefore, long-term occupancy by rangers is not necessary in order to protect the area's wilderness character.

Concern 134: The presence of researchers at the Redwood Canyon Cabin helps to prevent vandalism.

> *The most effective deterrent to vandalism is the presence of responsible people. . . their mere presence has demonstrated itself as an effective deterrent over the past 30 years that the CRF has been working in Lilburn Cave. . . the presence of cavers at the Redwood Canyon research hut has clearly demonstrated that caver presence is an effective deterrent to vandalism. Removal of the cabin and associated infrastructure will result in far fewer cavers frequenting the area for several reasons. . . Removal of the cabin will also discourage caver presence in the area because it will send the wrong message. If the Park Service rewards the volunteers by taking away the infrastructure that they use (and diligently maintain for the Park Service), it sends a very clear and undesirable message to the caving community at large and to the cave research community in particular: volunteer efforts are not appreciated. . . Because of this, I support Alternative 1.*
> [N/A, #36]

Response: There is no evidence that the sporadic use of the Redwood Canyon Cabin by researchers prevents vandalism in the area.

Concern 135: The NPS should consult with the Park Cave Research Office regarding the Redwood Canyon Cabin to determine how the cabin should be managed in the WSP/EIS.

> *The WSP only effectively presents two alternatives for the Redwood Canyon cabin and as such does a great disservice to the collaboration that this research and management facility represents and fails to acknowledge or value how the cabin came to be rebuilt by volunteer labor and materials with the direct and close cooperation between the National Park Service and the Cave Research Foundation with the specific intent and successfully attained goal of fostering research, understanding, and management of the unique wilderness resource of Lilburn Cave. As written the Parks preferred alternative fails to acknowledge how the Redwood Canyon cabin is such a minimum requirement and should be amended in consultation with the Park Cave Research office, Cave Research Foundation, and the greater public to direct how the cabin should be preserved and managed to administer the wilderness that Redwood Canyon and Lilburn Cave represent.*
> [Individual, #187]

Response: The parks' cave management staff has been involved in the WSP/EIS process and provided information to help the planning team formulate alternatives related to the Redwood Canyon Cabin.

Concern 136: Party sizes should be adjusted to ensure safe caving group sizes, especially for research originating at the Redwood Canyon Cabin.

> *I therefore strongly request that Alternative 2 be altered to allow the continued use of the existing cabin and infrastructure. This may also involve adjusting the related limits on party size for consistency with long established guidelines on caving safety. If Alternative 2 cannot be modified, I would have to recommend Alternative 1, as the only one which preserves this vitally needed structure.*
> [Conservation/Preservation, #190]

Response: Safety is not paramount in wilderness; parties are expected to be self-reliant in terms of matching their experience and abilities to the difficulty of their trip. This applies in recreational caving as it does in winter travel or high-water boating. Researchers can request a party-size variance as part of the research permit process if that is needed to safely pursue appropriate research.

Concern 137: Removing Redwood Canyon Cabin would cause the end of many wilderness research projects including climate research.

> *The Tehipite Chapter of the Sierra Club Executive Committee, the following resolution was unanimously passed. The Tehipite Chapter of the Sierra Club supports maintaining the Research Cabin in Redwood Canyon to the greatest extent possible." The cabin plays a critical role in the management and preservation of caves, as well as the safety of cavers within Sequoia and Kings Canyon National Parks (SEKI). The Wilderness Stewardship Plan (WSP) fails to analyze the importance and varied uses of the cabin, then jumps to the flawed conclusion that the WSP will have no impact on cave resources. If it is the decision of the NPS to remove the cabin, the WSP needs to identify alternatives which would provide the same level of cave resource protection that the cabin now provides. The WSP states that "Direction is being informed by this WSP. Actions proposed under the WSP alternatives would have indirect and no, or negligible, impact*

on cave resources. Therefore, caves will not be analyzed in this WSP/DEIS." This statement is patently false. The WSP gives no direction as to how the significant functions provided by the cabin will be replaced. The future cave management plan will be left without one of the primary tools to manage caves within SEKI. The cabin should be evaluated for all of its existing and potential future uses. The WSP identifies the cabin primarily as a research facility contracted out for Lilburn Cave. The WSP fails to identify the other wilderness critical uses the cabin provides. Some research projects, such as climate research, have worldwide significance. Without the cabin, researchers have stated that they will not be able to continue their projects. The WSP does not identify the significant loss of wilderness research as one of the consequences of the Preferred Alternative. (cont'd in 329894)
[Conservation/Preservation, #112]

Response: The NPS has evaluated the necessity for the Redwood Canyon Cabin for research through a minimum requirement analysis in accordance with the Wilderness Act and NPS policies. It was determined that a small facility is necessary to support research in Lilburn Cave and alternative 2, the preferred alternative, has been updated to reflect this change.

Concern 138: The backcountry ranger stations should be retained, as they provide safety assistance for backcountry travelers.

Though I've never gotten injured while backpacking, I know that accidents do happen. So it's important to have rangers pre-positioned so they can get to the scene quickly. I strongly oppose the removal any backcountry ranger stations. If anything, I would add a few more and put them in the more isolated area of the Park.
[N/A, #5]

Ranger Stations: I agree with Alternative 2 though Bench Lake tent platform could be moved to a more suitable location for patrol functions needs to be more specific. The Bench Lake station is crucial due to its being the only ranger station between LeConte Canyon and Rae Lakes on the JMT as well as being near the junction of the Taboose Pass trail. For both search and rescue support and day-to-day maintenance of the backcountry, this location is crucial.
[Individual, #88]

Response: Under the preferred alternative, all of the existing wilderness ranger stations would be retained. However, specific structures could be moved or modified to better serve the visitor and to reduce impacts on wilderness character.

Concern 139: The cabins located in wilderness should be retained and could be rented to visitors as is currently done with the cabins near Pear Lake.

Please note my vote for #3 EXCEPT I would KEEP ALL THE CABINS that exist and use them by renting them out as you do the Ranger cabin in Sequoia Nat. Park near Pear Lake. You could charge $100 a night easily for the summer when the ranger is gone. If you are going to leave the cabins in Mineral King, WHY would you take out any cabins in Sequoia? You could have a lottery and sell an overnight in Giant Forest. You know that people would pay more than $100 per night to have that opportunity.
[Individual, #16]

Response: The wilderness ranger stations are used for the purposes of administering the area as wilderness. Each station has a working function important for managing visitor use and protecting wilderness character. In addition, the NPS does not have the legal authority to rent out the wilderness ranger stations as this would establish commercial enterprises in wilderness which is counter to the mandate of the Wilderness Act (which prohibits commercial enterprises). The Pear Lake Ski Hut is within a specifically allowed Designated Potential Wilderness Addition, per the California Wilderness Act (1984) and its accompanying House of Representatives Committee Report 98-40 (1983) and is operated in the winter through an agreement with a non-profit cooperating association.

Suggests Change in Alternative(s) for Element 10: Frontcountry Facilities to Support Wilderness Access and Use

Concern 140: The declining facilities at Mineral King should be removed and the area should be restored to natural conditions.

> *14. Remove all structures at the former (long defunct) commercial pack station at Mineral King and restore the site to natural conditions.*
> [Recreational Group, #123]

Response: The preferred alternative proposes to remove the concessions operations at the Mineral King Pack Station and use existing facilities at the Mineral King administrative corrals for the parks' administrative purposes at the existing location or establish similar facilities at a new location. Existing facilities could be modified to allow for short-term public camping or staging and/or short-term camping by commercial use authorization holders (see the "Alternative 2, Element 10" section of "Chapter 2: Alternatives"). Note that any changes to frontcountry facilities proposed by this WSP/EIS will be subject to additional site-specific NEPA analysis and compliance.

Concern 141: The pack station at Mineral King should be restored.

> *Pack Stations: Enjoyment of the back country is a shared responsibility where use by hikers and stock riders can and should be balanced. Pack Stations are a key element in this use and Mineral King has lacked one for years. If at all possible, a Pack Station at Mineral King should be restored. Certainly, this possibility should not be eliminated from the discussion or the Plan.*
> [Individual, #128]

Response: The Mineral King Pack Station, a concession-operated facility, has not operated since 2002. In 2004, a franchise fee/feasibility analysis was conducted on the pack stations within Sequoia and Kings Canyon National Parks. The report found that the operation of a commercial pack station at Mineral King would not be economically feasible (NPS 2004). Even though the preferred alternative does not include the reestablishment of a pack station at Mineral King, the NPS recognizes that stock use at Mineral King is an important activity and that facilities are needed to support this use. Therefore, the preferred alternative allows for the modification or relocation of the existing pack station to allow for short-term public camping or staging by stock users, and/or short-term camping/staging by commercial use authorization holders (see the "Alternative 2, Element 10" section of "Chapter 2: Alternatives"). Again, any changes to frontcountry facilities proposed by this WSP/FEIS will be subject to additional site-specific NEPA analysis and compliance.

Concern 142: The commercial pack station at Wolverton should not be reopened, as it would have an effect on safety, visitor experience, and the parks' resources. Additionally, it was not financially successful when it was open. The Wolverton Pack Station is located in an area that is close to

vehicle traffic, which would cause safety issues, especially for novice riders. The station is located near the Giant Forest Restoration area, and increased stock use in this area would create disturbance to the resources and other visitors.

> *Element 10: Frontcountry Facilities I support the continuation of a commercial pack station at Cedar Grove. This facility has a proven purpose. You should not, on the other hand, take any actions that would increase the current very low level of stock use in and around the Wolverton area. I do not support any effort that would be lead to the reestablishment of a commercial pack station at Wolverton nor do I support the installation of campsites that would lead to more private day-use riding in this area. These trails should be managed to support and encourage the very heavy level of hiking use that they see each summer.*
> [Individual, #129]

> *Of particular concern are frontcountry day rides, which could roll back the years and decades worth of effort to protect and restore the Giant Forest. NPS has worked for decades to remove and eradicate non-native species from the Giant Forest, spending significant resources. We believe the visitor experience has been enhanced by these efforts, which include NPS allowing the Commercial Use Authorization at Wolverton to expire on its own terms.*
> [Conservation/Preservation, #184]

> *The issue with which I most disagree is the proposal to re-open the question of the Wolverton Pack Station for commercial use. Having the preferred alternative suggest an economic study be performed to assess the financial viability of the pack station is a very slippery slope. It is difficult to understand how the possibility of re-opening the pack station could be included in an alternative that is "the environmentally preferred option." This controversial management closure decision has already been made, in the face of significant opposition, and I urge you not to re-open the controversy. The Wolverton site is not appropriate for commercial pack station use because: 1. First and foremost, safety. The pack station is located where novice riders on horseback conflict with vehicle traffic at the busy access points to the General Sherman Tree. 2. The GMP specifies (pages 136 & 146) that an examination be performed on four other sites to determine if there is a suitable site for the pack station. There is not consideration of re-opening the Wolverton station. 3. The pack station is surrounded on three Sides by busy roads heavily used by park visitors. 4. Bridge and tunnel alternatives to address road safety are prohibitively expensive and would impact resources. 5. The previous pack operation at Wolverton was not economically feasible. This was well demonstrated by the final operator. 6. The park pack operation is performed by highly skilled professionals with extensive expertise, therefore comparing the park operation to a commercial operator with novice riders, is not realistic. 8. The environmental impact of a commercial pack operation in the area of the Giant Forest Restoration is of great concern. To introduce a commercial stock operation in this area would not only inappropriate, would be obviously environmentally damaging. 9. The NPS paid the previous operator a significant sum to settle quite marginal claims during the closure of the pack station. Re-opening the issue will nullify this settlement and result in wasted NPS and taxpayer monies. 10. There is no analysis of this proposal within the environmental impacts portion of the document. The GMP states that alternative sites will be subject to public environmental review. There are several other reasons. . . These include the decrepit nature of the buildings, the questionable waste water facilities, the inadequate parking and the Impacts of manure/urine runoff.*
> [Individual, #141]

Response: The preferred alternative has been updated to reflect that the commercial pack station would not be reestablished to provide wilderness stock trips at the Wolverton site. The corrals could be used for short-term staging by commercial service providers and private parties. Commercial use for frontcountry day rides at this site would be considered in the future under a separate planning process.

Concern 143: The commercial pack station at Wolverton should be reestablished, which would provide services for a variety of visitors. Not considering reopening the Wolverton Pack Station would be inconsistent with previous management documents such as the Sequoia and Kings Canyon Giant Forest/Lodgepole Development Concept Plan.

> *Reestablish commercial pack station operations at Wolverton and Mineral King with facilities that can provide services for day rides and overnight trips. Include facilities and services for persons with disabilities; Provide overnight corrals and facilities for private stock users; include camping sites for stock users for both short term (2 nights) and longer term (14 nights) at Wolverton, Mineral King, Cedar Grove, Atwell Mill, North Fork Kaweah Trailhead, and South Fork Kaweah Campground and Trailhead.*
> [Recreational Group, #201]

> *We are disappointed that the PA does not propose to re-establish the commercial pack station at Wolverton. When SEKI discussed the status of the Wolverton Pack Station (WPS) in earlier management documents, these documents indicated a clear intent to relocate the WPS and yet there is no mention of doing so in the PA. One of these documents was the Sequoia and Kings Canyon Giant Forest/Lodgepole Development Concept Plan dated February 1980.*
> [Recreational Group, #230]

Response: The GMP, approved in 2007, supersedes the 1979 Giant Forest/Lodgepole Development Concept Plan. However, as explained in the "Purpose and Need for the Plan" section of "Chapter 1: Purpose and Need," in an order dated May 29, 2012, the U.S. District Court for the Northern District California issued an opinion in a lawsuit that challenged the parks' GMP (High Sierra Hikers Association v. U.S. Department of the Interior). The Court's order "vacate[d] all portions of the GMP and ROD, which provide programmatic guidance regarding the type or level of stock services necessary in the Sequoia and Kings Canyon National Parks wilderness or direction as to need, appropriateness, or size of developments, structures, or facilities used completely or partially for commercial stock services." Where the GMP is referred to in this document, only those sections not vacated by the court order apply. Therefore, all decisions made related to the commercial pack station at Wolverton through the GMP no longer apply.

Concern 144: Some commenters support modifying the Atwell Mill Campground to provide stock camps, as well as several backpacking sites, while other commenters stated that allowing stock presence at Atwell Mill Campground would produce more impacts on the resources in the area and affect visitor use.

> *Atwell's Mill Campground should provide a few overnight backpacking sites and sites for stock camps. This would prevent backpackers sleeping overnight in their cars and allow private stock owners a place for stock and camping. A pack station should be reintroduced in Mineral King to allow more visitors to access wilderness.*
> [Individual, #8]

> *The Atwell Mill campground should not be modified to accommodate stock. it is going to degrade and "dustrialize" what is currently a small, relatively quiet car campground*

> *used primarily by local families accessing the East Fork and visitors who want an alternative to the busy Mineral King area. Now, the NPS proposes to degrade the existing uses at Atwell Mill (which were doing just fine) with rigs, trailers, heavy equipment, manure, dust, flies and odors, while maintaining those same impacts at the administrative corral in Mineral King*
> [Individual, #46]

Response: Including backpacking and stock camps at Atwell Mill Campground is considered in the preferred alternative.

Concern 145: Atwell Mill Campground should not be modified to allow stock access. Instead, stock access should be limited to the Mineral King area.

> *DEIS Alternative 2 Element 10 - The Atwell Mill campground should not be modified to accommodate stock, unless the administrative corral is relocated out of Mineral King to there as well. There is no sense in spreading the stock impact to degrade another area. The only thing that stinks worse than the Atwell Mill campground is going to, is the attempt to misrepresent the changes to Atwell Mill as a "done deal" in the DEIS. It is obvious the NPS is intervening at Atwell Mill to attempt to assure the commercial viability of a service that is no longer viable. If it was not viable at Mineral King it is not going to be viable at Atwell Mill.*
> [Individual, #46]

Response: Stock access is currently allowed at Atwell Mill and the preferred alternative considers developing one to three sites at the Atwell Mill campground to provide opportunities for stock users to camp prior to departing into the wilderness. The preferred alternative allows for the modification of the existing pack station at Mineral King to allow for short-term public camping or staging by stock users, and/or short-term camping/staging by commercial use authorization holders (see the “Alternative 2, Element 10” section of “Chapter 2: Alternatives”). Any changes to frontcountry facilities proposed by this WSP/EIS will be subject to additional site-specific NEPA analysis and compliance.

Concern 146: The pack station at Mineral King could be run by a non-profit organization, which would collect donations for services related to stock use, cross-country skiing, or snowshoeing.

> *Regarding Mineral King area private pack usage, this could be set up as non profit's, collecting donations for services rendered in a limited manner, as put forward in your writings, and also for winter cross country skiing and snow shooing.*
> [Individual, #28]

Response: Existing facilities at the Mineral King administrative corrals are used for the parks’ administrative purposes. Existing facilities (both the former pack station and the administrative corral) could be modified to allow for short-term public camping or staging and/or short-term camping by CUA holders (see the “Alternative 2, Element 10” section in “Chapter 2: Alternatives”). The use and management of frontcountry facilities is not directly addressed by the terms of the Wilderness Act; however, “Chapter 4: Environmental Consequences” of the WSP/EIS analyzes the impacts of use supported by frontcountry facilities on wilderness character. Any changes to frontcountry facilities that are approved through the WSP/EIS process will be subject to additional site-specific NEPA analysis and compliance.

Suggests Change in Alternative(s) for Element 11: Commercial Services

Concern 147: Commercial services should not be reduced by a blanket 20%, as this could affect the livelihoods of commercial outfitters. If the intent is to reduce use in wilderness, the reduction should be applied to all users, not just commercial services.

> *It is our understanding that the goal of the preferred alternative is to reduce the use in the Whitney Management Area. This includes a cut to commercial non-stock use by 20%. a cut would be drastic and significant and would have a further detrimental impact on the livelihoods of our local guides and on our business. We believe that commercial use in the Whitney Zone should be expanded.*
> [Business, #6]

> *So, if you really are going to cut the use, perhaps go over the traditional use reports for the Outfitters, give them a 20-30% increase on their highest years to have room for growth. I could limiting new outfitters in Whitney Zone if you wanted to cut down use, however I think NPS should look at existing OG's in good standing as a resource for bringing people to the area versus cutting their use down because is "not enough solitude" for someone else's tastes.*
> [Business, #53]

> *Why do all of the alternatives impose a limit upon guided use, generally 20% across the board and proportional to the alternative in the WMA? Nowhere in the document is there any study that indicates that guided use is more damaging that non-guided and therefore needs to be reduced. The assumption in both the Visitor Capacity and Extent Necessary for Commercial Use seem to believe that current use is appropriate use but is still too much. What study has been done to determine what level is appropriate? If SEKI intends to follow through on the proposed reduction in guided services then a study and it's conclusions needs to be undertaken. Without this there is no valid basis to limiting guided groups and not the non-guided. If SEKI finds that there are problems with overuse, damage, human waste etc then the reduction required in the Whitney Area needs to be applied to all users, guided and non-guided. SEKI does not propose a 20% proportional reduction for the non-guided parties in the Whitney area. Why not?*
> [Business, #205]

Response: The WSP/EIS is following the mandate of the Wilderness Act as supported by the statement "commercial services *may* be performed. . ." (Wilderness Act Section 4(d)(5)); emphasis added). Wilderness Act Section 4(d)(5) states that commercial services are optional and subordinate to other allowed activities in wilderness. Section 6.4.4 of NPS *Management Policies 2006* states: "Wilderness oriented commercial services . . . may be authorized. . . . if they are consistent with the wilderness management objectives contained in the park's wilderness management plan, including the application of the minimum requirement concept. Activities such as guide services for outfitted horseback, hiking, mountain climbing, or river trips and similar activities may be appropriate and may be authorized if conducted under the terms and conditions outlined in the park's wilderness management plan and /or in legislation authorizing these types of commercial uses."

In accordance with law and policy, each of the action alternatives (alternatives 2-5) analyzed different levels of commercial services in the parks' wilderness. For example, alternative 3 proposes a notably higher level of allowed commercial-service support, and alternative 4 proposes a notably lower level of commercial-service support. The preferred alternative (alternative 2) actually allows for near current levels of commercial services wilderness-wide, except in the Mount Whitney Management Area.

Concern 148: Commercial services in the Mount Whitney Management Area should be increased.

> *It is our understanding that the goal of the preferred alternative is to reduce the use in the Whitney Management Area. We believe that commercial use in the Whitney Zone should be expanded.*
> [Business, #6]

> *The primary factor in the other alternatives that we cannot support is the drastic reduction of non-stock commercial services, either specifically in the Mt. Whitney Management Area or throughout the parks. For example, Alternative 2 proposes a 20% reduction from an already limited number of CSDs. It appears that the overall intent may be to limit all use to that area, but the only step being taken is to reduce opportunities for the guided public. While the Mt. Whitney area is popular with users of all types, being the highest peak in the lower 48 states, we believe that other types of management solutions could be implemented in lieu of a dramatic CSD reduction (higher level of required professional qualifications, adjusting guide: client ratios, etc.).*
> [Recreational Group, #153]

Response: The preferred alternative allows for near current levels of commercial services wilderness-wide, except in the Mount Whitney Management Area. The Mount Whitney Management Area has high levels of visitor use and the resulting impacts of this use (e.g., high levels of trail encounters and campsite impacts) are addressed in “Chapter 2: Alternatives” of the WSP/EIS. Relative to the desired conditions established in “Chapter 1: Purpose and Need” and the objectives of the preferred alternative, these levels of use and associated impacts have been determined to be inconsistent with the preservation of wilderness character within the Mount Whitney Management Area. Each of the action alternatives in the WSP/EIS propose potential management actions to ensure that use of the Mount Whitney Management Area meets desired conditions for the preservation of wilderness character and the objectives of each of the action alternatives. One of these management actions is a reduction in the amount of commercial use of the Mount Whitney Management Area. Other management actions that address the impacts of visitor use are also proposed for the Mount Whitney Management Area (see table 23 in chapter 2).

The preferred alternative (alternative 2) has been modified to propose a reduction of commercial services in the Mount Whitney Management Area. The proposed reduction equals 10% of the four-year average of commercial use during 2010 to 2013 (rather than a 20% reduction as proposed in the draft WSP/EIS).

Concern 149: Commercial services in the parks’ wilderness should be reduced. Commercial services should be monitored to determine that only necessary services are provided. Commercial outfitters that use stock should be limited in where they can go in the parks. One commenter would like to see commercial services phased out completely.

> *Commercial packstock enterprises. . . Your plan should at least strictly regulate these businesses to ensure that they are providing only "necessary" services (as required by the Wilderness Act).*
> [Individual, #124]

> *I am not supportive of pack operations in the Sierra high country. The existing "Backcountry Management Plan" and "Stock Use Plan" are old, out of date documents that do not reflect current strategies for addressing high-country wilderness areas. They should have specific regulations for any commercial services that identify allowed locations, elevations, numbers of visitors and the number of stock animals permitted. I, for one, suggest that all such commercial operations be limited to those areas below*

> *9,000 msl elevations due to the sensitive nature of the alpine environment. In addition, an appropriate plan would also include realistic Adaptive Management practices to initiate when indicator thresholds of overuse are tripped.*
> [Individual, #162]

> *Every current activity that degrades this in ANY significant way would be phased out over a relatively short time, say 10 years. Thus all commercial for-profit activities would vanish for their negative impact on wilderness preservation is overwhelming.*
> [Conservation/Preservation, #60]

Response: The Extent Necessary Determination (appendix B) establishes limitations on the types and levels of activities that may be supported by commercial service providers in the wilderness of these parks. This appendix was developed pursuant to the direction of Section 4(d)(5) of the Wilderness Act. Commercial Service providers are also subject to the conditions of their commercial use authorizations and concessions contracts, which contain additional restrictions on their operations in these parks.

Concern 150: The NPS should a conduct yearly analysis to determine the need for commercial services and the information should be used to generate quotas for the following year.

> *The need for the type and appropriate level of commercial service should be reviewed annually. An assessment of the need for those services should be based on previous experience. Impacts on the wilderness resource should be carefully examined at the end of each season and used to set quotas for the following year.*
> [Conservation/Preservation, #60]

Response: The Wilderness Act does not require the NPS to conduct a yearly evaluation of the amount of commercial services that may be authorized. Commercial service operators are required to report their use, and consolidated and individual commercial service use data will continue to be collected and analyzed regularly. The Stock Use and Meadow Monitoring and Management Strategy (appendix D) contains adaptive management elements that allow NPS to adjust restrictions on all stock users, including commercial service providers, in order to preserve wilderness character. In addition, the Extent Necessary Determination (appendix B) explains that the NPS may change CSD allocations in the future, following appropriate compliance and public involvement, in response to new information, changed conditions, or changes in visitor use patterns.

Concern 151: The commercial camp at Bearpaw Meadow should be closed because of the damage it already has incurred. The camp, as it is now, is not viable. The area could be restored to natural conditions. A replacement camp could be constructed in Upper Lake Canyon that would support backpackers with various levels of experience and endurance.

> *It's evident that the Bearpaw Meadow High Sierra Camp, especially after the removal of Wolverton Stables, is not viable (too difficult to get to for most hikers and too hard to resupply) and probably should be removed. Could a quasi-replacement camp, but more like a slightly upgraded version of White Wolf in Yosemite, be feasible for upper Lake Canyon? With the purchase of the private inholding there, a once or twice daily shuttle bus could use the existing road to shuttle less athletic members of the public, along with staff, to the facility, and also make it much easier to resupply than the usual high sierra camp. More athletic hikers could come in from restored former trails up Paradise Creek and off of Mineral King Road. New trails could go the short distance to Oriole Lake (admittedly nothing special other than perhaps to see wildlife, but this still would become*

the sole lake in either park that non-athletes could see) as well as to the Oriole groves, Paradise Ridge and perhaps out to a viewpoint on Castle Rocks.
[Individual, #11]

13. 15. Close the commercial camp at Bearpaw Meadow, and restore the site to natural conditions.
[Recreational Group, #123]

A possibility for Lake Canyon just below Oriole Lake. . . Could a quasi-replacement camp, but more like a slightly upgraded version of White Wolf in Yosemite, be feasible for upper Lake Canyon? With the purchase of the private inholding there, a once or twice daily shuttle bus could use the existing road to shuttle less athletic members of the public, along with staff, to the facility, and also make it much easier to resupply than the usual high sierra camp. More athletic hikers could come in from restored former trails up Paradise Creek and off of Mineral King Road. New trails could go the short distance to Oriole Lake (admittedly nothing special other than perhaps to see wildlife, but this still would become the sole lake in either park that non-athletes could see) as well as to the Oriole groves, Paradise Ridge and perhaps out to a viewpoint on Castle Rocks. I refer to this as possibly a slightly upgraded version of White Wolf because it would be nice to have rustic wood cabins similar to White Wolfs, but with minimally adequate air conditioning due to the high summer heat in west-facing Lake Canyon (below 6,000 feet elevation). Tent cabins may not be realistic if this is rattlesnake country.
[Individual, #120]

Response: The Bearpaw Meadow High Sierra Camp is a commercial lodging enterprise, operated during the summer months through a contracted concessioner, which provides tent-cabin lodging and meals at a cost to the user. Reservations for Bearpaw are required and it is typically at or near capacity during peak season. From 2006 to 2012, the Bearpaw facility had an annual average of 1,500 visitor service days. A contracted concessioner operates the camp within a 32-acre designated potential wilderness addition (per the California Wilderness Act [1984] and its accompanying House of Representatives Committee Report 98-40 [1983]). A designated potential wilderness addition is federal land that Congress intends to become fully designated wilderness upon the cessation of an existing and allowed nonconforming use that is normally prohibited by the Wilderness Act that is associated with that land. The NPS monitors conditions in the area to make sure that the camp is not causing unacceptable impacts on the parks' resources.

Concern 152: Bearpaw Meadow High Sierra Camp should be retained and expanded with an extended season.

I also strongly favor continuing and (if possible) enlarging Bearpaw Meadow High Sierra Camp; extending it's season, especially opening earlier, would also be useful.
[Conservation/Preservation, #170]

Bearpaw High Sierra Camp As levels of population increase around the world there are some needs to evolve alongside that change, while maintaining the integrity of the mission for the people and protecting the wilderness area. Rather than remove the camp we would encourage an increase of 4 additional tent cabins within the land assignment over a several years span to address this issue. Bearpaw High Sierra Camp is a significance part of visitor services for 80 years and should remain available to the public for future generations. The High Sierra Camp should be utilized as a vehicle to promote and perpetuate the need for preservation of wilderness area by teaching people ethical environmental practices, and becoming stewards of the park.
[Business, #160]

Response: The Bearpaw Meadow High Sierra Camp is proposed to be retained in the preferred alternative with its current capacity and with a season similar to what it now has. Other alternatives consider removing it completely, or expanding or reducing its season (see table 45 in "Chapter 2: Alternatives"). Because Bearpaw Meadow High Sierra Camp would remain operational into the foreseeable future, an alternative high sierra camp is not necessary.

Concern 153: The Pear Lake ski hut should be retained as a non-commercial facility, potentially managed by a non-profit organization, a cooperating association, or as a concession-operated facility.

> *Allow a not-for-profit organization to manage the Pear Lake Hut as a non-commercial enterprise for use in winter and summer.*
> [Individual, #71]

> *Commercial Services: I agree with the sentiment expressed in Alternative 4, Overall the types, amounts, and areas in which commercial services are allowed would be notably reduced compared to alternative 1. However, as much as I would like to see Bearpaw Meadow High Sierra Camp closed, realistically, I know that is not going to happen. I agree with Alternative 3 on the Pear Lake Ski Hut: Use of the Pear Lake Ski Hut would continue through a cooperating association or as a concession-operated facility.*
> [Individual, #88]

Response: The preferred alternative includes the continued operation of the Pear Lake ski hut under the management of a partner and/or non-profit organization. Pear Lake Ski Hut will continue to serve as a ranger station in the summer.

Concern 154: Commercial service providers should lose their right to obtain wilderness permits for repeat citations.

> *Any party leader or commercial operator who is cited more than twice in a span of two years should be prohibited from obtaining a wilderness permit for three years.*
> [Individual, #88]

Response: Violating wilderness restrictions and regulations (including the conditions of permits) may lead to fines and or the revocation of commercial service providers' authority to operate in these parks.

Concern 155: The NPS should recognize the various types of commercial services that use the parks and decisions made in the WSP/EIS should reflect the varied use.

> *There are many types of use/users in the Mt Whitney Zone and I ask that care is given when writing the final plan to account for all of these uses, not just the most common scenarios. Typical scenarios would be Rock Climbers on a 1-3 day trip to summit Whitney or an adjacent peak, hikers on a 1-3 day trip to summit Whitney, JMT and PCT through-hikers summiting Whitney and traveling through the Zone. But theres also folks like us that hike the JMT and have stock to support us. Our itineraries through the Zone, as described earlier, are inherently more complicated due to the nature of these trips as well as additional regulatory limitations imposed on commercial use such as not being able to enter/exit via Trailcrest. The Extent Necessary Determination deems commercial use necessary and so provisions must be provided to practically realize that public need.*
> [Business, #90]

Response: These parks realize there are a variety of proper wilderness activities supported by commercial service providers. Details on this are contained in appendix B: *Extent Necessary Determination for Commercial Services in the Wilderness of Sequoia and Kings Canyon National Parks*.

Topics Related to Popular Areas

Concern 156: The document should clearly and consistently identify what are the most popular areas and what are the areas with sensitive resources. The document does not present rationale for why Lamarck Col (Darwin Canyon) was singled out to the exclusion of other areas as a sensitive area.

> *The proposal itself is well written and presented. However, it is light on the details of why certain areas are considered more sensitive.*
> [Individual, #9]
>
> *Which are the most popular areas?*
> [Individual, #97]
>
> *There are several problems with how Alternative 2 uses the two categories of most popular areas and sensitive areas: The document does not clearly and consistently identify what are the most popular areas and the areas with sensitive resources. Sometimes the document seems to combine these two groups and treat them as one when referring to the most popular areas, while sometimes the document seems to only be referring to the eight most popular areas (as opposed to the one sensitive area) when using the term most popular areas or one of the equivalent terms like busy areas. The reader has no way of knowing because the document uses language so inconsistently. The document does not present a persuasive case that the eight areas included in the list of the most popular areas are indeed the most popular areas. . . The document uses a variety of language to describe the category of most popular areas of the wilderness where concerns regarding visitation levels exist. Sometimes the terms busy areas and busy trails seem to be used to refer to this group of either eight or nine most popular areas. Sometimes the document uses the term popular areas (as opposed to most popular areas) when it may really mean this group of the eight or nine most popular areas, but that really is not clear. The document uses language in such an inconsistent manner that there is no way for a reasonable reader to know on what popular or busy areas or trails the parks are proposing to take what action in Alternative 2.*
> [Individual, #97]
>
> *Table A-6 (Visitor Capacity Monitoring - Encounter Sub-zones) on page A-28 provides data on just how popular different trails really are. From that table, it is apparent that the following trails are as popular as some of the trails that the Draft WSP includes in its list of the eight most popular areas: o Roads End o Mineral King Valley o Little Baldy Trail o Paradise Creek Trail Redwood Canyon o Crabtree R. S. to Trail Crest o Evolution Basin & Valley o Dusy Basin o Little Five*
> [Individual, #88]
>
> *Under the Planning Objective for Alternative 2 section (page 96), the document has a generic statement that visitor use levels would be reduced in some popular areas to preserve opportunities for solitude or other wilderness-character qualities. But the reader is not told what these popular areas are.*
> [Individual, #97]

There are a number of areas in the parks that are at least as sensitive as Lamarck Col (Darwin Canyon). The document does not present any rational reason for why this one sensitive area was singled out to the exclusion of the rest. Sensitive should presumably be related to vegetation or other ecological criteria such as slow recovery time for alpine vegetation, but the document just seems to throw it out there with no explanation. It seems like there should be some relationship between popular (high use) endangering some ecological limit as a result (thus, sensitive).
[Individual, #97]

Response: Popular areas are simply those areas that receive consistent use, or where use has led to impacts on wilderness resources. Expressions such as "popular" are not intended and are not stated to be rigid categories, but rather use the common meaning of the word to signify "liked or enjoyed by many people." Likewise, the word sensitive is used in a variety of cases to mean "easily hurt or damaged." Sensitive resources may or may not be present in popular areas. Popular areas were identified through permit information and input from wilderness rangers, resource management specialists, and maintenance crews. For a summary of potential site-specific management actions under the preferred alternative (see table 23 in "Chapter 2: Alternatives").

Topics Related to Measures, Indicators, and Standards

Concern 157: The WSP/EIS should clearly state which measures have specific standards, identify what the standards are, use consistent language in defining measures and standards, and clarify which measures apply to day-use versus overnight use.

Weighted Value per Campable Mile (WVCM) for selected monitoring sites (and extrapolated across wilderness); these vary by travel/use zone and alternative. The document is not clear about the specific wording of this measure and the associated metric. Page A-14 says that the measure of campsite condition would be adopted to ensure that the number of campsites and their condition does not exceed standards. The metric of Weighted Value per Campable Mile (WVCM), derived from Parsons and Stohlgren, 1987, would be used. Number of encounters with individuals per hour on 90% of peak season (quota season) days for selected monitored trail segments (and extrapolated across wilderness) - these vary by use/trail class category and by alternative. The document is not clear about the specific wording of this measure and the associated metric. Page A-14 says that the measure of trail encounters would be adopted to ensure that encounters of other people by hikers/stock users on trails does not exceed standards. The metric of people encountered per hour (EPH), adopted from the generally applied groups per hour, would be used. All of the visitor capacity measures and standards should be identified in Table A- Does the VUD measure have an established standard? Clarify the paragraph on page A-5 about other measures that the parks monitor to inform management decisions about visitor capacity and serve as a source of information about wilderness character conditions. Make it clear that none of the measures in this category have established standards as that term is defined on page 7.
[Individual, #97]

Under the Impacts of Alternative 2 on Wilderness Character - Opportunities for Solitude or Primitive and Unconfined Recreation section (page 374), the document says that Alternative 2 would apply new trail encounter standards that would protect opportunities for solitude in most areas, and increase opportunities for solitude in up to five areas that are near or exceed the trail encounter standard: the Mount Whitney area, Evolution

Basin and Valley, the JMT near Rae Lakes, the Mount Langley approach, and the trail between Crabtree Ranger Station and Trail Crest. In these areas a variety of management actions could be taken to reduce encounter frequencies, such as reducing night limits, reducing maximum party size, reducing commercial services, lowering trailhead quotas, or other measures. These measures would improve opportunities for solitude but could involve trade-offs in terms of the unconfined quality of recreation in those areas by adding new restrictions that may decrease visitor freedom and spontaneity. These probable management actions should be clearly communicated under the Description of the Alternative section. The definition of the trail encounter measure is poorly defined. The trail encounter measure is not written in such a way that a reasonable person could understand what aspect of visitor experience and wilderness character is actually being measured and preserved. The associated standards do not have a clear and concise meaning.
[Individual, #97]

At different points in the plan, the trail encounter measure and standard is stated in at least four different ways: 1. The maximum number of people encountered per hour on 90% o days within the quota season (generally from the Friday before Memorial Day through the last Saturday in September). 2. Number of encounters per hour (or encounters with individuals per hour or number of people encountered per hour, terminology varies) on 90% o peak season (quota season) days. 3. Numbers of trail encounters on designated trails or routes measured as number of people encountered per hour. 4. Trail encounters (encounters per hour on 90% o quota-season days). What is the minimum acceptable trail encounter condition that the parks are committing to maintain? The trail encounter measure and standard established in the WSP might - or might not - indicate that the parks are committing to maintain the following minimum condition: Use levels for a particular trail segment will be maintained at levels where encounters with other people will be at or below [the standard] encounters per hour for at least 90% o days during the quota season (generally from the Friday before Memorial Day through the last Saturday in September). If that were the measure and standard, the minimum acceptable condition that the parks are committing to maintain, could a reasonable person deduce it, given the way that it is stated in the Draft WSP? If that were the measure and standard, could a reasonable person figure out how to reliably and consistently measure conditions so as to determine whether or not conditions were outside standard? That is, determine when management action should be triggered to bring conditions back within standard. How would a reasonable person measure: The maximum number of people encountered per hour for a given day for a given section of trail? Would the observer hike the same direction as the predominant flow of traffic or against it? Would the observer need to count for a certain minimum number of hours during the peak part of the hiking day to have a representative sample for that day? Would the observer count encounters while they were hiking or while they were sitting beside the trail? Would the observer include encounters with government employees, or should those be ignored?
[Individual, #97]

Critical information on exactly how standards for stock and human impacts were to be determined were left out.
[Conservation/Preservation, #116]

What measures and standards are being adopted in the WSP? The parks should state which measures and standards it is proposing using clear and parallel language. Then

the document should use language consistently so that the reader knows what is really being proposed.
[Individual, #97]

The document then muddies the waters and indicates that it does not always follow the terms that it has defined. On page A-5, the document says that The parks also monitor the conditions of a wide variety of social, natural, and cultural resources. These measures inform management decisions about visitor capacity and serve as a source of information about wilderness character conditions, but they do not necessarily [emphasis added] have explicit standards that trigger management action. . . . the document seems to say that even if these measures do have established standards, these standards wont trigger management action when monitoring shows that the measure has gone outside standard. That is an entirely different use of the term standard from the way the Draft WSP defined it on page 7. A document should not use a key term in two significantly different ways. That is unnecessarily confusing.
[Individual, #97]

The document says that the monitoring plan will be developed in the future. The measure (or metric) that is going to be measured has to be clearly defined at some point. Otherwise, it cannot be replicated. Either the Draft WSP has to do this or the monitoring plan has to do this. In this case, the standard has already been set. We know what the answers (the standards) are, even though the document has not yet clearly defined the unit that is to be measured. The standards looks good, but the standards are meaningless if there is no clear definition of what the metric is that is to be measured. The document basically says that the definition of the metric with all its details will be worked out later in the monitoring plan. That is so wrong. You have to define what you are measuring before you can establish the answer; that is how science works. What the parks are doing is not scientifically defensible.
[Individual, #97]

Response: The measures proposed in the WSP/EIS to manage visitor capacity with specific standards are stated in the “Process to Address Visitor Capacity” section of “Appendix A: Visitor Capacity,” namely campsite condition, grazing capacities (as elaborated in “Appendix D: Stock Use and Meadow Monitoring and Management Strategy”), and trail encounter frequency. These are also restated in table A-1. A summary of standards for these measures are contained in table A-4. A complete list of standards for campsite condition is contained in tables A-5 a, b, and c, and represented in figure A-3. A complete list of standards for trail encounter frequency is contained in table A-6, and represented in figure A-4. These tables are contained in appendix A.

Appendix A also discusses several other measures, such as counts of overall VUDs or counts of fire management actions that provide an important source of information about visitor use and wilderness character but which do not have explicit standards that will be used to trigger management action. Because “Appendix C: Wilderness Character Monitoring Strategy” uses the expression "measures" to mean any variable for which data are collected to assess a trend regarding wilderness character, this use of the term "measure" is retained.

The encounter standard is defined in the “Process to Address Visitor Capacity” section of “appendix A and should be interpreted as the number of people encountered per hour that should not be exceeded on 90% of quota season days. The language describing this standard has been modified for clarity, and the new language has been applied in other locations of the WSP/EIS for consistency.

The measure WVCM is used to characterize the condition of areas that contain campsites. It is derived by first assigning a condition class, ranging from 1 to 5, to each campsite in a defined wilderness travel sub-zone. The number of sites within each condition class is then multiplied by a weighting factor specific to each condition class to create a weighted value for each condition class. These five weighted values are then added to create a total weighted value for the camping area. This total weighted value is then divided by the length of campable areas along water bodies (i.e., not including areas of talus, steep slopes, or other properties that make it unusable for camping) to create a weighted value per campable mile.

Condition class is assigned based on the following attributes: vegetation density, vegetation composition, total area of campsite, area of barren core of campsite, developments, litter and duff, social trails, and mutilations (See Parsons and Stohlgren 1987). Note that a few high-class sites (most heavily impacted) can greatly outweigh many low-class sites (least impacted).

Here is an example for a given sub-zone:

Sub-zone has:	15 Class 1 sites	–	multiplied by weighted value factor of 1	=	15
	8 Class 2 sites	–	multiplied by weighted value factor of 6	=	48
	4 Class 3 sites	–	multiplied by weighted value factor of 30	=	120
	1 Class 4 site	–	multiplied by weighted value factor of 75	=	75
	0 Class 5 sites	–	multiplied by weighted value factor of 150	=	0
			Total weighted value	=	258

This sub-zone has 6 miles of water courses/shoreline, of which 40% is campable. The number of campable miles is derived by multiplying the 6 miles times 0.4 (i.e., 40%), resulting in 2.4 campable miles. The WVCM of the sub-zone is then determined by dividing the total weighted value (258) by the campable miles (2.4) – 258/2.4 = 107.5. This imaginary sub-zone has a WVCM of 107.5.

VUD is described in the “Process to Address Visitor Capacity” section of “appendix A as a measure that informs management decisions about visitor capacity and serves as a source of information about wilderness character conditions, but does not have explicit standards that trigger management action. For the preferred alternative, appendix A also explains that “each year, total annual VUDs would be discussed and analyzed by an interdisciplinary group at an annual meeting on wilderness management. If the observed values exceeded these expected values, action would be taken to better understand the sources and consequences of this change in total use.” VUD, as a wilderness-wide aggregate measure, is not an appropriate measure on which to base site-specific management actions but is a useful measure for identifying changes in aggregate visitor use, which may or may not be reflected in other visitor capacity measures, such as encounter frequency or campsite condition. These do have site-specific standards that would trigger site-specific management action if standards are exceeded. An increase in VUDs by itself does not indicate the need for management action if that increase in aggregate use does not cause site-specific standards for other measures to be exceeded.

Some measures relate to both day-use and overnight use, and others relate only to overnight use. Trail encounter frequency, for example, does not distinguish between day and overnight visitors, while campsite condition is obviously related only to overnight camping. Grazing measures would apply to all parties that choose to graze stock, although these are usually overnight parties. Other measures such as visitor-use days are obtained from the permit database for overnight use, and therefore only reflect overnight use. The wider range of measures related to overnight use reflects the wider range of impacts that is associated with overnight use. For clarity, the sentence in appendix A regarding limits and overnight use was omitted in the WSP/FEIS. Appendix A commits to monitoring all three visitor capacity measures that have explicit standards and managing to ensure that conditions remain in standard.

Concern 158: The WSP/EIS should explain the method for deriving the proposed standards from encounter monitoring data, how the standards protect conditions at non-peak times, and how the standards protect conditions well before unacceptable impacts occur.

It is unclear how the Draft WSP uses the measure of total annual visitor use days (VUDs). Partly this is a case of using the term standard in significantly different ways. Partly this is a problem with how the VUD standard is written.
[Individual, #97]

Under the Visitor Capacities and Encounter Standards section of Key Elements of Alternative 2 (page 97), the document says that Alternative 2 would retain existing types and levels of use that would be allowed in wilderness in an attempt to provide opportunities and access for appropriate wilderness experiences. Limited and targeted controls would be applied only in those areas where levels and types of use may be leading to some localized degradation of wilderness character. Based on the objectives for this alternative, the overnight visitor capacity would be set at 134,000 VUDs. Ten-year average overnight use would be limited to 108,000-114,000 VUDs/year. That suggests that these numbers might represent a VUD standard as that term is defined on page 7; that is, a threshold which conditions should not exceed. The document strongly implies that if this presumed VUD standard were exceeded, management action would be taken to bring conditions back within standard. Under the Visitor Capacities and Encounter Standards section of Key Elements of Alternative 2 (page 97), the document says that Each year, total annual VUDs would be discussed and analyzed by an interdisciplinary group at an annual meeting on wilderness management. If determined to be out of standard, management actions to bring the measure back into standard would be adopted. That language also strongly suggests that VUD is being adopted as a measure to be compared against an established standard which would then trigger management action.
[Individual, #97]

What is the purpose of the standards that are being adopted in the WSP? The Draft WSP adopts four visitor capacity measures for which standards seem to have been established. Apparently only three of these really meet the definition of a standard (as that term is defined on page 7) and are part of the visitor capacity framework. How are these limits derived to establish a visitor experience or resource protection limit of some sort that shouldn't be exceeded? Without that rationale, the limits represented by these standards could just as well be a random number. What was the purpose for setting these standards? What do they represent? What are they supposed to accomplish? Are these three visitor capacity measures and standards being established for the dual purposes of ensuring that visitor use remains at existing levels and ensuring that visitor experience and resource impacts remain within the established standard? If those two purposes were achieved, would that also ensure the preservation of wilderness character?
[Individual, #97]

I think the WSP made two mistakes in the way that it sets the trail encounter standards. It only put a cap on peak use for each trail. That took care of the trouble periods, at least in theory. But it did nothing to protect the quieter periods. And by capping the peak periods on the peak trails, it will quite likely encourage faster growth in those lesser used places and periods. So people who previously had the highest quality wilderness experience (as measured by the opportunity for solitude) will potentially experience a significant loss of that opportunity. I hate to see those quiet times lost. There are some people in some areas

who value the opportunity to hike a particular trail over the opportunity to experience solitude. They really want to go to Mist Falls, or Mt. Whitney, or wherever. They realize that part of the price they will have to pay for this experience is seeing a relatively large number of people. They might like to be on the trail with fewer people, but given the choice, they would much rather experience a few extra encounters than miss the chance to hike that particular trail.
[Individual, #97]

Appendix D addressed the issue of unacceptable impact on grazed meadows and stream banks. However, the document does not appear to describe what constitutes the level of unacceptable impact for the other two visitor capacity measures: campsite condition and trail encounters. At best, this says that the parks considered the need to provide outstanding opportunities for solitude or a primitive and unconfined type of recreation somewhere in the parks. There is no documentation to indicate that the parks determined the unacceptable level of impacts for either the campsite condition or the trail encounter measure. Under the Process to Address Visitor Capacity section (page A-5), the document says that Standards have been established at points well before unacceptable impacts are reached to ensure the preservation of wilderness character. The document presents no evidence to support this assertion that standards have been established at points well before unacceptable impacts are reached to ensure the preservation of wilderness character. I'm not so sure this is the case, especially for the trail encounters standard measure. Without a rationale, I don't see how the parks can justify that assertion, especially for the trail encounters standards. It doesn't appear that the parks have the data available to back up such an assertion. Plus the trail encounter standards are being established at points that will allow a potentially significant loss in the opportunity for solitude, both at peak use areas and during peak-use times, and also at non-peak areas and during non-peak times. By setting the standards in this manner, the parks are allowing a potentially significant degradation of wilderness character.
[Individual, #97]

The document does not provide evidence that the trail encounter standards have been established at points that will ensure the preservation of wilderness character. Under the Process to Address Visitor Capacity section (page A-3), the document says that Standards have been established at points well before unacceptable impacts are reached to ensure the preservation of wilderness character. However, the document presents virtually no evidence that the trail encounter standards were established at such points. The document does not even describe how it determined what was the maximum acceptable level of impacts to trail encounters or to the loss of the opportunity for solitude. What will visitors experience when conditions reach this minimum acceptable condition described by the standard? What is the minimum acceptable trail encounter condition that the parks are committing to maintain?
[Individual, #97]

By establishing this line represented by the trail encounter standard, the parks are committing to hold the line for at least 90% of the days during the quota season, but up to 10% othe days may encounter conditions more crowded than the condition identified by the standard (e.g., 15 encounters per hour on the Mt Whitney (McClure-1) trail segment). The document did not disclose what this means in terms of the number of visitors who would experience these conditions. More than 10% of visitors would come during those 10% pk days, but the document did not disclose this in the Description of the Alternative, nor did it assess this in the Environmental Consequences section. This impact on the

visitor experience and the opportunity for solitude should be clearly described and assessed. The document should provide evidence that the trail encounter standards have been established at points well before unacceptable impacts are reached to ensure the preservation of wilderness character. The document should describe how it determined what was the maximum acceptable level of impacts to visitors as measured by increasing trail encounters and decreasing opportunity for solitude. How do the parks detect whether the trail encounter measure has gone outside standard?
[Individual, #97]

The Draft WSP does not state what degree of certainty would be required before the parks would take management action to bring conditions back within standard. This is a significant shortcoming of the document. Establishing the necessary degree of certainty that conditions are outside standard is one of the keys to triggering management action.
[Individual, #97]

The document should have a clear description of what conditions are like when use has grown so high that park management action is triggered to bring conditions back within the established trail encounter standards. The document should provide evidence that there is a reasonable chance that the standard will be maintained. The trigger point and associated decision tree should be described with sufficient clarity for the reader to understand at what point park management would likely take action to bring conditions back within standard.
[Individual, #97]

The document should provide evidence that the standards for the visitor capacity measures were established at points well before unacceptable impacts are reached. The WSP should define what constitutes unacceptable impacts - as opposed to acceptable impacts - for each of these three visitor capacity measures.
[Individual, #97]

Preservation of wilderness character. The document says that the three visitor capacity standards were established at points well before unacceptable impacts are reached to ensure the preservation of wilderness character. The document doesn't appear to identify the point at which unacceptable impacts are reached. It is particularly important for the WSP to identify the maximum acceptable level of impacts for the trail encounter measure, or for the minimum opportunity for solitude. The WSP should then establish standards for the three visitor capacity measures at points well before unacceptable impacts are reached to ensure the preservation of wilderness character.
[Conservation/Preservation, #184]

Response: Standards are management selected values for a particular measure and are not derived from observational data or validated by any statistical method. It is a misapprehension that standards are derived from empirical observation or reflect existing conditions. Rather, they express desired conditions that should be maintained by taking management action when standards are exceeded.

Standards provide a single value for a measure of visitor use that managers can use as a trigger point for taking management action to protect a quality of wilderness, such as the opportunity for solitude or the naturalness of a campsite setting. Again, these evaluative trigger points are not obtained from empirical data regarding visitor use. Conceptually, opportunities for solitude are inversely related to encounter frequency for most visitors, and the naturalness of campsite is inversely related to campsite impacts and modification. But research into visitor attitudes towards visitor encounters and other impacts shows

considerable diversity among current wilderness visitors in terms of sensitivity to these types of conditions. The impact of changing conditions, such as increasing encounter frequency with other visitors, has a marginal effect, in which the number of visitors reporting impacts from encounters and the intensity of that impact increases with higher visitor encounter frequencies. However, there is therefore no "consensus" point at which unacceptable impacts occur to visitors collectively, and therefore no observable "standard" to be "derived" from observational data.

The purpose of the evaluative standards is therefore not to represent the attitude of all current visitors, or any particular subset of visitors, but rather to protect a range of conditions so that individual visitors that place a premium on certain conditions (such as low encounter frequency) will have opportunities to experience them. The standards establish the conditions that are considered acceptable, as defined by the parks' management, for a given location; they are not a response to an "unacceptable condition" that can be observed through research. Therefore, language regarding standards being set at levels "well before" unacceptable impacts have been reached is confusing, and has been removed.

While the encounter standards are intended to establish a maximum condition, the proposed visitor capacity framework does protect a range of conditions, since different standards have been developed to protect areas in four encounter frequency categories: very high, high, moderate, and low. This ensures that visitors will always have opportunities to plan trips to areas that are characterized by infrequent encounters with other visitors and considerable opportunities for solitude. In addition, visitor density in higher use areas shows variation according to the time of season and day of the week. Visitors can increase their opportunity to experience solitude by selecting the appropriate times for their visits to higher use areas. By ensuring that there is diversity in terms of visitor density, and therefore encounter frequency, visitors would have opportunities for solitude, and this aspect of Wilderness Character is protected.

Again, standards are selected, not derived, and represent desired conditions, not current conditions. However, in setting standards, the encounter frequencies observed during 2012 and 2013, despite often limited sample sizes, were an important information source for understanding the potential consequences of applying a given standard to a particular trail segment, in terms of which trail segments were likely to be subject to focused monitoring and potential corrective management action. The parks have also collected additional samples during the 2014 season, and this has increased the sample sizes for many trail segments. The statistic of interest (the 90th percentile) for each trail segment has been calculated and a 90% confidence interval was developed for each of those statistics using bootstrapping methods. Bootstrapping is an accepted statistical method that uses the sample data to create many (100-10,000) simulated samples from the data. While this does not necessarily solve the problem of small sample sizes, which limits reliable inferences about the population, it does allow an interval to be computed for smaller sample sizes, and those intervals can be compared to the proposed encounter frequency standard. Even if the calculated intervals are large, if the upper bound of the interval is below the standard, it can be assumed with at least a 90% probability that the actual condition is within standard. Likewise, if the lower bound of the standard lies above the standard, it can be assumed with at least a 90% probability that the actual condition is out of standard. When the confidence interval brackets the standard, even if the statistic of interest (the 90th percentile) is above or below the standard, a conclusion at the 90% confidence level cannot be made, and the status of that trail segment would be considered to be "near standard" and warranting additional data collection. The WSP/FEIS has been updated to include the 2014 samples and the status of the trail segments, grouped in analysis areas, given the confidence intervals.

Topics Related to Monitoring Plans

Concern 159: The WSP/EIS should clarify the protocols that were used in 2012 and 2013 encounter monitoring and the monitoring protocols that will be used in the future.

The visitor experience should be protected for all of the trails in the parks wilderness, not just for those on the list of the eight or nine most popular areas. It is not enough to establish a trail encounter standard for each trail. After establishing the standard, the trails have to be adequately monitored in order to collect a minimum sample size, the data have to be regularly analyzed (the problem analysis described on page 7), and management action has to be taken as necessary in order to keep conditions within standard. The WSP should explicitly commit to doing this for all the trails in the parks wilderness, not just those for the nine most popular and sensitive areas.
[Individual, #97]

Table C-2 on page C-10 says that trail encounter data is to be compiled for analysis every 5 years. Trail encounter conditions should not be allowed to grow unchecked for five years without checking the monitoring data to see whether conditions are outside standard. This would mean that visitors would potentially be experiencing conditions above the established standard for up to five years before the parks even do a problem analysis to determine whether management action is warranted to bring conditions back within standard. This impact on the visitor experience is not assessed in the Environmental Impact section of the document.
[Individual, #97]

The footnote to Table 55 presumably only provides some of the information in the 2012-2013 monitoring protocol; it does not seem like this could be the entire protocol. Either critical details were omitted from this footnote, or those details were left out of the monitoring protocol. Without those critical details, the reader cannot know whether the 2012-2013 monitoring sample data were reflective of how visitors used the trails. The reader wasnt even told whether the 2012-2013 monitoring protocol was designed to collect monitoring sample data that were representative of how visitors use the trails. For all the reader knows, the monitoring data may have been collected using convenience sampling. That would certainly have resulted in a biased sample. Was the 2012-2013 monitoring protocol designed to collect a reasonably unbiased sample? Were the observers trained in how to conduct the monitoring (as opposed to being sent a sheet of instructions, for example)? What kind of accuracy assessment was conducted on the data? The Table 55 footnote presumably only contained a portion of the 2012-2013 monitoring protocol. What about the other critical instructions given to the observers? Were observers instructed to hike the same direction as the predominant flow of traffic or were they told that it was okay to hike against it? Were observers instructed to count for a certain minimum number of hours during the day in order to have a representative sample for that day? Were observers instructed to count encounters while they were hiking or while they were sitting beside the trail? Were observers instructed to include encounters with government employees, or were those to be excluded? The WSP should provide the complete 2012-2013 monitoring protocol because then the reader would have a better sense of how well the trail encounter standards in Alternative 2 reflect existing conditions.
[Individual, #97]

The document appears to be saying that the future trail encounter monitoring protocols are not linked to the 2012-2013 protocol, are not linked to the established standard, and can be changed by the parks whenever they choose without public involvement. That would effectively be allowing the parks to redefine the trail encounter measure without public involvement.
[Individual, #97]

The definition of the trail encounter measure will remain unchanged. It assumes that the parks will continue to sample the trail encounter measure in the future in a way that is consistent with how it sampled this measure in the past. Whether or not that assumption is valid is impossible for the reader to know because: The document does not fully disclose the details of the trail encounter monitoring protocol that was used in 2012 and 2013 in order to create the standards. All that the reader has is the information provided in a footnote to Table 55 (Observed Number of Encounters per Hour with Individuals: 2012-2013) on page 278. That footnote says encounters within 25 feet only were recorded, individuals were counted only once, and congregation points such as trail junctions and scenic vistas were omitted. The 2012-2013 protocol presumably involved much more sampling direction to the observers than this. " The document does not disclose the details of the trail encounter monitoring protocol that the parks intend to use in the future. The document does not even commit that the future monitoring protocols will produce measurements that are consistent with the 2012/2013 protocol that was used to create the trail encounter standards. In the Trail Encounters section under the Actions to Preserve Wilderness Character Given the Types and Amounts of Use Proposed in Alternative 2 (page A-14), the document says that A monitoring plan will be developed to establish protocols and schedule monitoring frequencies to ensure that areas remain within their applied standard. No other detail about this plan is provided. The document does not define the trail encounter measure with sufficient precision so that it would be a straightforward technical matter to write the monitoring protocol. That is, the protocol could be written in multiple ways so that very different monitoring results could be obtained. The trail encounter standards look precise, but they have no real meaning since the measure has not been clearly and precisely defined. The Draft WSP appears to be saying that the future trail encounter monitoring protocol are not linked to the 2012-2013 protocol, are not linked to the established standard, and can be changed by the parks whenever they choose without public involvement. That is wrong. That is not drawing a line in the sand. That would effectively be allowing the trail encounter standard to be redefined in the future without public involvement.
[Individual, #97]

It is understandable that the parks want to put off the technical details of the monitoring protocol to some future monitoring plan. But the WSP should provide guidance to that monitoring plan so that both the public and the technicians writing the monitoring plan know what that plan will be doing. Otherwise, the WSP would be empowering the monitoring plan to effectively change the definition of the trail encounter measure. If that were to happen,, then an observer measuring a trail segment using the future monitoring protocol might well come up with a different measure than the observers who were collecting the data in 2012 and 2013. The resulting measures would not be the same because the observers would not be measuring by the same protocol. The trail encounter standards were set based on the 2012-2013 monitoring protocol; not based on the yet-to-be-developed monitoring protocol. The parks are proposing to set the standard in the WSP, but not figure out how to sample the associated metric until some point in the future. That is so wrong. The measure and standard are inexorably linked. You change the rules when you change your monitoring protocol; the way you measure something. By changing the way observers measure use, the parks can effectively increase visitor capacity after the WSP is completed; even though the trail encounter standards remain unchanged. That is a serious problem with the WSP.
[Individual, #97]

Since the trail encounter measure is not precisely defined in the WSP, the details of how to measure it will have to be worked out in some future plan. There are no constraints on how that measure can change in the future. The WSP makes no commitment that it will reflect the measure and monitoring protocol from 2012-2103 that was used to establish the standards in Alternative 2.
[Individual, #97]

I've been in parks where I had to stay on a regimented schedule as I moved through the wilderness. The wilderness may have been beautiful, but it lost a huge feeling of wilderness when management started exercising that kind of command and control. I don't like the idea of a wilderness ranger being able to tell me that I am in the wrong location, or that I need to move faster. I think the parks have lost sight of your objective. Figure out what the purpose of the various carrying capacity measures are for. The purpose should not be to establish a trail encounter standard and enforce it. The purpose should be to protect the visitor experience and preserve wilderness character. Regimenting the visitor experience is not the way to achieve those purposes.
[Individual, #97]

Unaddressed: the cultural component in the 5th wilderness character quality: need to clarify other features of value, feasibility of application, relevance, data sets to support measures for other features of value still need to be developed. Request WSP leaves an opening to make use changes as necessary to accommodate new information, when other features of value are identified and addressed. Request wilderness character mapping project to begin ASAP, to address the cultural component of the 5th other features of value character quality of wilderness. We believe stock packing is a feature of this value, based on historical use patterns, prior to the establishment of the parks. Per the draft trail management and classification system: the current trail system reflects a varied history. Packers have contributed to that trail history by participating in trail rehab, building, maintenance, and have demonstrated historical use. We request reasonable effort to be made to continue sufficient access opportunities to trails, to the extent practical, as commercial stock packing is a compatible purpose for which these trails have been established.
[Business, #182]

Visitor Capacity and the Extent Necessary Determination. . . are based upon a three year sample size. The sample is comprised of three abnormal years (2010-2012) and seems inadequate for historical trends. At this point 2013 and 2014 usage should be included in the final WSP. The explanation for how the adjustment factor was derived seems incomplete. The small sample of anomalous years being used as a benchmark for the park use is only part of the issue.
[Business, #196]

Response: To collect preliminary monitoring data, the parks used wilderness/trailhead rangers, resource crews, and volunteers to collect information on wilderness encounters. Observers conducted an opportunistic sampling that allowed encounter data to be collected in conjunction with other field responsibilities. Because the goal was to observe encounters from the perspective of the visitor, observers collected encounter information when they were able to travel an entire trail segment without substantial detours. Data was gathered between the hours of 0800 and 2000 when visitors are generally expected to travel, except on Mount Whitney, where monitoring occurred at any time of the day. Observers were encouraged to select sampling periods that were as diverse as possible in terms of the different days of the week, different times of the day, and different directions on the trail segment. The observation date, start

time, end time, direction and mode of travel, other comments, and the number of encounters with people and pack/saddle stock were collected on a standardized encounter-observation form that was provided to all participants in the preliminary monitoring program. Data was also collected using this protocol during the 2014 quota season. In the future, the monitoring program will be enhanced with a more standardized sampling method, most likely a quota sample that achieves a representative balance of months and weekend days versus weekdays.

Concern 160: The WSP/EIS should disclose the statistical tests applied to the 2012 and 2013 monitoring data, the tests that will be applied to future monitoring data, the desired confidence level to take management actions, and the sample sizes necessary to provide that confidence level.

> *Sampling used to define existing conditions. It is unclear how the 2012 and 2013 sample data used to create the standards in Alternative 2 (Table A-6 on page A-28) was collected, and if it was done in a manner representative of how visitors use the trails. It is unclear if any type of statistical test was performed on that 2012 and 2013 sample data to see how well it represents the way visitors use the trails. If feasible and appropriate, the NPS should consider performing a statistical test on the 2012-2013 sample data to demonstrate that the trail encounter standards reasonably represent existing conditions and that they approximate how visitors use the trails.*
> [Conservation/Preservation, #184]
>
> *The standards in Alternative 2 are based in large part on encounter frequencies collected by NPS staff during the 2012 and 2013 summer seasons. Table A-6 on page A-28 shows how much data were available to the parks to establish those standards. That table shows that the sample sizes were relatively small for most of the trail segments. The parks purport that the standards in Alternative 2 represent existing conditions. But the 2012 and 2013 monitoring sample period was inadequate to represent existing conditions for two reasons: The sample was not collected in a manner that represents actual use. Most statistical formulas assume zero bias occurs during sampling. One example of sample bias is inconsistent observations (e.g., one observer walks the same direction as the majority of hikers when counting encounters while another observer walks the opposite direction). In such a case, it will never be known how the results relate to actual conditions. Did monitors over-report or under-report the actual crowding that existed? The sample size was too small to be reliable. A basic assumption of most of the applicable statistical formulas is that a large sample size has been collected. Due to excessive random variation, formulas may give erroneous results with small samples. Relatively large sample sizes are required when working in the extreme tails of the distribution (e.g., 90th percentile). Published papers recommend a minimum of 50 observations to estimate the actual proportion of the visitor population when working near the 90th percentile. These are the minimums just to apply statistical formulas without violating the basic assumption of a large sample size. Significantly larger sample sizes are usually required to obtain reasonably precise answers. These are critical shortcomings in the data used to establish the trail encounter standards for Alternative 2. Given these problems with this underlying data, it is not scientifically defensible for the WSP to maintain that the trail encounter standards established in Alternative 2 represent existing conditions. This should be disclosed to the reader.*
> [Individual, #97]
>
> *Despite its appearance of precision, the trail encounter standard as currently stated is so poorly defined that it is subject to wide interpretation. It is not the required line in the sand. It does not clearly identify the trigger point at which park managers will need to*

take action to bring conditions back within standard. It does not clearly identify the decision tree that park managers will use in evaluating the results of monitoring data to determine whether the trigger point has been reached. The WSP should clearly describe the relationship of future trail encounter monitoring protocols to the 2012-2013 protocol that the Alternative 2 standards are based on. The WSP should also commit that changes to the trail encounter monitoring protocols in the future would only be made through a process that includes public involvement. The WSP does not use a consistent definition of the trail encounter measure. The parks apparently prepared some sort of monitoring protocol in order to collect the data in 2012 and 2013 necessary to establish the Alternative 2 trail encounter standards. The document strongly implies that these standards represent existing conditions. The document further implies that maintaining these trail encounter standards will ensure that existing conditions and opportunities for solitude will be retained. The Environmental Consequences section reflects this; it shows little difference / impact on visitor use / opportunity for solitude between the no-action alternative and Alternative 2. Is that correct; were the trail encounter standards in Alternative 2 established at a point that will ensure that existing levels of use will be retained throughout the parks wilderness areas?
[Individual, #97]

The Draft WSP proposes a trail encounter measure and standard that is based on the 90th percentile. So in order to determine whether or not actual conditions are outside standard, the problem analysis (as that term is defined on page 7) will necessarily have to focus on the extreme tails of the monitoring sample distribution. That would seem to require a relatively large sample size in order to provide a relatively high degree of confidence that actual conditions are outside standard. 1. The Draft WSP does not disclose how much data is required in order to get a statistically useful result. It does not disclose how confident the parks would have to be in the result of the problem analysis of the monitoring sample before taking management action to bring conditions back within standard. (This is a function of the decision tree that the parks choose to use. The Draft WSP does not disclose that decision tree.) If the sample size were too small, management action might not be triggered because management would have low confidence in the analysis.
[Individual, #97]

Although the document does not disclose the parks decision tree, it seems highly unlikely that the parks have designed a decision-making process that will keep actual trail encounter conditions within the established standard. The math just wouldn't work out; either the minimum sample size would have to be very large, or managements acceptable degree of uncertainty would have to be very large. That's one of the problems with designing a trail encounter measure that requires working in the extreme tails of the distribution (e.g., 90th percentile). For all the public knows, if the sample size were small, management might allow actual trail encounter rates to significantly exceed standards before they were sufficiently confident that management action was required. For the document even to say that management actions are bringing conditions back within standard is arguably misleading. What the document is really proposing is to bring conditions back to a point that the problem analysis can no longer detect that conditions are outside standard. That point is probably significantly above the trail encounter standards established in the WSP. Much of this discussion is based on assumptions about what the parks proposed decision tree is. It is hard to know any of this with certainty because the Draft WSP did not disclose the parks decision tree. The public has no way of knowing with confidence how the parks intend to make their decisions

about when and whether conditions are outside standard and management action is warranted. The WSP should disclose this decision tree because it is so critical to the carrying capacity process. The Draft WSP is misleading when it implies that the parks have the ability to detect when trail encounter conditions exceed the established standard and have the ability to bring conditions back within the established standard. The way that the document seems to so casually conflate sample conditions with actual conditions is not scientifically defensible. It is at the root of many of the basic problems with the carrying capacity component of the WSP.
[Individual, #97]

Even if trail encounter conditions were kept within standard, conditions in Alternative 2 would not really be similar to existing conditions. Under the Visitor Capacities and Encounter Standards section of Key Elements of Alternative 2 (page 97), the document says that Alternative 2 would retain existing types and levels of use that would be allowed in wilderness in an attempt to provide opportunities and access for appropriate wilderness experiences. Does this mean that the trail encounter standards in Alternative 2 were established at a point that would ensure the retention of existing levels of visitor use and the existing opportunities for solitude throughout the parks wilderness areas? A reasonable reader might assume the following: 1. The parks are managing for actual trail encounter conditions (the real world conditions that visitors experience) instead of for the monitoring sample conditions. 2. The parks intend to analyze their monitoring sample data to see how well it represents actual conditions experienced by visitors. 3. The parks decision-making process requires relatively high confidence that actual conditions are outside standard in order to trigger management action to bring conditions back within standard. Are those valid assumptions? If those are correct assumptions, then the parks will likely allow actual conditions to go significantly above the nominal standard established in the WSP before they have sufficient confidence that conditions are outside standard and management action back within standard. The consequence of working with a relatively small sample size is that conditions have to be relatively far outside standard before this becomes obvious from the monitoring data.
[Individual, #97]

There seem to be at least four conceptual possibilities for how the parks intend to approach the problem analysis: 1. The parks intend to manage for the monitoring sample conditions rather than for the actual conditions experienced by visitors. The parks will analyze the monitoring sample data and make management decisions based on that. The parks do not intend to analyze the monitoring sample data to see how well that data represent actual conditions experienced by visitors. 2. The parks do not intend to analyze the monitoring sample data to see how well the data represent actual conditions experienced by visitors. They will just make the assumption that the sample data represent actual conditions with essentially 100% auracy. 3. The parks are willing to take management action based on relatively small sample sizes with relatively low confidence (high degree of uncertainty) that actual conditions are outside standard. 4. The parks need a relatively large amount of data in order to have sufficient confidence that actual conditions are outside standard and conclude that management action is required. That would indicate the Draft WSP is written in a misleading way since it gives no indication of this. The parks have not presented a convincing case that they have a realistic plan to collect the necessary amount of data, especially for the trail encounter measure. The document should indicate which of these four approaches it intends to pursue in doing the problem analysis. The document should then provide evidence that

the parks have a practical plan to implement this approach and detect whether the trail encounter measure has gone outside standard.
[Individual, #97]

Are the standards based on sample or actual conditions? A reasonable reader would assume that the parks intend to use this sample data to make decisions about what the real world conditions are; that is what the discipline of statistics is all about. But the Draft WSP never explicitly states that the parks intend to manage for actual conditions (the real world conditions that visitors experience) as opposed to sample conditions. And if the WSP does intend to manage visitor capacities for actual conditions, it does not commit to doing this in a scientifically defensible manner. So for the sake of clarity, the WSP should state what exactly the parks are committing to manage for. For each of the three visitor capacity measures, are the parks committing to keep actual conditions (the real world conditions that visitors experience) within standard? Or are they committing to keep the monitoring sample conditions within standard? For each of the three visitor capacity measures, the WSP should identify what standard it is committing to for the monitoring protocol. Which of the following best describes the WSP standard?
[Individual, #97]

The Draft WSP presents the conditions in Alternative 2 as representing existing conditions. The document also presents that the trail encounter measure and standards in Alternative 2 were established at a point that will ensure that visitor conditions will continue that way. That is only possible if the following were true: The parks are managing for actual conditions (the real world conditions that visitors experience), as opposed to sample conditions. Therefore, the trail encounter measure and standards must be based on actual conditions, not sample conditions. The trail encounter measure and standards adopted in Alternative 2 represent existing conditions. Are the above true? The problem trying to base the standards on a small sample size is particularly important. If the parks did a statistical analysis on that data to see how well it represented actual conditions, the results would presumably have disclosed a high degree of uncertainty. That is, the parks could only have a relatively low level of confidence that the 2012 and 2013 monitoring sample data represent existing conditions (the real world conditions that visitors experience), not sample conditions. The Draft WSP implies that it is dealing with real conditions, not sample conditions. Did the parks perform such an analysis of its sample data? If not, it should do such an analysis and disclose the results. The parks should perform such an analysis so that the reader knows how well the standards in Alternative 2 reflect existing conditions.
[Individual, #97]

It is hard from this to get a clear understanding of what the decision-making process is for the three established visitor capacity standards. Possibly it something like this: The parks will periodically monitor the three established visitor capacity measures according to approved protocols. The results will then be discussed and analyzed by an interdisciplinary group at an annual meeting on wilderness management (that is the problem analysis discussed on page 7). That group will then compare the results of the monitoring against standards that were established in the WSP. Based on that, the interdisciplinary group will make a recommendation to park management as to whether conditions are outside standard or not. If conditions are outside standard, the interdisciplinary group will also recommend what action should be taken to bring conditions back within standard. Park management will then decide what to do based on those recommendations. Is that a reasonable description of the decision-making process

for the three established visitor capacity standards? If not, what is it? For these measures and standards to work, the parks must at least: 1. Clearly adopt the measure and clearly establish the standards. 2. Present a plan demonstrating that the parks have the ability to detect when conditions are outside standard and trigger management action to bring conditions back within standard. This does not necessarily have to be a detailed plan, but it should at least explain the concept and be plausible and persuasive. 3. Present a plan demonstrating that the parks have the capacity to bring conditions back within standard. This should be more than just a list of the tools in the parks management toolbox. It should demonstrate that the parks have given some thought to the use of those tools and concluded that they will be sufficient to bring conditions back within standard.
[Individual, #97]

The document should draw a line in the sand that can be clearly measured so that all parties - including the readers - will know when conditions are outside standard. As opposed to a standard that is subject to a variety of interpretations. The measure, as currently stated, fails to pass that test. Two different observers could readily measure use on the same section of trail on the same day and come up with very different results. If the measure cannot be replicated, the standard is not useful for achieving the purposes for which it was established. The measure and standards may look good, but if an outside group cannot independently measure trail encounter conditions and determine whether conditions are within or outside standard, then the standards as stated in the Draft WSP are meaningless. That is a serious problem.
[Individual, #97]

The term management action is defined on page 7 as implemented following a problem analysis; triggered by monitoring of a measure against a defined standard. The monitoring program is supposed to ensure that areas remain within their applied standard. So a reasonable reader might read this to say that the monitoring program triggers management actions which ensure that areas remain within their applied standard. But the visitor capacity framework, as presented in the Draft WSP, really does not do that. This portion of the document is very misleading. The visitor capacity framework, as presented in the Draft WSP, cannot possibly deliver the results that the document suggests. How many visitors would likely experience conditions outside standard before conditions were brought back within standard? The Description of the Alternative did not describe this condition.
[Individual, #97]

It is not enough for the WSP to state that encounters won't exceed standards or that the parks will ensure that areas will remain within their applied standard. The plan should clarify the parks' intent when it comes to implementation of the various standards established in the plan. For each of the three visitor capacity standards established in the WSP, the plan should clearly state to what extent the parks commit to (1) Detect actual conditions (as opposed to sample conditions) are outside standard, and then (2) Take action to bring conditions back within standard.
[Individual, #97]

The WSP should identify whether it has a realistic plan for creating these monitoring plans and an estimated timetable for when this will happen. The document says that the monitoring plans will address sampling frequency. The monitoring plans should also address minimum sample size, sampling design, sample bias, proposed method of analysis, and addressing degree of uncertainty. Without this information, the parks will

> *not know how much confidence they can expect to have in using monitoring sample data when doing the problem analysis described on page 7. The WSP should say whether the parks intend to collect monitoring data for the three established visitor capacity measures in a way that will produce reasonably unbiased sample data. The WSP should establish guidance for the two monitoring plans. Are the trail encounter standards being written for the actual population, informed by monitoring data? If so, then that monitoring plan has to be written to assess the degree of uncertainty in providing that estimate. But if the WSP is establishing the measures and standards keyed directly to the sample data (without regard to the real world conditions that visitors experience), then the monitoring plan could rely on convenience sampling and disregard calculating the degree of uncertainty.*
> [Individual, #97]

Response: The primary information used in developing the encounter-frequency standards were samples of existing conditions that were observed in 2012 and 2013. These observations were augmented for the WSP/FEIS with additional encounter-data collected in 2014. See also response to Concern 158. Data collection will continue on an annual basis as part of a monitoring plan that will be developed after the WSP/EIS ROD. The degree to which these observations from 2012 to 2014 accurately represent real conditions does depend on the sample sizes that were achieved in those three initial seasons and, in many cases, these sample sizes are small. For this reason, the parks propose a cautious approach to the results of this data, using calculated confidence intervals to qualify the management response, but not by establishing a particular sample size or confidence level as a prerequisite for taking management action.

The NPS has calculated the statistic of interest (the 90th percentile) for each trail segment, and has developed a 90% confidence interval for each of those statistics using bootstrapping methods. While this does not necessarily solve the problem of small sample sizes, which limits reliable inferences about the population, it does allow an interval to be computed for smaller sample sizes, and those intervals can be compared to the proposed encounter-frequency standard. Even if the calculated intervals are large, if the upper bound of the interval is below the standard, it can be assumed with at least a 90% probability that the actual condition is within standard. Likewise, if the lower bound of the interval lies above the standard, it can be assumed with at least a 90% probability that the actual condition is out of standard. When the confidence interval brackets the standard, even if the statistic of interest (the 90th percentile) is above or below the standard, a conclusion at the 90% confidence level cannot be made, and the status of that trail segment would be considered to be “near standard” and warranting additional data collection. The WSP/FEIS has been updated to include the 2014 samples and the status of the trail segments, grouped in analysis areas, given the confidence intervals. It is anticipated that future monitoring data will be subject to a similar confidence-interval estimate.

While reducing uncertainty is a goal for any monitoring plan, it is important to recognize that the parks’ management has the authority to take management action in the face of uncertainty based on best available information, not on any particular level of statistical confidence. If a sample result from a given season of monitoring suggests an out-of-standard condition, the confidence interval for that sample result would be an important consideration for managers who are contemplating a response. Managers, however, have a variety of other information sources regarding problems associated with visitor use, such as anecdotal information from the parks’ staff or the public, and these types of information may also be used as a factor in selecting a management response when reviewing monitoring results and confidence intervals. The purpose of the monitoring data is to help managers make informed decisions about management actions, not to constrain management action with arbitrary sampling requirements.

Concern 161: The WSP/EIS should explain how future monitoring will comply with Directors Order 11B: Ensuring Quality of Information Disseminated by the NPS.

Will the two monitoring plans be written to scientific standards? the parks should put a process in place to assure that these monitoring plans will meet the standards of objectivity, accuracy, integrity, and utility described in Directors Order 11B: Ensuring Quality of Information Disseminated by the National Park Service. http://www.nps.gov/policy/dorders/11b-final.htm The monitoring plans should address not only (1) how the data is to be collected (the monitoring protocol), but also (2) how that data is to be analyzed (the problem analysis described on page 7). Those are the two key components that the parks management will rely on in making decisions about whether conditions are outside standard.
[Individual, #97]

The parks should put a process in place to assure that the problem analysis described on page 7 will meet the standards of objectivity, accuracy, integrity, and utility described in Directors Order 11B: Ensuring Quality of Information Disseminated by the National Park Service. http://www.nps.gov/policy/dorders/11b-final.htm. The monitoring sample data should be formally analyzed to determine how well it represents actual conditions (the real world conditions that visitors experience), as opposed to sample conditions. The parks should consider the results of that statistical test in deciding whether to take management action. The WSP should disclose what the parks would do if that test showed a high degree of uncertainty.
[Individual, #97]

Response: The NPS will continue to comply with all applicable law and policy, including the policies that are provided in NPS Director's Orders, including 11B. These parks will continue to act in accordance with the scientific integrity standards established by the NPS and the Department of the Interior.

Concern 162: The WSP/EIS should define key terms and describe the general approach to conducting the problem analysis presented in the "Purpose and Need for the Plan" section of "Chapter 1: Purpose and Need."

The WSP should disclose, at least in general terms, how the parks intend to do the problem analysis described on page 7. In particular, what level of certainty is required to trigger management action? Are the parks really proposing to trigger management action based on convenience sampling? Or are they committing to sample in a manner that is reasonably representative of how visitors use the trails?
[Individual, #97]

Multiple unexplained critical details. The Draft WSP talks on page 7 and elsewhere about management action which is implemented following a problem analysis which in turn is triggered by monitoring of a measure against a defined standard. The document describes the process in concept, but appears to leave out key information on the operational and analysis details that hold the process together. Is the problem analysis a statistical test of the monitoring data against the defined standard? If so, what degree of confidence does the park manager have to have in the results of that statistical analysis before management action will be triggered? 80% 8% 9%? big a sample size is required to provide the degree of confidence that the manager requires? How many wilderness rangers or other people are required to collect that minimum sample size? Do the parks have a reasonable plan and expectation for putting that many people in the field to collect that big a sample size?
[Conservation/Preservation, #184]

> *Explanation of problem analysis. The Draft WSP talks on page 7 and elsewhere about management action which is implemented following a problem analysis. But the document does not appear to explain how the parks plan to conduct the problem analysis and the decision-making process. The WSP should describe what the parks means by this problem analysis. How will the parks analyze the monitoring data and determine whether or not to take management action? Will this just be an interdisciplinary group of people talking about the data, or will this be based on a statistical analysis of the data? The WSP should describe the general approach that the parks intend to use to analyze the monitoring data and determine whether it is outside the standard. This problem analysis is crucial to the success of the carrying capacity process. In addition to describing the problem analysis, the WSP should commit to making the results of the problem analysis available to the public.*
> [Conservation/Preservation, #184]

Response: The "Purpose and Need for the Plan" section of "Chapter 1: Purpose and Need" does not present any processes, but rather quotes definitions of key terms from reference manuals and handbooks. In this case, "management action" is defined as "implemented following a problem analysis; triggered by monitoring of a measure against a defined standard" (NPS 2014a). The Wilderness Stewardship Handbook does not elaborate any specific process for analyzing a visitor capacity problem. It is accepted as principle, however, that management action should be taken with full consideration of the context in which a standard is exceeded.

It is important to recognize that the parks' management has the authority to take action in the face of uncertainty based on best available information, not on any particular level of statistical confidence. If a sample result from a given season of monitoring suggests an out-of-standard condition, the confidence interval for that sample result would be an important consideration for managers who are contemplating a response. If confidence in the sample is low, the best response may be the collection of additional data, and the management action may be to focus subsequent monitoring on this sample location. Managers, however, have a variety of other information sources regarding problems associated with visitor use, such as anecdotal information from the parks' staff or the public, and these types of information may also be used as factors in selecting a management response when reviewing monitoring results. The purpose of the monitoring data is to help managers make informed decisions about management actions, not to constrain management with creating burdensome sampling requirements. The park's internal decision-making is not subject to NEPA and is a deliberative process that is protected under exemption 5 of the Freedom of Information Act.

Topics Related to Management Actions

Concern 163: The WSP/EIS should disclose which management actions would be taken in response to out-of-standard conditions, which management actions would be taken in day-use areas, which management actions would be taken in high-use areas (identified in table 14, but inconsistently elsewhere), and whether outside agency support would be required.

> *The Visitor Access impact section for Alternative 2 (page 521) says that trailhead quotas would remain at their existing levels, approximately; but there could be a reduction in quotas in busy areas. That suggests that management actions would only be considered for the nine most popular and sensitive areas. Is that what this statement means? If not, what is the significance of this statement?*
> [Individual, #97]

No comprehensive plan is presented for bringing the trail encounter measure back within standard. What potential controls does the Draft WSP offer for bringing the trail encounter measure for those trail segments back within standard? The parks could probably present a fairly convincing case that they have sufficient management controls in place to bring two or three of those popular areas back within standard. But it is not apparent that the parks could present a persuasive case that they have such controls in place for two of the popular areas. For those trail segment that are out of standard, the document should disclose approximately how much of the use on those trails is controlled by the parks and how much comes in from outside the parks. The document should identify whether the parks think that they can bring conditions back within standards by themselves if necessary, or whether it is critical to obtain the support of outside agencies to bring conditions back within standard. Proposing cooperation is good, but if the parks have no effective fallback plan, this should be disclosed.
[Individual, #97]

The WSP does not adequately assess the actions required to bring trail encounter rates back within standard in Alternative 2. The Draft WSP, in various places, says that four or five areas are near or exceed the trail encounter standard established in Alternative 2. That is at present levels of use. If there were an increase in use, then there would be additional crowding. The Draft WSP does not clearly assess the actions required to reduce encounter frequency on these trail segments. The basic problem is that there are too many people on these four or five trail segments. That is why there are too many encounters. That is why there is not enough opportunity for solitude. The document should have a clear assessment of the impact of taking action to bring trail encounter rates back within standard. The WSP should be honest with the reader and clearly disclose what the problem is, and clearly disclose what the necessary solutions are likely to be.
[Individual, #97]

Under the Description of the Alternatives - Alternative 2 section (page xix), the document says that some popular areas would have additional restrictions (e.g., closing additional meadows along the JMT and HST to grazing), but less popular areas would have some restrictions eased (e.g., allowing campfires in specific areas, increased night limits, etc.). Education would be essential to inform visitors of where they could expect fewer encounters and how to practice Leave No Trace travel and camping techniques in wilderness. This language is so innocuous as to be seriously misleading. The document should be forthright and disclose to the reader what management actions are most likely to be required. The management actions most likely to be required in the four or five popular areas are not going to be closing meadows. Based on the evidence presented in the document, it seems implausible that closing those meadows to grazing would reduce use enough to bring the trail encounter rate back within standard. The required management actions will presumably be actions that more significantly reduce the number of hikers on the trail. The document generally fails to disclose this information. For example, nothing in the language about closing meadows would lead the reader to conclude that the parks need to reduce the number of hikers along one of the most popular portions of the PCT/JMT as it passes through Evolution Basin and Valley.
[Individual, #97]

In Table 14, the document actually does list proposed management actions for four of the popular trail segments with some clarity. But these management actions do not match those listed elsewhere. For example, proposed management actions listed in different

parts of the document for the Evolution Basin and Valley portion of the PCT/JMT include: page xix (Description of the Alternative): Closing additional meadows along the JMT and HST to grazing. page 99, Table 14 (Key Elements): Obtain better data to confirm observations; consult with USFS on quota reductions; impose overnight stay limit. " page 124, Table 23 (Area-specific Management Actions): Coordinate with Yosemite National Park and the USFS to improve the quota system for the JMT and PCT. Quotas may be reduced at certain trailheads. page 374, (Impacts of Alternative 2 on Opportunities for Solitude or Primitive and Unconfined Recreation): Alternative 2 would apply new trail encounter standards that would protect opportunities for solitude in most areas, and increase opportunities for solitude in up to five areas that are near or exceed the trail encounter standard: the Mount Whitney area, Evolution Basin and Valley, the JMT near Rae Lakes, the Mount Langley approach, and the trail between Crabtree Ranger Station
[Individual, #97]

Under the Actions to Preserve Wilderness Character Given the Types and Amounts of Use Proposed in Alternative 2 (page A-14), the document says without qualification that the Evolution Basin and Valley section of the PCT/JMT is already out of standard. Table 23 (Area-specific Management Actions under Alternative 2) on page 124 says indications are that use is increasing on this trail. This is a significant issue, but the document fails to state this in clear language that the reader can readily understand. The number of hikers or hiker nights on this section of trail has to be reduced now to bring conditions back within the trail encounter standard established in Alternative 2. The impact is that people who want to hike the PCT/JMT now will be turned away or else they will have to move through this section more quickly, spending fewer nights on average. And if use is increasing as the document believes, then even more people will be turned away in the future. That should be stated in clear language in the Description of the Alternative and in the Environmental Consequences section.
[Individual, #97]

The WSP needs to present evidence that the parks have a practical plan to detect when the trail encounter measure has gone outside standard and trigger management action to bring conditions back within condition. If this point is not identified, then conditions can just continue to slip further and further outside standard before management action is triggered to bring them back within standard. If the parks performed a power analysis (or equivalent statistical test) on the sample data shown in Table A-6, they almost surely learned that there was a relatively high degree of uncertainty that actual conditions were outside standard. The WSP should disclose the results of that statistical test. Did that test indicate a relatively high degree of uncertainty that actual conditions were outside standard? If that were the case, does this represent the parks decision tree? Are the parks really willing to take management action when the degree of uncertainty is this high? This has important ramifications, both operationally and for the visitor experience. Alternatively, if the parks made their determination that conditions in these four areas were outside standard without performing an adequate statistical test on the monitoring sample data, that should be disclosed.
[Individual, #97]

Perhaps the parks could find an effective management action besides permits or quotas. In some areas it might be possible to manage trail encounter rates through the reduction of parking lot size. However, the feasibility of such an approach is not clearly articulated in the document.
[Individual, #97]

There is another significant problem with the trail encounter standard as it is applied to trails in the overnight areas of the wilderness. When encounter rates go outside standard in these areas, the document seems to expect to bring conditions back within standard primarily by reducing trailhead quotas. The WSP seems to make the unstated assumption that visitors will voluntarily abide by their permits and avoid the popular areas that they really wanted to go visit. When the parks detect that conditions are outside standard, are they committing to bringing them back within standard? In numerous places the Draft WSP seems to commit to taking action to retain existing conditions, ensure that areas remain within their applied standard, ensure the preservation of wilderness character, etc. But in other places, there are suggestions that this may not be the case; that the standards do not really represent a line in the sand. That when the monitoring results indicate conditions are outside standard, there might be ways to avoid taking management action to bring conditions back within standard.
[Individual, #97]

One of the actions listed in Table A-3 (Management Actions to Return Out-of-Standard Measures to Within Standard) is "Re-sample the area in question using developed sampling protocol to check/verify preliminary sampling results (initial to WSP implementation)." It is not clear what the phrase "initial to WSP implementation" means. But the main point is how much resampling might go on before the parks feel sufficiently confident in monitoring results and problem analysis to take management action. It seems plausible that sample sizes will often be relatively small given the remoteness of many of the parks' wilderness trail segments and the number of government employees that will likely be hired in the expected funding climate. A power analysis or equivalent statistical test performed on such a small sample data would often result in a relatively high degree of uncertainty that conditions are actually outside standard. More data would be needed. That is a major problem with the design of the visitor capacity measure and standard program as presented in the Draft WSP. The parks haven't demonstrated in the document that it has the capacity to effectively implement it. The parks have designed a trail encounter monitoring approach that is very labor intensive. Are there many examples of large national parks or forests that have successfully implemented a trail encounter monitoring program on this scale? That is, programs that involved routinely collecting large amounts of trail encounter data in a large wilderness setting, analyzing that data, and using the results of that analysis to trigger management actions? If not, the WSP should disclose this. Based on the data presented in the Draft WSP, it looks like the parks are proposing a trail encounter monitoring plan that is infeasible; it cannot achieve the results that are implied in the document. It looks good on paper, but it cannot be implemented in practice. - In the Trail Encounters section under the Actions to Preserve Wilderness Character Given the Types and Amounts of Use Proposed in Alternative 2 (page A-14), the document says that "A monitoring plan will be developed to establish protocols and schedule monitoring frequencies to ensure that areas remain within their applied standard."
[Individual, #97]

Response: The WSP/EIS discloses types of management action that could be taken in response to encounter frequencies that currently appear to exceed standards. The management actions suggested in table 14 and table 23 in "Chapter 2: Alternatives" are consistent with those discussed elsewhere in the document. These management actions are intended to be used with full consideration of the site specific context of the capacity problem, and to be applied adaptively. Visitor education, interpretative efforts, trail re-routes, changes to trailhead quotas, and overnight stay-limits are examples of management actions

that are discussed in the WSP/EIS and would be considered in response to a visitor conflict or other capacity problem. The visitor capacity programs included in the WSP/EIS, such as Limits of Acceptable Change and VERP, are intended to provide a basis for a rational but adaptive response to problems associated with visitor use.

The WSP/EIS acknowledges that some trailheads that visitors use to access parts of NPS-managed wilderness are not managed by the NPS quota system. When monitoring reveals an encounter frequency that appears out of standard, NPS managers would develop a response that is site-specific and accounts for limits to NPS management authority. Working with other agencies, such as USFS, to reduce their trailhead quotas is one possible management response that is acknowledged in the WSP/EIS. Applying overnight limits is another possible response that could be developed, adaptively, possibly in combination with USFS consultation, to respond to a site-specific capacity problem. In such cases monitoring would also continue to observe the effectiveness of management responses in bringing conditions back within standard. It is not useful to propose a single "comprehensive" hypothetical plan for management responses that are by necessity site-specific and adaptive.

Day-use is another important context for interpreting a measurement that suggests that encounter frequency has exceeded a standard. For example, while “Appendix A: Visitor Capacity” does not at this time propose a permit system for day-use under alternative 2, such a system could be implemented in the future if conditions warrant. Permits for day-use parking at particular trailheads, or other method to control the amount of parking available for day-users, are other approaches that could be considered if conditions warrant such a management action. However, such a proposal has not been made in the WSP/EIS for any particular area.

Concern 164: The document fails to consider adaptive management in lieu of alternative-based restrictions for those alternatives that restrict either hiking/backpacking or recreational stock use. Adaptive management techniques like visitor education, interpretive opportunities, and the rerouting of segments of trail where conflicts are known to occur were suggested.

> *Draft WSP/DEIS Fails to Consider Adaptive Management in Lieu of Alternative-based Restrictions For those WSP alternatives that restrict either hiking/backpacking or recreational stock use, we encourage the Park Service to disclose the body of science being relied upon to form the basis of the proposed restrictions. As an alternative to be included in the WSP, we propose the application of adaptive management techniques like visitor education and interpretive opportunities, the rerouting of segments of trail where conflicts are known to occur, or other less onerous restrictions including additional quotas regarding either the number of parties-or even revisiting the concept of zoning (or merely temporal zoning)-in lieu of WSP alternatives that begin with the assumption that private stock use must be limited.*
> [Recreational Group, #186]
>
> *Certainly, existing adaptive management frameworks like Limits of Acceptable Change (and the NPS version, Visitor Experience and Resource Protection) could be employed in the SEKI WSP in order to lay a foundation for the collection of visitor data on potential user conflicts and management options to minimize or avoid unacceptable impacts that unreasonably interfere with park programs or activities.*
> [Recreational Group, #186]

Response: Visitor education/interpretation and trail re-routes are management actions that are discussed in the WSP and would be considered in response to a visitor conflict or other capacity issues. The visitor

capacity program included in the WSP/EIS is intended to provide a basis for a rational, but adaptive response to problems associated with visitor use.

Mitigation - Suggested Changes or Modifications to Mitigation Measures

Concern 165: Mitigation needs to be more thoroughly discussed in the WSP/EIS, including what measures would be taken and their effectiveness.

> *The general problem with the WSP/DEIS is that it does not even recognize things are a problem in the first place, so it can't mitigate them. Mitigation measures must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated.*
> [Recreational Group, #235]
>
> *Broad generalizations and vague references to mitigation measures do not constitute the detail as to mitigation measures that would be undertaken, and their effectiveness, that agency is required to provide.*
> [Recreational Group, #235]
>
> *Once adverse environmental impacts are identified, the agency must then describe what mitigating efforts it could pursue to off-set the damages that would result from the proposed action. Here, the WSP/DEIS falls short. For example, NPS must properly disclose that areas closed to grazing will undergo some recovery in soil compaction and disclose the area affected. There is no discussion of the consequences this mitigation will actually be expected to result in. Without such a discussion, the proposed mitigation is too vague and does not provide the detail as to the measure's effectiveness for dealing with the impacts of stock grazing in meadows.*
> [Recreational Group, #235]

Response: Mitigation measures are discussed in detail in the WSP/EIS, including the "Mitigation Measures Common to All Alternatives" section in "Chapter 2: Alternatives." In this section, mitigation measures are clearly identified for a variety of topics, including measures to manage visitor capacity, measures to protect wilderness character and visitor experience, measures to protect wild and scenic rivers, measures to protect employees, and measures to protect cultural and natural resources. Mitigation measures have also been clearly articulated in several appendices such as "Appendix D: Stock Use and Meadow Monitoring and Management Strategy" and "Appendix K: Trail Management and Classification System for Sequoia and Kings Canyon National Parks."

Concern 166: The NPS could seek an outside group that would be willing to sign a Memorandum of Agreement to maintain stock facilities such as drift fences and hitch rails.

> *If concern exists over the ability of the Park Service to maintain drift fences and hitch rails in park Wilderness, our local BCH California units would be happy to enter into a Memorandum of Understanding to be responsible for their upkeep and ongoing maintenance, as per specifications desired by the NPS. We believe this is a mitigation measure that should be included in the WSP/EIS.*
> [Recreational Group, #186]

Response: The opportunity for a Memorandum of Agreement with an outside group could be pursued upon plan implementation depending on the final approved alternative.

Alternatives: Environmentally Preferable Alternative/NEPA 101 & 102

Concern 167: Alternative 4 should be identified as the environmentally preferable alternative, not alternative 5. Actions under alternative 4 would reduce impacts to a greater extent. Additionally, the WSP/EIS does not give proper rationale for choosing alternative 5 as the environmentally preferable alternative.

> *DEIS Alternative 4, rather than DEIS Alternative 5, is the environmentally preferable alternative. Although Alternative 5 reduces visitor use across the board, Alternative 4 reduces the most impactful uses, even as those impacts are defined by the DEIS itself, particularly structures and grazing. This distinction was not taken into account in the designation of the environmentally preferable alternative in the DEIS.*
> [Individual, #46]

> *The DEIS failed to properly determine that Alternative 4 is clearly the environmentally preferable alternative.*
> [Business, #238]

> *The DEIS (pp. xxiii, 222) provides no sound rationale for identifying Alternative 5 as the environmentally preferable alternative. The DEIS's assessment, although highly inadequate, nonetheless clearly indicates that Alt. 4, relative to the other alternatives, would have less extensive and intensive negative impacts on nonnative vegetation, water quality, and soils due to Alt. 4 's restrictions on stock grazing and use in wilderness. For these same reasons, available information indicates that Alt. 4 would have far greater ecosystem benefits to aquatic resources and meadows than any of the other alternatives. Alt. 4 also has far less impacts on alpine vegetation, wood, and soil conditions due its restrictions on campfires.*
> [Business, #238]

Response: Alternative 4 and alternative 5 would have similar results for the protection and preservation of natural resources. Beneficial effects on soils, water quality, vegetation (wetlands and meadows), invertebrates, and special-status species would occur due to decreases in the number of stock that would likely result because there would be no grazing wilderness wide. There would be further restrictions on commercial access; therefore, there would be reduced opportunities for primitive and unconfined recreation and reduced recreational diversity and variety of individual choice. Alternative 4 is the most protective of high-elevation forests because there would be no campfires allowed wilderness-wide; it would enforce the greatest restrictions on Yosemite toad habitat; and it would have substantial beneficial effects on native plant communities. However, alternative 4 would also result in the most adverse effects on cultural and historic resources. In addition to removing a significant historic resource at Bearpaw Meadow, alternative 4 would also remove three ranger stations that are listed or eligible for listing on the National Register, resulting in an adverse effect on these cultural resources. Alternative 4 would create the most improvement in the undeveloped quality, but may result in a reduced level of wilderness management overall. When weighing the overall effects of alternative 4, it would rank as the second-most environmentally preferable alternative after alternative 5. Alternative 5 would best fulfill the responsibilities of the NPS to select the alternative that has the fewest impacts to the biological and physical environment and that balances the preservation and protection of natural, aesthetic, historic, and cultural resources with visitor use. Therefore, the NPS selected alternative 5 as the environmentally preferable alternative.

CHAPTER 3: AFFECTED ENVIRONMENT

Special-Status Species

Concern 168: Establishing trails on Mount Langley could affect the Mount Langley essential bighorn sheep herd unit, as this could be an important lambing area for Sierra Nevada bighorn sheep.

> *Another area of concern, is restricting human use in sensitive areas where Mountain Bighorn Sheep are found. For example, there are two small herds of sheep in Miter Basin, which is becoming a very popular destination. Will there be a quota system for this very scenic sheep area?*
> [Individual, #145]

> *Alternative 2 Element 2 Trails: I am opposed to placing the proposed trails in the Mt. Langley area in this category. They would be more appropriately placed in Alternative #3. I believe this area is a stronghold for raising the lambs of the Mt Langley heard. Although some repots state that humans don't interfere with the sheep, I am unaware of any reports that address lambing areas.*
> [Individual, #158]

Response: It is unlikely that bighorn sheep in the Mount Langley herd unit use areas within the parks for lambing to any significant degree. Among the eastern herd units, lambing almost always occurs (approximately 99% of lambing events) at mid-elevations on the eastern slopes of the Sierra Crest, outside of the parks (Wehausen, pers. comm. 2014).

Socioeconomics

Concern 169: The WSP/EIS does not describe the regional economy properly. Inyo County should be analyzed separately, as it is geographically separated from Fresno and Tulare counties by the Sierra Nevada mountain range.

> *The DEIS mischaracterizes the regional economy by including Inyo County with Fresno and Tulare Counties. Although Inyo County shares a boundary with Fresno and Tulare Counties, they are geographically separated by the Sierra Nevada Mountain range, with extremely limited direct access from Inyo County to Tulare or Fresno County, and they do not share a regional economy.*
> [County Government, #237]

Response: The regional economy is described separately for Inyo, Fresno, and Tulare counties in the "Socioeconomics" section of "Chapter 3: Affected Environment." Differences among the economies of the three counties are also discussed. See specifically tables 60, 61, 62, 63, and 64, which present the following data for each county: area and federal land management characteristics, population change, projected population growth, employment by place of work, and selected tourism-related establishments and employment.

Visitor Use

Concern 170: The WSP/EIS should include a section devoted to projections of visitor use, and should explain the assumptions that are used for these projections, including assumptions about

overnight use, day-use, and use of popular areas, such as the JMT. The WSP/EIS should also acknowledge the potential increase in day-use areas of the wilderness close to the frontcountry that was forecast in the GMP.

The Visitor Access impact section for Alternative 2 (page 521) is so vague and superficial as to make it impossible for a reasonable reader to determine whether the parks anticipate having impacts on those visitors who use the day use areas of the wilderness. Visitor use is apparently assumed to be flat or declining in day use areas of the wilderness close to the frontcountry. Is that the case? That seems implausible, and it is contrary to the forecast contained in the GMP. But the reader has no way to know whether the WSP is making such an assumption because there is no clearly articulated visitor use projection section.
[Individual, #97]

The document does not adequately describe and assess the impacts of imposing visitor capacity standards on visitors. The document should have a clear description and assessment of the impacts of imposing visitor capacity standards on visitors. When any of these three visitor capacity standards trigger management actions to bring conditions back within standard, this management action can result in several potential impacts on visitor. The most important of these is the impacts on visitors from moving use in from peak periods/areas to quieter periods and areas. Visitor use under existing conditions right now is somewhat similar to a bell curve. Imposing capacity limits through quotas or other means will tend to flatten out use so that it becomes greater during the non-peak periods. This will result in an increase in use (and a reduced opportunity for solitude) during non-peak use periods between existing conditions and the condition that will exist if use were to get displaced from peak periods. These impacts are not clearly addressed in the Environmental Consequences section of the WSP. Part of the problem is that there is no clearly articulated and defensible visitor projection section in the document to use as a basis for the impact analysis.
[Individual, #97]

The Draft WSP seems to assume that overall growth in use of the overnight portions of parks wilderness areas will be relatively flat. But then the document says indications are that use is increasing on the John Muir Trail (JMT). This should be described in the visitor projections section, especially since portions of that trail appear to already be near or over the trail encounter standard established in Alternative 2.
[Conservation/Preservation, #184]

The GMP forecast that day use in frontcountry areas of the parks could grow significantly. http://www. nps. gov/seki/parkmgmt/gmp. htm. The WSP should recognize that there is a reasonable chance that visitor use could increase significantly in those day use areas of the wilderness close to the frontcountry. It should have an effective approach for dealing with that visitation, one that achieves the purposes of the visitor capacity measures and standards. The impacts of that approach should be assessed in the Environmental Consequences section of the document. The document says that Alternative 2 is designed to retain existing levels of use and opportunity for solitude throughout the wilderness. The GMP forecast that day use in frontcountry areas of the parks could grow significantly. If day use were to increase and if the parks manage visitor capacity (specifically the trail encounter measure) to retain existing levels of use and opportunity for solitude, then some management action will be required.
[Individual, #97]

Among other things, the WSP should clarify the extent to which growth in visitor use (both day use and overnight use) could be accommodated while protecting wilderness character. The document should acknowledge the potential increase in day use that was forecast in the GMP. In addition, the Environmental Consequences section of the document should fully assess the impacts on visitors from moving use in from peak periods/areas to quieter periods and areas. Increase in use (crowding conditions) between what now occurs during non-peak times and the condition that would exist if use were to get displaced from peak periods and areas. Along with a decrease in the corresponding opportunity for solitude during those times and in those areas. The document says that Alternative 2 was designed to retain the existing use levels. But the trail encounter standards only represent the use levels at the peak periods. That means that (at best) the parks are only managing to preserve conditions at the peak periods; to keep the opportunity for solitude from getting worse during these peak periods. But the parks are not managing to preserve the existing conditions during the non-peak periods. If use were to increase, these are the time periods that would see an increase in use (and a reduced opportunity for solitude). This should be described and assessed in the document.
[Individual, #97]

The plans description of visitation projections is unclear- - The WSP should provide a clear description in one place of the visitation projections for all portions of the wilderness and the assumptions that went into making those projections.
[Conservation/Preservation, #184]

But it is difficult to figure out just what the visitor use projections are and what assumptions they are based on. That appears to be the case because the discussion of the visitor use projections are scattered throughout the document, making them hard to find. In other cases, it is difficult to understand the underpinning or rationale for certain statements and assumptions. For example, the document says on page A-6 that visitor capacity limits are primarily for overnight use. This is supposedly because at this time and in the foreseeable future, day visitor use is anticipated to remain at acceptable levels. The document should provide supporting justification for that statement, which appears to contradict what was within the GMP, which stated that there would likely be a shift from overnight use toward day use.
[Conservation/Preservation, #184]

The document says on page M-4 that the parks wilderness areas can be understood as three different types of locations. There are low-use and high-use overnight areas, but the wilderness also includes day use areas close to the frontcountry. However, when it comes to visitor use projections and the assessment of visitor impacts, the document seems to focus primarily on the overnight categories, the portions of SEKI wilderness that are furthest removed from the frontcountry.
[Conservation/Preservation, #184]

There is no visitor projection section. But the document seems to assume that growth in visitor use in the parks wilderness areas will be less than the projected increase in the surrounding population. Does the WSP assume this for all of the wilderness areas, or only for the overnight portions of the parks wilderness?
[Individual, #97]

Response: The WSP/EIS does not make projections of visitor use, but it does acknowledge certain trends, particularly those derived from recent visitor surveys (Martin and Blackwell 2013). According to permit data, overall wilderness visitor use has not increased since the 1990s despite statewide and regional population increases. Current total wilderness visitor use is less than that experienced during the late 1970s and early 1980s. While wilderness visitor use may increase in the future, there is no basis in the available data to assume this will occur.

The GMP did not specifically forecast a potential increase in day-use areas of the wilderness, but did project an increase in visitor use in low use frontcountry (nonwilderness) areas. Overall, visitor use in Sequoia and Kings Canyon National Parks has been stable since 2007 when the GMP was completed. There has not been a substantial increase in visitation, in fact, post-GMP, visitation peaked in 2010-2012, but has since decreased to levels below the 2007 level. While overall visitor use has not increased in recent years, there has been a shift towards shorter overnight trips, day trips, and popular areas (Martin and Blackwell 2013). The purpose of both permit quotas and condition standards is to control the change that could result from increasing visitor use. In popular areas, increases in overnight use is constrained by both permit availability and visitor capacity standards, and day-use is constrained by visitor capacity standards, in particular, by the visitor encounter standards that apply to areas receiving day-use.

Visitor Survey

Concern 171: The wilderness visitor survey indicated that visitors do not perceive the current conditions as being problematic. More people identified issues with other hikers rather than stock users.

> *According to the parks 2011 Wilderness Visitor Survey, as described in more detail elsewhere in this comment letter, statements of hiker-horse conflict are not widely claimed nor are they generally held with strong conviction. Nonetheless, the draft WSP/EIS and its Appendix H, the plans accompanying Wilderness Information and Education Strategy, fail to explore the perception of conflict in any detail. The existence of hiker-horsemen conflict is treated largely as fact and blown out of proportion in the draft WSP/EIS. As such, alternatives developed in the WSP represent merely a continuum of potential restrictions to horse and stock use in park Wilderness (thereby adversely affecting the unconfined and self-directed nature of our Wilderness experience) and have not been demonstrated to be necessary for the purposes of preserving wilderness character.*
> [Recreational Group, #171]
>
> *Indeed, the report summary states (page 162): In every potential problem explored in both 1990 and 2012, the overall average extent of the problem decreased, some substantially. Consequently, the WSP/DEIS fails to document these trends and, in light of this data, offer a valid rationale for proposals to further restrict stock use at this time. As described in additional detail throughout this comment letter, the parks 2011 Wilderness Visitor Survey contains abundant data to demonstrate specific restrictions proposed in the WSP/EIS for recreational stock use are not supported by the vast majority of visitors surveyed.*
> [Recreational Group, #171]
>
> *Page 69 of the Martin and Blackwell Report shows that there are not widespread conflicts on park Wilderness trails as reported by hikers/backpackers. Question 31 asks: "Did the actions or behavior of any other group or individual interfere with your enjoyment of the wilderness on this trip?" Nearly 80% (78. 5%) of respondents replied*

'No." This result, taken from the comments of hikers, reveals that even the vast majority of hikers/ backpackers do not appear to view stock use as a conflict and would not be quick to jump behind supporting restrictions to stock use.
[Recreational Group, #138]

Response: The visitor use survey of 2011 provided valuable information to help inform decisions, but it was not the only source of information considered. The parks know that there is a continuum of visitor attitudes toward stock in wilderness, from those who regularly use stock to those who would like to see stock completely prohibited. This WSP/EIS seeks a reasonable balance between allowing the traditional activity of stock use and providing opportunities for visitors who desire to have a stock-free experience. Stock is prohibited in some areas of the parks where there are concerns about visitor safety (trails too narrow and precipitous to allow safe passage), popular hiking areas (mostly day-use areas), and resource protection (from vegetation to wildlife).

Concern 172: The results of the wilderness visitor survey were not translated properly into the WSP/EIS. Few visitors reported an issue with large stock groups in wilderness; however, the plan decreases maximum stock party sizes, creates hiking only trails and treats ungrazed meadows as a social value.

Designation of Hiker-Only Trails Not Supported by Wilderness Visitor Survey Available data collected by the Park Service, including the parks 2011 Wilderness Visitor Survey, does not support the need for designation of hiker-only trails in park Wilderness. In fact, the survey revealed a remarkably low level of reported hiker-horse conflict. The questionnaire used with hikers and backpackers in the field included a question that goes straight to the heart of potential on-trail conflict. Question 31 asked: Did the actions or behavior of any other group or individual interfere with your enjoyment of the wilderness on this trip? (Report, p. 69). Among 622 respondents to this question, nearly 80% (8.5%) No. That overwhelming response should immediately signal to the Park Service that the vast majority of hikers/backpackers in SEKI Wilderness do not view recreational stock use as a conflict. Yet the DEIS fails to disclose and discuss this particular piece of compelling data.
[Recreational Group, #171]

Results of the parks 2011 Wilderness Visitor Survey, for example, do not support a reduction in the maximum party size for stock users. Of the nearly 600 hikers / backpackers who answered the question, 86. 6% of respondents reported they had either no or a Small Problem seeing Groups with Too Many Horses. Only 5.7% noted it as a Big Problem (Report, p. 77, Table 34h). Based on these numbers alone, the WSP/EIS fails to document public demand as supporting a decrease in maximum stock party size. If there were other rationale, we would hope this would be made clear in the WSP/EIS.
[Recreational Group, #186]

Designation of Meadows Closed to Grazing for Social and Scenic Values Not Supported by Parks Wilderness Visitor Survey Results of the parks 2011 Wilderness Visitor Survey do not support a desire by hiker and backpackers to view ungrazed meadows. The reported mean of respondents who ranked stock damage to meadows (e.g., trampled vegetation) was 1. 55, which puts it about halfway on the referenced scale as being between Not a Problem to a Small Problem.
[Recreational Group, #186]

Response: The visitor use survey of 2011 provided valuable information to help inform decisions, but it was not the only source of information considered. Stock is prohibited in some areas of the parks where there are concerns about visitor safety (trails too narrow and precipitous to allow safe passage), high hiking use areas (mostly day-use areas), and resource protection (e.g., vegetation and wildlife). Reduction in party sizes, for people and stock, provide for improved opportunities for solitude, and is supported by data in the 2011 visitor survey, and the 1993 study on hiker and stock user conflict (Watson et. al 1993). The prohibition of grazing in a few specific meadows provides for improvements in the natural quality of wilderness and the scenic public purpose.

CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

Wilderness Character

Concern 173: There is no evidence in the WSP/EIS that stock have an impact on wilderness character and that management actions are justified.

> *Many of the restrictions imposed on stock users in the alternatives set out in the DEIS are based on the assertions by very few hikers/backpackers that seeing individuals riding stock destroys their wilderness experience. To accommodate these assertions, NPS is proposing to give hikers/backpackers exclusive privileges on certain trails. However, this proposal is utterly irrational because the alleged harm to these individuals' wilderness experience by seeing stock users would result from the seeing anyone on the trail, regardless of whether that person on stock or foot. There is no explanation anywhere in the DEIS for how or why seeing stock destroys a wilderness experience, but seeing other hikers/backpackers does not. Given this fact, the allegation that seeing stock users reduces the wilderness experience appears to be a wholly contrived allegation.*
> [Recreational Group, #251]
>
> *We voice opposition to proposed restrictions that do not appear necessary to preserve wilderness character, particularly where less onerous restrictions and/or visitor education might be used in combination to preserve wilderness character. As demonstrated elsewhere in this comment letter, such options appear yet to be contemplated in the WSP. For example, another stated objective of the WSP process is to work to reduce conflicts between user groups as well as between users and sensitive resources (Executive Summary, p. vi, emphasis added). Regarding the former, the draft WSP fails to consider options (i. e. , mitigation) regarding visitor education to address identified hiker-horse conflict, whether or not the conflict is real or perceived. Instead, alternatives articulated in the draft WSP, including the Preferred Alternative, appear to take statements on the existence of conflict at face value.*
> [Recreational Group, #171]
>
> *The biological analyses for Alternatives 2 through 5 merely infers that less human use in park Wilderness would bring minimal, if any, population-related benefit to threatened species, as no measurable impacts would occur at a population level (Draft WSP/EIS, p. 378, regarding Alternative 3, which ironically would Provide More Opportunities for Primitive Recreation). Consequently, the draft WSP/EIS fails to make the case that either current or additional private stock use would adversely affect sensitive species. Nor does it make a compelling case that restricting private stock use (i. e. , Alternatives 2, 4 and 5) is necessary in order to preserve the natural quality of wilderness, to preserve general wilderness character, or for the more stringent purpose of protecting critical habitat under the authorities granted to the Park Service under the Endangered Species Act.*
> [Recreational Group, #171]

We would argue that viewing even a handful of grazed meadows would unlikely cause a Wilderness backpacker to declare their experience ruined and/or that park Wilderness had lost its naturalness. In our view, it is partly an issue of scale. While the presence of a given grazed meadow-or even a trail tread carved through a meadow in park Wilderness-might detract somewhat from the naturalness element associated with wilderness character, the WSP/EIS analysis is deficient when it tries to imply that the scale of any loss of naturalness is significant as a result of the act of viewing a grazed meadow(s). In summary, we offer that the WSP/EIS is deficient in that it proposes to prohibit currently open meadow grazing to recreational stock use even though doing so would unnecessarily limit stock users opportunities to recreate in an unconfined, self-directed manner, subject only to those regulations that are necessary to preserve wilderness character. We contend the WSP/EIS fails to adequately document the need for such regulations.
[Recreational Group, #186]

Further, the draft WSP/EIS fails to disclose how the presence of drift fences and hitch rails materially affects the parks wilderness character. To the contrary, the parks Wilderness Character Assessment (2014) makes a case that while these structures might reduce the undeveloped quality of wilderness character they also help to protect certain natural features such as subalpine forests and lakeshores.
[Recreational Group, #186]

Response: Stock can have an effect on wilderness character (as can humans) by impacting natural systems (e.g., meadows and water courses), thus degrading their natural state. This can come in multiple forms, from overgrazing leading to meadow plant composition change, physical alterations to stream banks altering hydrologic regimes, and by transporting invasive non-native species that then displace native species (these impacts are analyzed in Chapter 4). Large groups of people, with or without stock, can impact other visitors' opportunity to experience solitude. The largest stock groups tend to have the most impact. The controls that this plan puts on stock are to ensure these potential impacts are controlled.

Concern 174: Reducing stock and removing hitch rails would negatively affect stock users by diminishing their opportunity for unconfined recreation in the parks' wilderness.

In multiple management documents SEKI proclaims that stock use is a historic and traditional use that will be continued while being subject to management provisions to minimize potential damages caused by stock grazing. But the proposed removal of 12 drift fences and gates and the removal of 23 hitching rails in the PA is counter to the preservation of stock use as is the closing of an additional 17 meadows to grazing in the PA. If stock use is concentrated in fewer and fewer meadows, there is a greater potential for damage to the remaining meadows which will result in demands for more closures and more restrictions. The removal of drift fences and gates and hitching rails has a very significant negative effect on the wilderness experience of stock users.
[Recreational Group, #230]

For example, the proposal to convert the trail leading to Milestone Basin to a Class 1 trail would ultimately exclude pack stock users form this beautiful basin, which is of significant importance to stock users. Knowing the basin would be off-limits to stock users would diminish opportunities for unconfined recreation in park Wilderness.
[Recreational Group, #186]

Response: The removal of drift fences and hitch rails will decrease the level of development in wilderness, thus improving its wilderness character. Removing grazing from specific meadows will improve their naturalness, consequently improving wilderness character. Allowing grazing in many meadows allows the traditional activity of stock use in these parks to continue. Requiring stock users to be more self-reliant in holding and controlling their animals (to limit impacts) is also consistent with the preservation of wilderness character. Additionally, having meadows closed to grazing does not prohibit stock users from camping there, provided they carry feed and hold their animals. Park managers realize that these controls put more responsibility on the stock users, but believe that these controls are reasonable and achievable.

Concern 175: Stock have a greater impact on wilderness character than hikers.

> *Stock have a much bigger impact than hikers on the important stewardship goals of preserving the wilderness in an untrammeled state, in a natural state, and also reduce the sense of solitude.*
> [Individual, #39]

Response: Stock have impacts on wilderness resources, as do hikers. The emphasis of this WSP/EIS is to ensure that proper activities can occur in wilderness without undue impacts, which is why this plan proposes to implement a system of controls and restrictions in order to provide for "the use and enjoyment" and the preservation of wilderness character of these parks' wilderness lands.

Concern 176: A trail classification system is not necessary to protect wilderness.

> *Further, the draft WSP/EIS fails to demonstrate that the development of a Trail Classification System (i.e., new regulation) is necessary in order to preserve wilderness character.*
> [Recreational Group, #186]

Response: The development of a Trail Management and Classification System (see "Appendix K: Trail Management and Classification System for Sequoia and Kings Canyon National Parks") provides the parks' management with a consistent framework to maintain trails in wilderness. The Trail Management and Classification System is consistent with law and directly follows policy (see NPS *Management Policies 2006*, Section 6.3.10.2, and 9.2.2.2). Appendix K is a guiding document that these parks will use to ensure the preservation of wilderness character through consistent and appropriate management of trails.

Concern 177: Allowing stock manure in wilderness is a violation of the pristine character of the wilderness.

> *Manure catchers required on ALL stock animals (park-wide) for all day trips/rides. Manure to be packed out and disposed appropriately outside wilderness, or scattered away from trails and surface waters (including wetlands). NPS at SEKI to immediately begin research to test/develop manure catchers for overnight wilderness use (as it did to advance the development of bear-proof food canisters in the 1980s-90s), with goal of developing manure catchers for backcountry use within five years from execution of the ROD. Every five years after adoption of ROD, formally consider research results and require manure catchers for all stock use (park-wide) as soon as feasible. (See additional notes re: manure catchers, below.) Notes re: Manure Catchers: The DEIS improperly dismisses manure catchers with a single paragraph (at Vol. 1, p. 221). First, the DEIS acknowledges that manure catchers may be effective & for day trips, yet it fails to*

consider any alternative that would adopt this important mitigation measure for day trips. Such casual dismissal of an acknowledged potentially effective mitigation measure is arbitrary and capricious. Second, the DEISs arguments for why manure catchers may not be effective for longer wilderness trips appear to have been completely manufactured to arrive at a predetermined outcome (i. e. , business as usual). The NPS could require, for ALL commercial and administrative stock use, that manure catchers be worn and emptied (i. e. , manure scattered) away from surface waters and trails, which would in truth PREVENT the current concentration of stock manure on trails and PREVENT the controllable discharge of manure into water sources. The DEIS simply pronounces (without any reasoned analysis) that manure catchers are not suitable for typical trips in the parks wilderness because animals would be required to wear them for many hours or days. The DEIS provides no reasoned analysis at all to allow the public or decision-makers to understand why the authors concluded that wearing manure catchers for many hours somehow renders them not suitable as a mitigation measure in SEKIs wilderness. The truth is that manure catchers could greatly reduce the concentration of manure on trails, and substantially reduce the pollution of water sources by stock manure. Thus, this promising mitigation measure must be evaluated and considered in more detail.
[Recreational Group, #123]

Response: Preserving wilderness character involves maintaining the "primeval (i.e., natural) character," while allowing for primitive types of recreation. Stock use is an appropriate and accepted form of primitive recreation in the parks. Though some wilderness users find stock manure unpleasant, at current levels and the levels anticipated in the preferred alternative, it does not represent an unacceptable impact on wilderness character. The Wilderness Act does not mandate that a "pristine" environment be preserved, as the word "pristine" does not occur in the Act. Moreover, such an unreasonably stringent standard would preclude many common forms of visitor use and enjoyment of wilderness, because all visitor use is associated with some form of impact on wilderness character. Overnight camping, for example, is associated with vegetation loss that would fail to meet a "pristine" standard, but which is not considered to be an impairment of wilderness character. Impairment is the standard provided by the actual language of the Wilderness Act. The WSP/EIS, however, has been altered to include a series of mitigations on Stock Manure Handling Best Practices.

Wilderness – Cumulative Effects

Concern 178: The continued existence of the dams within wilderness should be considered in the cumulative effects analysis.

SCE recommends the addition of language to the Wilderness Stewardship Plan to implement section 1902(1)(C)(Footnote 1-1 0mnibus Public Land Management Act of 2009:Section 1902. Designation of Wilderness Areas: (1) John Krebs Wilderness (C) Potential Wilderness Additions - The designation of the potential wilderness additions (A) shall not prohibit the operation, maintenance, and repair of the small check dams and water impoundments on Lower Franklin Lake, Crystal Lake, Upper Monarch Lake, and Eagle Lake. The Secretary is authorized to allow the use of helicopters for the operation, maintenance and repair of the small check dams and water impoundments on these same lakes.) of the Omnibus Public Land Management Act of 2009 that ensures SCE can continue to perform operation, maintenance, and repair of its facilities, infrastructure, and associated access by roads, trails, and air.
[Business, #253]

Response: The statute designating the John Krebs Wilderness and the Sequoia-Kings Canyon Wilderness addition (PL 111-11, Omnibus Public Land Management Act of 2009) is referenced in the "Background" section of "Chapter 1: Purpose and Need" and in "Appendix E: Wilderness Legislation Related to Sequoia and Kings Canyon National Parks" (which contains the full text of the portion of the statute relevant to these parks). The existence of the dams, and the Designated Potential Wilderness Additions which they and their affiliated lakes lie within, are described in the "Private Lands, Non-Conforming Uses, and Retained Rights" section of chapter 1. The dams and existing operations related to the dams are included in the "Wilderness Character," "Special-Status Species," and "Cultural Resources" sections of "Chapter 3: Affected Environment." The dams and their maintenance operations are also discussed in the "Cumulative Effects Analysis Method" and "Wilderness Character" sections of "Chapter 4: Environmental Consequences."

Soils

Concern 179: The NPS should assess the potential impacts of stock on soil compaction under each of the alternatives.

> *The DEIS fails to reasonably assess the impacts of stock under the alternatives on soil compaction. This is a major defect, for several reasons. First, horses and mules inevitably and significantly compact soils that they travel over due to the relatively high pressure these animals exert on soils, which is up to 10 times greater than that from hikers (Pickering et al. , 2010). Second, all of the DEIS alternatives except Alt. 4 allow grazing by horse and mules in wet areas that are especially susceptible to compaction. Third, soil compaction has numerous adverse hydrologic impacts. Fourth, these impacts of soil compaction are quite significant for aquatic and meadow ecosystems. Fifth, it is well-documented that soil compaction lowers soil productivity significantly and persistently, due to its impacts on soil hydrology and root penetration. Sixth, although it is not reasonably disclosed in the DEIS, soil compaction is enduring. Seventh, the hydrologic and biotic impacts of soil compaction by stock are likely to combine with climate change impacts to exacerbate total ecosystem impacts.*
> [Business, #238]
>
> *The DEIS does not credibly differentiate among the alternatives with respect to stock-caused soil compaction. This is a severe defect because there is considerable difference among the alternatives in the total area, location of areas, and their susceptibility to compaction that are subject to stock travel and grazing.*
> [Business, #238]

Response: Information about the parks' soils is presented in "Chapter 3: Affected Environment" of the WSP/EIS and potential impacts to soils including compaction are analyzed in "Chapter 4: Environmental Consequences." The Natural Resource Conservation Service is conducting ongoing soil surveys (2011-2016) throughout the parks; these surveys have evaluated soil compaction, among other attributes. Preliminary results, which include targeted assessments of soils in meadows that are subject to grazing, indicate that there is no evidence of soil compaction in grazed meadows. This is consistent with the analysis in the WSP/DEIS, which concluded that evidence of compaction is largely absent from meadows subject to grazing. This additional information has been added to the WSP/FEIS with a summary of the meadow area subject to potential compaction by stock for each of the alternatives. For instance, of the approximately 23,000 acres of meadow throughout the parks, most grazing is expected to occur within 5,763 acres of named forage areas under the preferred alternative.

Concern 180: The NPS should assess the potential for erosion and resulting soil loss and sediment delivery to streams due to stock activities. The NPS should disclose the number of streams crossed by trails in order to make known the number of locations where stock on trails may elevate erosion and the delivery of sediment to streams. The NPS should differentiate among the alternatives with respect to potential impacts from erosion and sediment delivery.

> *The DEIS also fails, in many ways, to credibly assess stock-related erosion and resulting soil loss and sediment delivery to streams due to stock activities allowed under the alternatives. Available scientific literature unambiguously indicates that horse use elevates trail erosion. However, the DEIS fails to reasonably assess the magnitude and location of this elevated erosion and stream impacts under the alternatives, because it fails to examine and disclose the total number and length of locations where this is likely to occur under the alternatives.*
> [Business, #238]

> *It is well-established that a significant amount of sediment generated from disturbances that are within 100 feet slope distance of streams is ultimately delivered to the stream system (USFS and USBLM, 1997). The amount of trail within this distance of streams and lakes that is subject to stock use is also likely to significantly differ among some of alternatives due to the previously described differences in the length of trail open to stock travel (DEIS, Table ES-1, p. xv). However, the DEIS fails to assess and disclose the amount of trail subject to stock use that is within l 00 feet of streams and lakes under the alternatives. Therefore, the DEIS failed to reasonably examine and disclose the magnitude of trails that are likely to contribute to increased sediment delivery due to accelerated erosion caused by stock use.*
> [Business, #238]

Response: The analysis of soil erosion and impacts of sediment to water quality in "Chapter 4: Environmental Consequences" of the WSP/FEIS takes into account the impacts of stock activities. The WSP/FEIS has been revised to include an additional analysis of trail-stream crossings and trail segments within 100 feet of waterways. It is not feasible to isolate the contribution that stock make to sediment loads because of variations among slope, soil, bedrock, substrate, the size and seasonality of streams, local weather, antecedent conditions, and local utilization levels at the scale of such crossings. The additional analysis provided in the WSP/FEIS does not change the conclusions reached in the WSP/DEIS about the expected impact of the alternatives on erosion.

Concern 181: The NPS should analyze bare ground conditions in grazed meadows and the potential effect of elevated bare ground on soils and resources, which may be affected by soil loss and sediment-related impacts. The NPS should include bare ground data collected as part of the existing monitoring protocols in the analysis of environmental effects.

> *The DEIS also fails to reasonably disclose the erosional impact of bare ground in grazed meadows. Legions of studies have consistently documented that erosion on bare soil is vastly elevated relative to vegetated soils, although this well-documented effect is not adequately disclosed or properly analyzed.*
> [Business, #238]

> *The DEIS also fails to adequately analyze the likely impacts of the alternatives allowed stock grazing on bare ground levels and related erosional impacts in meadows subject to stock grazing. Notably, the DEIS (p. 416) acknowledges that grazing can increase bare ground in meadows. Cole et al. (2004) documented that bare ground increased with*

increased grazing in mountain meadows. The DEIS's failure to reasonably examine bare ground effects under the alternatives is a considerable defect. The alternatives differ considerably in the extent and level of stock grazing, which affect bare ground levels. This defect must be rectified by assessing likely impacts of the alternatives on bare ground levels in meadows, taking into account existing bare ground conditions, and resulting impacts on erosion, topsoil loss, soil productivity, sediment delivery and affected aquatic systems.
[Business, #238]

The DEIS fails to analyze and disclose bare ground conditions in meadows and it's effect on soils and resources affected by soil loss and sediment-related impacts. SEKI's own data indicate several meadows have significantly elevated levels of bare ground, although this is not analyzed or described in the DEIS. Based on the bare ground criteria for ecological condition classes among Sierra Nevada meadow types (DEIS, App. D, Table D-3, p. D-25), bare ground data for grazed meadows (Abbott et al., 2003; Haultain and Frenzel, 2012; Hopkinson et al. , 2013), meadows with elevated bare ground levels indicative of low ecological condition include: Colby, Redwood, Big Pete, Wallace, Lower Crabtree, Rock Creek Crossing, and Rock Creek Lake meadows. There are but a few examples from available data-it is likely there are many more meadows in low ecological condition due to elevated bare ground within SEKI.
[Business, #238]

Elevated erosion from bare ground near streams contributes to elevated sedimentation, turbidity, and suspended sediment levels. These impacts adversely affect aquatic macroinvertebrates, as the DEIS acknowledges. Elevated sediment delivery to lakes reduces their volume over time, contributing to accelerated lake loss via sedimentation. Elevated turbidity harms the natural aesthetics of wilderness streams.
[Business, #238]

Response: "Chapter 4: Environmental Consequences" of the WSP/FEIS has been revised to include additional analysis of the number of forage areas and total meadow area that could potentially have elevated levels of bare ground due to grazing. A range of possible changes in bare ground under each alternative is also presented. In most instances it is unlikely that erosion would be exacerbated by bare ground because the low slopes and surrounding vegetation found in meadows would resist sediment transport. Data collected as part of the residual biomass monitoring protocol provides an estimate of bare ground in some meadows, and this information is used to inform management actions as part of the adaptive management program. The additional analysis in the WSP/FEIS does not use bare ground data from residual biomass plots to describe current condition or assess condition under the action alternatives. The biomass plots are located specifically to quantify conditions in individual meadows and to inform site specific management actions. Generalization of impacts from residual biomass plots to all meadows in the parks is not appropriate as those subjectively chosen sites are limited in number, not representative of entire meadows, and are not representative of all meadows open to stock use.

Concern 182: The NPS should ensure the timely adjustment of stock use in response to increases in bare ground and resulting potential erosion of meadow soils.

The DEIS also fails to adequately analyze the likely impacts of the alternatives allowed stock grazing on bare ground levels and related erosional impacts in meadows subject to stock grazing. Notably, the DEIS (p. 416) acknowledges that grazing can increase bare ground in meadows. Cole et al. (2004) documented that bare ground increased with increased grazing in mountain meadows. The DEIS's failure to reasonably examine bare

ground effects under the alternatives is a considerable defect. The alternatives differ considerably in the extent and level of stock grazing, which affect bare ground levels. This defect must be rectified by assessing likely impacts of the alternatives on bare ground levels in meadows, taking into account existing bare ground conditions, and resulting impacts on erosion, topsoil loss, soil productivity, sediment delivery and affected aquatic systems.
[Business, #238]

Response: "Appendix D: Stock Use and Meadow Monitoring and Management Strategy" of the WSP/EIS describes how bare ground levels in meadows ("Bare Soil" section) and the potential for erosion in areas of stock use ("Site Visits and Condition Assessments" section) would be monitored. Appendix D describes how this monitoring would be used to ensure timely adjustments to stock use using several management tools described in the "Grazing Management Tools and Techniques" section.

Concern 183: The NPS should assess the impacts of stock activities on organic matter in soils. The NPS should include residual biomass data collected as part of the existing monitoring protocols in the analysis of environmental effects to assess whether stock grazing has reduced sources of organic matter in meadow soils. The NPS should analyze the location, number, and area of meadows that may be subject to depletion of sources of organic matter as reflected in residual biomass monitoring results.

The DEIS fails to reasonably assess the impacts of stock activities allowed under the alternatives on organic matter in soils. This is key defect because organic matter is vital to important soil functions, such as soil productivity (the capacity of soil to provide plant growth) and soil hydrology, including the ability of soils to absorb, store, and release water from snowmelt and rain. Soils higher in organic matter are have higher infiltration rates and are able to store more water, other factors being equal. All of these factors influence the function and condition of meadows and affected aquatic ecosystems.
[Business, #238]

The FEIS must disclose the location, number, and area of meadows that have likely undergone significant depletion of sources of organic matter, based on the failure to meet residual biomass targets. The FEIS must also examine and disclose the depletion of sources of organic matter in soil due to the stock activities allowed under the alternatives, and its persistent effect on ecosystem functions and conditions.
[Business, #238]

Response: "Chapter 4: Environmental Consequences" of the WSP/FEIS has been revised to disclose the potential impacts of grazing on the form and total amount of soil organic matter and to include additional analysis of the number of forage areas and total meadow area that could have altered levels of soil organic matter due to grazing. Chapter 4 has also been revised to describe the potential magnitude of the impacts to soil organic material under each alternative. This analysis discloses that that there is likely minimal impact on most nutrient pools at the proposed grazing levels and that the meadow area subject to these minimal impacts varies across alternatives. Data collected as part of the residual biomass monitoring protocol provides an estimate of utilization in some grazed meadows and productivity in some ungrazed meadows, and this information is used to inform management actions as part of the adaptive management program. The additional analysis in the WSP/FEIS does not use utilization or productivity data from residual biomass plots to describe current condition or assess condition under the action alternatives The biomass plots are located specifically to quantify conditions in individual meadows and to inform site specific management actions. Generalization of impacts from residual biomass plots to all meadows in the

parks is not appropriate as those subjectively chosen sites are limited in number, not representative of entire meadows, and are not representative of all meadows open to stock use.

Concern 184: The NPS should assess the potential for cumulative soil productivity impacts due to stock activities. The NPS should use available residual biomass monitoring data to assess meadow condition relative to soil productivity.

> *Stock grazing and trampling degrades soil productivity in numerous ways, including via the combined impacts of compaction and the loss of topsoil and organic matter in soils. However, the DEIS does not reasonably assess cumulative soil productivity impacts due to stock activities allowed under the alternatives. This is a severe defect, because it is well-established that stock grazing impacts reduce soil productivity, as Cole et al. (2004) also documented in mountain meadows.*
> [Business, #238]
>
> *The DEIS does not properly make known that there is considerable evidence that soil productivity has been significantly diminished by stock in many grazed meadows in SEKI. RBM data indicate that many of these meadows are in a poor condition with respect to the production of plant biomass.*
> [Business, #238]
>
> *The DEIS (e.g., App. D.) concedes that proposed grazing levels under several of the alternatives will further degrade productivity in many meadows. The FEIS must examine these alternatives' continued impacts on soil productivity in combination with existing conditions to reasonably differentiate among the alternatives with respect to soil productivity. The FEIS must also disclose that the Alt. 4 is likely to contribute to increasing soil productivity over time in the meadows of SEKI by reducing grazing and associated trampling impacts due to the alternatives' prohibition on grazing by stock.*
> [Business, #238]

Response: "Chapter 4: Environmental Consequences" of the WSP/EIS assesses and discloses impacts to productivity from stock use using methods described in the vegetation methodology section. The analysis includes an estimate of the number of forage areas and total meadow area that would be predicted to have impacts to productivity due to grazing and the predicted degree of the change in productivity under each alternative. Data collected as part of the residual biomass monitoring protocol does not estimate productivity but does provide an estimate of the amount of biomass (absolute value or percentage) remaining on the most heavily grazed portion of selected meadows at the end of the season. This information is used to inform management actions as part of the adaptive management program. The WSP/EIS does not use the data from residual biomass plots to describe current condition or assess condition under the action alternatives. The biomass plots are located specifically to quantify conditions in individual meadows and to inform site specific management actions. Generalization of impacts from residual biomass plots to all meadows in the parks is not appropriate as those subjectively chosen sites are limited in number, not representative of entire meadows, and are not representative of all meadows open to stock use.

Concern 185: The NPS should assess the potential effects of stock activities on soil nutrification, including the potential impacts of soil nutrient enrichment on nonnative invasive vegetation and ecosystem function.

> *The DEIS fails to reasonably examine soil nutrification due to stock activities allowed under the alternatives. This is a severe defect, because nutrient enrichment of soil by*

horses is known to be a significant impact (Pickering et al., 20 l 0), although this is not adequately examined or disclosed in the DEIS. Due to the volume and composition of excreta, horses have far greater effect on soil nutrient enrichment than hikers (Pickering et al. , 2010), although this is not adequately examined or disclosed in the DEIS.

Trails, tethering areas, and other areas with considerable use can become considerably enriched with nutrients, favoring non-native vegetation (Pickering et al. , 2010). Nutrients leached from nutrient-enriched soils to water bodies accelerate eutrophication, including increased algal biomass, loss of water clarity, and degradation of natural aesthetics. This is already happening in SEKI where data indicates that phosphorus is elevated in surface water draining areas with stock use (Clow et al. , 2014). Research has documented elevated algal biomass in waters draining areas with stock use in SEKI (Ursem et al. , 2009; Derlet et al. , 2012). This contribution to accelerated eutrophication of alpine lakes is significant because it interacts with climate change, which is likely to accelerate eutrophication in various ways (Jeppesen et al. , 2010).
[Business, #238]

The DEIS did not adequately assess the alternatives cumulative impacts on the spread and establishment of nonnative vegetation.
[Business, #238]

Response: The vegetation methodology section in “Chapter 4: Environmental Consequences” recognizes that grazing animals can redistribute nutrients and indirectly favor nonnative species. Chapter 4 assesses the potential for nutrient enrichment of soils. The magnitude of these impacts largely depends on the extent and intensity of grazing and stock travel. Recent studies of managed grazing in Sierra Nevada montane meadows similar to those found in the parks have concluded that there is minimal impact on most soil nutrient pools due to moderate grazing (Blank and Morgan 2010). The impact analysis in chapter 4 concludes that the extent and intensity of grazing and stock travel under the action alternatives 2, 3 and 5 will be light to moderate and therefore will likely not result in soil nutrification.

Concern 186: The NPS should assess potential nutrient loading to soils by stock. The NPS should couple known grazing levels for different areas with animal/day nutrient excreta estimates to generate estimates of potential nutrient input to soils.

The DEIS's significant defects regarding soil nutrient enrichment by stock must be rectified. SEKI has data to tractably provide estimates of nutrient loading to soils by stock, including animal unit night (AUN) estimates for different areas (e.g., Hopkinson et al. , 2013). This can be used with animal/day nutrient excreta data to provide estimates of nutrient input to soils. The FEIS should also identify areas that are likely hotspots for soil nutrient enrichment. The DEIS's deficiencies in these respects should also be corrected by properly discussing the impacts of soil nutrient enrichment on critical ecosystem processes and conditions, including nonnative invasive vegetation, water quality, synergy with climate change, and the naturalness of ecosystem appearance and function.
[Business, #238]

Response: Nutrients present in the manure of grazing stock are obtained from the vegetation the animals graze upon and are returned to an environment where they can be assimilated by plants or soils. In the wilderness, nutrients do not accumulate in the same way as manure from animals fed imported hay in unvegetated corrals. Therefore, total manure production does not provide an accurate estimate of the effects of stock use on nutrient availability. The WSP/EIS acknowledges that these nutrients could be redistributed from grazed areas to loafing areas, camps, and trails where the nutrients can favor some

species over others. Recent studies (Blank and Morgan 2010 and Norton et al. 2013) found that moderate grazing had a minimal impact on most pools of nutrients stored in meadow soils in the Sierra Nevada. Best management practices for handling stock manure are described under mitigations in Chapter 2 of the WSP/EIS.

Water Resources

Concern 187: The WSP/EIS does not fully analyze the potential impacts on water quality from stock use. Stock use could impact water quality through increased nutrient loading and eutrophication, increasing erosion and sedimentation, and contributing biological waste to surface water.

> *Stock, particularly horses and mules, introduce a significant amount of manure to wildlands in SEKI, resulting in significant nutrient loading to SEKI watersheds. This includes the direct deposition of stock manure at stream fords, which the DEIS (p. 474) acknowledges, but fails to properly assess in regard to nutrient loading and consequent eutrophication of water bodies. Nutrients from stock manure are also ultimately transported to SEKI waters via surface runoff (Clow et al., 2013) and leaching from soils. Nutrient delivery to SEKI waters is extremely significant impact because it accelerates eutrophication, including increased algal growth which causes a loss of water clarity and degradation of natural aesthetics.*
> [Business, #238]
>
> *The DEIS fails to note that the documented elevated biological pollution in waters draining areas subject to stock use in SEKI comport with the nature of excreta deposition by stock. Unlike hiker excrement, which is buried, stock excreta is deposited on the soil surface where it is easily transported by surface runoff. Stock animals also produce far greater levels of excreta than hikers (Pickering et al., 2010). As the DEIS acknowledges, stock excreta is also commonly deposited directly in streams at fords. Although it is not made known or analyzed in the DEIS, stock excreta is also frequently deposited directly in streams in areas open to stock grazing.*
> [Business, #238]
>
> *Many wet meadows subject to stock grazing are also hydrologically connected to streams and lakes, resulting in the relatively efficient and rapid conveyance of significant levels of biological contamination to water bodies. It is well-established that stock manure, particularly from horses, has appreciable levels of pathogenic contaminants (Derlet et al., 2008; Pickering et al., 2010).*
> [Business, #238]
>
> *The DEIS does not properly assess the impacts of allowed pack stock activities under the alternatives on water quality*
> [Recreational Group, #235]

Response: The WSP/EIS assesses the impacts of stock use to water quality from nutrients in "Chapter 4: Environmental Consequences." The NPS has reviewed numerous rigorous studies to assess anthropogenic nutrient enrichment, particularly atmospheric deposition of regionally and globally derived nutrients (e.g., Clow et al. 2013; Fenn et al. 2003; Vicars et al. 2010). This information is used to assess the potential impacts from visitor use, including stock use. These studies indicate that atmospheric deposition of nutrients is many times greater than those derived from stock (Vicars et al. 2010 and Fenn et al. 2003). Additionally, atmospheric nutrients are introduced into the parks from outside sources, while grazing

stock do not introduce additional nutrients into the ecosystem but primarily accelerate conversion and redistribute nutrients derived from meadow vegetation growing within the parks. Riparian vegetation and soils are very effective at capturing nutrients from non-point nutrient sources such as manure (Mayer et al. 2007; Dosskey et al. 2010).

The WSP/EIS assesses the impacts of stock use to water quality from pathogens in chapter 4. The NPS is aware of anecdotal reports of increased water-borne algae (i.e., eutrophication). Some studies have attempted to link water quality impacts such as coliforms or eutrophication to stock, but they lack the scientific rigor necessary to inform NPS management decisions. Clow (2013) provides the best indication of current water quality conditions in the parks' wilderness. Clow (2013) found low levels of *E. coli*, nutrient, and particulates in the parks except during some storms when values increased for short periods of time and concluded that visitor use appears to have a small but statistically significant influence on stream water quality. It is unlikely that any ecologically significant impacts arise from these small changes. There is no scientifically robust literature indicating that the levels of recreational and administrative stock use like that which occurs in the parks results in eutrophication, and it is possible that atmospheric deposition of nutrients coupled with rising average annual temperatures and fewer river-scouring flows could be responsible for some increase in eutrophication.

The WSP/EIS assesses the impacts of stock use to water quality due to erosion and sedimentation in the "Soils" sections of "Chapter 3: Affected Environment" and "Chapter 4: Environmental Consequences." Incised trails are clear indications that human and stock traffic contribute to soil loss, but there is no evidence that levels of erosion under current or proposed alternatives threaten any ecological systems within the wilderness. Additional information about the extent of stock use impacts to bare ground in meadows and the number of trail stream crossings has been added to the WSP/FEIS analysis, although this new information does not change the conclusion that current water quality conditions found throughout wilderness are generally good, the magnitude of potential effects is small, and potential effects of visitor use would be localized.

Concern 188: The WSP/EIS does not adequately assess the potential magnitude of sediment-related water quality degradation from stock use. The NPS should provide an analysis of the number of locations, such as at trails and grazing areas adjacent to streams.

> *The DEIS fails to provide an index of the magnitude of water quality degradation by sediment under the alternatives, because the DEIS did not examine and disclose the total number of locations where sediment delivery from stock impacts are likely to occur under the alternatives. The DEIS (p. 474) acknowledges that stock use at stream fords results in the delivery of elevated soil erosion to streams. However, the DEIS does not examine or make known the number of such fords by trails open to stock use under the alternatives. The DEIS also fails to assess and disclose the amount of trail subject to stock use and meadows open to grazing that is within 100 feet of streams under the alternatives. In so doing, the DEIS did not even provide indices of the impacts of allowed stock activities under the alternatives, and, thus, fails to adequately differentiate among the alternatives with respect to their sediment-related impacts on water quality.*
> [Business, #238]
>
> *The DEIS fails to adequately assess stock impacts on stream banks, and resulting effects on sediment-related water quality conditions due to stock activities. Streambank damage by stock is especially likely where stock graze along stream banks or access streams for water.*
> [Business, #238]

Response: The WSP/EIS assesses the impacts of stock use to water quality due to erosion and sedimentation in "Chapter 3: Affected Environment" and "Chapter 4: Environmental Consequences." The mechanisms that lead to erosion are disclosed in the WSP/EIS in the " Factors That Contribute to Soil Impacts" section of chapter 4 and are: climate, topography, soils, and land use. Stock are considered under the "land use" category. Because stock impact soils in various ways as they move through the parks, it is difficult to ascertain impacts due to differing land uses at each site open to stock. Confounding any analysis, land use must be considered alongside climate, topography, and soils. Climate and vegetation varies spatially and temporally throughout the parks. Topography and soils also vary widely throughout the parks. As a result, it is not possible to isolate the amount of sediment that stock contribute to water quality from that generated by other contributing sources. The WSP/EIS has been revised to include an additional analysis of trail-stream crossings and trail segments within 100 feet of a waterway.

The WSP/EIS describes current conditions and explains that erosion is correlated to the different use levels associated with each alternative. Furthermore, the WSP/EIS provides an adaptive management framework that allows the NPS to monitor conditions and take actions when warranted.

Historically, there was evidence of grazing-induced stream erosion and incision resulting from prolonged grazing of domestic livestock (cattle and sheep). Those historic grazing patterns were orders of magnitude greater in scope and intensity than the grazing that occurs today in the parks. Along with the prohibitions on domestic livestock production within the parks, the NPS also works to mitigate and rehabilitate streams and meadows that were damaged by past livestock grazing. Under current conditions, there is little evidence of accelerated streambank erosion due to stock and streams appear to be within their natural range of variability. It is likely that impacts due to stock and foot traffic are slight and not significant against the backdrop of natural impacts due to wildlife.

Leave No Trace© and NPS guidelines provide guidance to stock users regarding best management and handling practices to minimize impacts to streambanks. These are communicated to all stock users both prior to entering the wilderness and during field contacts. Streambank alteration is assessed qualitatively during site visits to meadows and as a part of regularly scheduled meadow monitoring activities. The proposed adaptive management strategy provides tools for more quantitative measures of streambank alteration as conditions warrant.

Concern 189: The WSP/EIS does not fully assess the potential of stock to alter hydrologic regimes in meadows.

> *The DEIS does not reasonably analyze and disclose the impacts of allowed pack stock activities under the alternatives on ecosystem hydrology (quantity, pathways, and timing).*
> [Recreational Group, #235]
>
> *The DEIS did not properly assess the cumulative effect of existing conditions and stock activities allowed under the alternatives on the timing, quantity, pathways and storage of water in SEKI ecosystems. This a severe defect, because: a) these hydrologic conditions and processes profoundly affect ecosystems; b) they have already been significantly altered by stock grazing and trampling, particularly in meadows; d) the impacts are on hydrology are highly persistent, and, c) they will continue to be significantly affected by stock activities allowed under the alternatives.*
> [Business, #238]
>
> *Stock trails also significantly alter hydrology in areas with naturally high water tables, such as wet meadows. Stock use significantly deepens trails (Abbott et al. , 2003;*

> *Pickering et al. , 2010). Deepened trails are more likely to intersect shallow groundwater in wetter meadows, effectively acting as groundwater drains that lower water tables, desiccating meadows and reducing late summer and fall sources of streamflow. The physics of water flow in soils makes this draining of groundwater inevitable when trail incisions intersect water tables (Kirkby, 1978) and the phenomena is commonly and easily observable in wet meadows with deep stock trails in the Sierra Nevada. The incisions by stock-deepened trails in meadows also act as barrier to downslope movement of water in soils (Kirkby, 1978), which can result in desiccation of areas downslope of entrenched trails.*
> [Business, #238]

> *The DEIS must be revised to rectify the defects related to the hydrologic impacts of packstock. In order to provide indices of hydrologic alteration, the FEIS must identify the number, area, location and types (e.g., fen, wet, etc.) of meadows that have had significant reductions in organic matter sources and soil compaction due to grazing. As discussed in the foregoing, SEKI has the data on stock use and biomass to provide such indices. The FEIS should also assess and make known the number, area, location and types (e.g., fen, wet, etc.) of meadows affected by stock trails, in order to provide an index of hydrologic alteration due to stock trails. Because hydrologic alteration also affects stream flows, these indices of hydrologic alteration must be assessed and made known at the scale of subwatersheds.*
> [Business, #238]

Response: The WSP/EIS assesses the potential for altered meadow hydrologic regimes in the "Soils" and "Vegetation" sections of chapter 4. "Chapter 3: Affected Environment" and "Chapter 4: Environmental Consequences" of the WSP/EIS disclose impacts due to erosion and compaction and how this can impact meadow vegetation. Although stock have the potential to alter hydrologic regimes in meadows by contributing to increased erosion and compaction, there is no evidence that current levels of stock use significantly alter hydrologic regimes in wilderness meadows.

Additional information has been added to the "Soils" section of chapter 4 that further assesses the extent and magnitude of impacts to soil compaction and erosion potential from stock use. Historically, meadows in some locations experienced substantial hydrological effects as a result of past management practices (see the "Irreversible or Irretrievable Commitment of Resources" section of chapter 4 and the "History of Stock Use and Associated Impacts" section of "Appendix D: Stock Use and Meadow Monitoring and Management Strategy"). Records of these historical impacts serve as guideposts for future actions, and current meadow management protocols are sufficiently stringent to protect meadow hydrology. Proposed alternatives would not threaten hydrologic regimes within the wilderness. Under all alternatives, the parks would continue to evaluate impacts to stream channels in meadows using the monitoring strategy in appendix D and manage stock use to ensure that alterations to hydrologic regimes do not occur.

Vegetation and Riparian Areas

Concern 190: The WSP/EIS does not sufficiently assess the potential impacts on vegetation from nonnative species, especially due to stock use and grazing. The NPS should assess the interaction of bare ground in meadows subject to grazing and the potential introduction and spread of nonnative plants.

> *There is also the issue of pack animals bringing in non-native invasive weeds on their hooves and in their feed. There needs to be some regulation that addresses this problem.*
> [Individual, #130]

> *The DEIS did not adequately assess the alternatives cumulative impacts on the spread and establishment of nonnative vegetation.*
> [Business, #238]
>
> *Despite the DEIS's recognition that bare ground and stock grazing increase the probability of additional nonnative vegetation invasions, the DEIS does not assess the interaction of existing bare ground in meadows that are subject to grazing under the alternatives.*
> [Business, #238]
>
> *The combination of stock grazing's effects on propagules introduction and bare ground greatly increases the likelihood of the establishment and spread of nonnative vegetation (DEIS, p. 416). Therefore, the DEIS's failure to assess bare ground conditions in meadows subject to grazing under the alternatives renders the assessment of grazing impacts on nonnative vegetation severely flawed and inadequate.*
> [Business, #238]

Response: The WSP/EIS describes the impacts on nonnative species establishment on vegetation and the role of disturbance and bare ground on the potential for nonnative species introductions (see the "Vegetation" sections of "Chapter 3: Affected Environment" and "Chapter 4: Environmental Consequences"). The WSP/EIS notes that grazing can elevate bare ground levels and that grazing related disturbance increases the risk of nonnative plant establishment. The analysis of nonnative species introductions in the WSP/EIS takes into account the role of stock in creating bare ground and nonnative species introductions. Data collected as part of the residual biomass monitoring protocol provides an estimate of bare ground in some meadows, and this information is used to inform management actions as part of the adaptive management program. However, it is not appropriate to extrapolate from the residual biomass plots — which are located specifically to quantify conditions in individual meadows and to inform site specific management actions — to all meadows in the parks because these subjectively chosen sites are limited in number, are not representative of entire meadows, and are not representative of all meadows open to stock use. In addition, the WSP/EIS has been revised to include an estimate of the expected extent and degree of bare ground impacts in meadows under the alternatives. This additional analysis has not changed the conclusions reached in the WSP/EIS about the expected impact of the alternatives on nonnative species introductions. In order to further minimize nonnative species introductions, all of the action alternatives including the preferred alternative would prohibit the use of unprocessed feed products in wilderness, incorporate information about nonnative plant introductions into educational and outreach materials, and systematically monitor areas used by stock in order to detect and manage nonnative plants should they be introduced.

Concern 191: The WSP/EIS does not sufficiently assess the effectiveness of proposed mitigation measures related to limiting the introduction and spread of nonnative plants by stock.

> *The DEIS also fails to reasonably assess the effectiveness of proposed measures related to stock management effects (App. D) and nonnative vegetation strategy (App. N) with respect to limiting the spread of nonnative vegetation. This is a serious deficiency in the DEIS, because the approaches in App. N and App. Dare unlikely to be effective in stemming ongoing nonnative vegetation invasions due to the lack of required effective measures to reduce the spread of nonnative vegetation. Instead of applying more effective measures to limit nonnative vegetation spread and establishment, such as those previously discussed, App. N and App. D primarily rely on detection of infestations and post-detection treatments. It has long been recognized that post-detection treatments are*

> *generally ineffective at stemming nonnative vegetation invasions and are far more ineffective than preventing nonnative vegetation establishment. These limitations of the nonnative vegetation strategies in App. D and N must be adequately assessed and disclosed in the FEIS.*
> [Business, #238]
>
> *As another example, App. N recognizes that stock manure is a vector for weed spread and requires that it be removed from corrals. However, App. N makes no similar requirement for the significant amount of stock manure deposited in backcountry wilderness areas.*
> [Business, #238]

Response: "Appendix D: Stock Use and Meadow Monitoring and Management Strategy" and "Appendix N: Strategy for Reducing Nonnative Plants in Wilderness" describe a number of tools for detecting and addressing resource concerns, including widely accepted methods for preventing, detecting, and responding to nonnative plant introductions. These tools are incorporated into the action alternatives as mitigation measures. The mitigation strategies do not rely solely on prevention or eradication of nonnative plants but consist of a number of overlapping prevention, early detection, and eradication measures, including measures specifically targeted to stock use.

The WSP/EIS adopts several measures specifically designed to mitigate the potential introduction of nonnative plants by stock. These include the requirement to use processed feed or fermented hay, removal of invasive plants around NPS and concession stables, targeted monitoring of areas used by stock, and limitations on stock travel and grazing in sensitive areas such as Kern Canyon meadows where velvetgrass (*Holcus lanatus*) control efforts are ongoing. The alternatives allow the parks' managers the option of initiating additional stock closures as needed to address invasive plant concerns. The WSP/EIS also discusses the effectiveness of mitigation measures proposed to limit the introduction and spread of nonnative plants by stock. For example, the WSP/EIS explains that the requirement to use processed feed or fermented hay will likely reduce but not eliminate the possible introduction of nonnative plants from stock.

The assessment of the expected environmental consequences of the alternatives in the WSP/EIS explicitly takes the probability of success of the prevention and early detection mitigations into account (see the "Factors that Contribute to Vegetation Impacts" subsection of the "Vegetation" section in "Chapter 4: Environmental Consequences").

Concern 192: The WSP/EIS does not sufficiently examine the relationship between plant productivity and elevation and the vulnerability of meadow vegetation to grazing impacts. One commenter suggested that the WSP/EIS does not properly disclose the conclusions of an internal NPS report assessing meadow vegetation and residual biomass in grazed meadows (Schelz, 1996). This report recommended that meadows at elevations greater than 9,700 feet in the parks be closed to grazing due to their low production of vegetation and their high degree of sensitivity to the adverse impacts of grazing.

> *The DEIS does not properly disclose that SEKI's own report assessing meadow vegetation and residual biomass in grazed meadows (Schelz, 1996) recommended that meadows at elevations greater than 9,700 feet in SEKI be closed to grazing due to their low production of vegetation and their high degree of sensitivity to the adverse impacts of grazing. Backcountry reports have also recommended closing meadows above 10,000 feet to grazing due to their sensitivity to impacts (Kenan, 2001). The DEIS fails to*

> *disclose this information and that SEKI's own data indicate, in several ways, that these recommendations are sound.*
> [Business, #238]
>
> *The DEIS's (p. 221) suggestion that the meadow moisture availability at higher elevations affects productivity is not particularly relevant nor does it provide a sound reason for eliminating grazing of higher elevation meadows. Wetter meadows, which tend to have higher plant productivity than drier meadows, are more susceptible to persistent and highly cumulative physical damage to from stock grazing, as previously discussed. Further, the DEIS's own estimates of plant productivity for moist and wet meadows are made solely as a function of elevation, under the incorrect assumption that they are in "good" condition (pp. D-42 to D-43, App. D).*
> [Business, #238]

Response: Areas closed to all grazing vary across alternatives and include many of the higher elevation areas of the parks. Maps provided in “Chapter 2: Alternatives” and as supplementary information at http://parkplanning.nps.gov/sekiwild display these areas, and summaries of the meadow and wetland acreage open to grazing in “Chapter 4: Environmental Consequences” disclose the impact of the alternatives.

Under alternatives that allow grazing, the WSP/EIS describes in chapter 4 and throughout “Appendix D: Stock Use and Meadow Monitoring and Management Strategy” how productivity generally decreases with elevation and therefore the ability to sustain grazing on a per-area basis also decreases with elevation. None of the available data or scientific literature indicates that there is a threshold elevation above which properly managed grazing has unacceptable impacts. In an internal NPS report, Schelz (1996) recommended that grazing of low-productivity, high-elevation meadows should be re-evaluated during the WSP/EIS process and provided the following caveat regarding the recommendation to close all high elevation meadows to grazing: “The following recommendations call for drastic changes in the way stock use is managed and controlled in our wilderness meadows. Thus, these should be regarded as goals for the near future which should be included in the upcoming Wilderness Management Plan.” Elevation is known to be a driver of biophysical processes — including plant productivity and decomposition — and thus influences the ability of meadows and uplands to sustain grazing. However, other factors such as moisture availability are also important and do not always correlate with elevation. Therefore, after careful consideration, a single elevation limit above which grazing would be prohibited was dismissed from detailed analysis (see the “Alternative Elements Considered but Dismissed from Detailed Analysis” section of chapter 2).

Rather than adopting a single elevation limit, elevation and productivity have been incorporated into the analysis of impacts and the stock use management strategy in several ways. Under the management strategy in appendix D, productivity is one of the factors used to set limits on the total amount of grazing allowed in each open meadow per season. Utilization values used to set limits on the total amount of grazing per meadow per season take into account the elevation zone of each meadow and the sensitivity of vegetation types in each meadow (spanning a spectrum of wetness) to different kinds of impacts.

Concern 193: The NPS should base estimates of plant productivity and site specific grazing capacities on existing residual biomass monitoring data rather than modeled productivity estimates.

> *SEKI has relatively abundant data on biomass production in the meadows of SEKI that can be assessed the accuracy of plant production estimates and resulting estimates of*

forage availability and use levels in App. D. However, the DEIS is devoid of any such tractable and critically important analysis.
[Business, #238]

The DEIS plainly failed to use SEKI's own data to reasonably assess meadow productivity and grazing capacity. a) DEIS significantly overestimates meadow productivity and grazing capacity in SEKI meadows; and, b) that the DEIS's unwarranted assumption that SEKI meadows are in "good" condition with respect to productivity (DEIS, p. D-42 to D-43, App. D) is unsound and in conflict with available data on actual plant biomass productivity in the meadows of SEKI.
[Business, #238]

Response: Residual biomass data on ungrazed reference sites does provide an estimate of productivity for a portion of individual meadows, and where applicable, that information has been used to evaluate and inform the modeled grazing capacity estimates. However, it is not appropriate to extrapolate productivity from residual biomass plots to all meadows in the parks to develop grazing capacities. The plots are located specifically to quantify conditions in individual meadows and to inform site specific management actions. The subjectively chosen study sites are limited in number, are not representative of entire meadows, and are not representative of all meadows open to stock use. Capacities calculated with the productivity values in “Appendix D: Stock Use and Meadow Monitoring and Management Strategy” would be used as a starting point for managing the total amount of grazing to levels that limit stock induced changes to plant composition, density, cover and/or vigor, and productivity. As noted in appendix D, these capacities have been and would continue to be refined in the future through the adaptive management approach adopted in the parks’ proposed strategy for monitoring and managing grazing in wilderness. This flexibility will allow the parks to incorporate future monitoring results as well as any new information about meadow characteristics and the relationship between grazing levels and impacts into the management of grazing. Finally, grazing capacities would be only one of several management tools to limit impacts from grazing stock. For example, management action would be taken to address resource concerns identified during monitoring even if grazing capacities were higher than the use levels that precipitated the concerns.

Concern 194: The WSP/DEIS does not fully assess the condition of meadows that would be subject to continued grazing under the alternatives. The NPS should incorporate existing bare ground monitoring data into the analysis of environmental effects in order to assess the extent of compaction and potential susceptibility to erosion of meadow soils.

The DEIS fails to examine and disclose the condition of meadows in SEKI, including those that would be subject to grazing under the various alternatives. This is a key defect in the DEIS, because continued grazing of degraded meadows is likely to perpetuate or exacerbate their degraded condition. Such an assessment of meadow condition is quite tractable. Although the impacts of stock grazing in meadows are strongly influenced by ecological conditions in meadows, the DEIS failed to assess actual meadow conditions in assessing the impacts of allowed grazing in meadows under the alternatives. Therefore, the DEIS failed to reasonably assess grazing impacts and properly differentiate among the alternatives. These defects must be rectified by rationally factoring meadow conditions in meadows subject to grazing under the alternatives into the assessment of grazing impacts under the alternatives.
[Business, #238]

Response: The analysis of grazing impacts on vegetation in “Chapter 4: Environmental Consequences” of the WSP/EIS provides an assessment of the current extent and degree of grazing impacts by using

current grazing levels to describe these impacts for alternative 1. These include expected impacts to productivity, basal vegetation cover, and relative abundance of graminoids. Chapter 4 of the WSP/FEIS has been revised to include an estimate of the expected extent and degree of bare ground and compaction impacts in meadows under each of the alternatives. Ongoing soil surveys being conducted throughout the parks by the Natural Resource Conservation Service have evaluated compaction among other attributes. Preliminary results, which include targeted assessments of soils in meadows that are subject to grazing, indicate that there is no evidence of soil compaction in grazed meadows (Cathy Scott, pers. comm. 2014). This supports the observation that visible evidence of compaction is largely absent from meadows subject to grazing. Neither the limited bare ground data available in residual biomass plots nor the new bare ground analysis in the WSP/FEIS change the conclusions reached in the WSP/DEIS about the expected impacts — including soil compaction, erosion, loss of ground cover — of the alternatives on soils or vegetation.

Data collected as part of the residual biomass monitoring protocol provides an estimate of bare ground in some meadows, and this information is used to inform management actions as part of the adaptive management program. The revised analysis in the WSP/FEIS does not use bare ground data from residual biomass plots to describe current condition or assess condition under the action alternatives. The plots are located specifically to quantify conditions in individual meadows and to inform site specific management actions. Generalization of impacts from residual biomass plots to all meadows in the parks is not appropriate as those subjectively chosen sites are limited in number, not representative of entire meadows, and are not representative of all meadows open to stock use. The analysis in the WSP/FEIS does not use the bare ground values from Weixelman and Zamudio (2001), which generated low, moderate, and high ecological condition classes for bare soil cover values based on monitoring data from a comprehensive multiyear study in U. S. Forest Service meadows in the Sierra Nevada. These values have been used as a starting point to inform condition class development in Sequoia and Kings Canyon wilderness meadows, but until they can be related to comparable results from meadows in Sequoia and Kings Canyon in a systematic way, they remain preliminary and are being used in concert with other monitoring results to inform grazing management decisions. Through the adaptive management program described in "Appendix D: Stock Use and Meadow Monitoring and Management Strategy," the NPS will revise these condition class values based on monitoring data collected from meadows with visitor and stock use as well as meadows with no to low use levels (reference sites) to detect changes in condition unrelated to direct human use or management actions. Exposed bare soil also occurs due to natural phenomena, such as wildlife activity, drought, and/or flooding, and therefore, some background level of bare soil is expected.

Concern 195: The WSP/DEIS analysis of environmental effects does not take into account the sensitivity of meadows to grazing impacts.

> *DEIS fails to properly assess and identify meadows that have been robbed of significant sources of organic matter, which the DEIS concedes is critically important to meadow productivity and function. Notably, many meadows have frequently been grazed at levels that leave too little residual biomass to maintain the organic matter in meadow soils that is essential to the maintenance of meadow productivity. Although SEKI has data to identify these meadows, the DEIS makes no such critically important assessment of organic matter and meadow productivity conditions.*
> [Business, #238]

Response: The analysis of grazing impacts on vegetation in "Chapter 4: Environmental Consequences" of the WSP/ EIS takes into account many factors which influence the sensitivity of meadows to grazing impacts using methods described in the "Vegetation Methodology" section. These factors include broad elevation zones (upper montane and subalpine vs. lower montane/woodland), subalpine vegetation types

(three vegetation types that span a moisture gradient from wet to dry), and the susceptibility of different vegetation types to different kinds of impacts (productivity, basal cover, and relative graminoid cover). This analysis of impacts also includes a detailed breakdown of how much area is subject to grazing impacts by three Cowardin wetland systems, five meadow moisture classes, as well as the amount of lakeshore meadow and peat accumulating meadow subject to stock impacts. This detailed analysis provides an abundance of information about the expected impacts to wetlands and meadows of each of the alternatives in the WSP/EIS.

Concern 196: The WSP/DEIS does not fully assess the impacts of proposed grazing levels on plant productivity, which is an important indicator of ecosystem structure and function.

> *Although the DEIS makes some estimates of the magnitude of meadow productivity sacrificed for the sake of stock grazing, based on Cole et al. (2004), these estimates are extrapolated in erroneous fashion. The losses in meadow productivity documented by Cole et al. (2004) were from a study spanning five years. There is no indication in Cole et al. (2004) that the documented losses in meadow productivity caused by stock grazing at relatively light levels would not continue to increase over time due to the cumulative impacts of stock grazing, although this is not or assessed or disclosed in the DEIS.*
> [Business, #238]
>
> *Instead of assessing the full suite of ecological impacts of grazing in meadows based on their innate attributes and condition, and comparing these impacts to SEKI's wilderness obligations, the DEIS clearly based stock utilization levels solely on the basis of stock-grazing logistics and overestimation of plant biomass productivity (App. D; See also Fig. 2). Meadows deemed to be more valuable to grazing have higher forage utilization levels, regardless of the condition or attributes of those meadows, which, notably, are not assessed or made known in the DEIS. The amount of residual biomass left on site under the limits is not the only issue due to associated impacts of grazing on meadows. As Abbott (2003) correctly noted, SEKI's biomass data " . . . is not sufficient to determine residual biomass needed to maintain present ecological condition or to improve meadow conditions to a more desirable state." A more complete consideration of grazing impacts and meadow susceptibility is needed to provide sound limits, but this was not done in the DEIS.*
> [Business, #238]

Response: The WSP/EIS uses the best information available on productivity in the meadows of the Sierra Nevada to assess the impact of grazing. The WSP/EIS assesses the potential impacts of grazing on productivity using the methods described in the "Vegetation Methodology" section of "Chapter 4: Environmental Consequences." Chapter 4 of the WSP/EIS includes both an estimate of the number of forage areas and total meadow area where productivity would potentially be affected due to grazing under each alternative, as well as the predicted degree of reduced productivity. This analysis takes into account elevation zones (upper montane and subalpine vs. lower montane/woodland), subalpine vegetation types (three vegetation types that span a moisture gradient from wet to dry), and the susceptibility of different vegetation types to different kinds of impacts (productivity, basal cover, and relative graminoid cover). Together with monitoring protocols and adaptive management described in "Appendix D: Stock Use and Meadow Monitoring and Management Strategy," the proposed grazing levels are designed to ensure that meadows are protected from the potential effects of overgrazing, and that impacts are kept within limits that ensure the resiliency of meadow ecosystems and protect wilderness character.

Wildlife and Wildlife Habitat

Concern 197: The WSP/EIS should analyze the impacts of competition between stock and the parks' native species.

> *If stock are grazing in the wilderness, they are, defacto, competing with local, natural animals - It is up to naturalists to study whether this may have negative impacts on native species - But, as a visitor to the wilderness, I come to see the local species and suspect I see fewer of them when stock are around*
> [Individual, #39]

Response: Impacts to local wildlife species was analyzed and discussed in the "Impact Topics or Issues Dismissed from Further Analysis – Wildlife" section in "Chapter 1: Purpose and Need." The types of impacts associated with wildlife that relate to wilderness visitor use and administrative activities include disturbance or displacement, injury or mortality, habitat alteration, and/or behavior alteration. For most species, these disturbances in wilderness are generally not measurable and are localized; they may affect individuals, but do not affect the species or habitat overall.

Stock grazing and trampling in meadows and riparian areas would adversely impact habitat used by some meadow-dependent bird species and enhance habitat used by other species that are benefitted by light to moderate levels of grazing (e.g., Brewer's blackbird) (Bock et al. 1993; Steel et al. 2012). However, it is reasonable to conclude that impacts from stock grazing and trampling to birds would be less than minor (Steel et al. 2012) and research conducted within the parks demonstrates that there are minimal impacts of stock grazing to invertebrates, a primary food source for many bird species.

See "Chapter 4: Environmental Consequences" for the analysis of special-status wildlife species with the potential to be affected by the alternatives.

Concern 198: Visitor use should be restricted in sensitive areas, such as special-status species habitat.

> *Another area of concern, is restricting human use in sensitive areas where Mountain Bighorn Sheep are found. For example, there are two small herds of sheep in Miter Basin, which is becoming a very popular destination. Will there be a quota system for this very scenic sheep area?*
> [Individual, #145]

Response: There would be a combined party-size limits of eight people and stock under the preferred alternative (alternative 2) for day rides on the Class 1 trail into Miter Basin above Penned Up Meadow. If new class 1 trails are established in bighorn sheep habitat, there could be an increased frequency of bighorn sheep / human encounters under alternative 2. However, new Class 1 trails, such as one proposed to replace the numerous social trails on Mount Langley, could concentrate visitor use which would benefit bighorn sheep. Also, as the informal trails are restored, habitat would be restored in this area, resulting in beneficial effects on bighorn habitat.

Overall, bighorn sheep could continue to be disturbed during visitor interactions, but there would be no measurable difference in impacts associated with disturbance across the alternatives. There are currently few adverse effects on bighorn sheep due to stock interactions at foraging areas, and this is not expected to change under any of the action alternatives. In the context of laws and policies that protect special-status species, the impacts of the alternatives would not be significantly adverse or beneficial, and they

would not result in population-level impacts, and thus would not result in jeopardy for the Sierra Nevada bighorn sheep.

In addition, in the section "Mitigation Common to All Alternatives" in "Chapter 2: Alternatives" there is a list of measures to minimize impacts on Federally Listed Species including bighorn sheep.

Special-Status Species

Concern 199: The analysis of impacts on mountain yellow-legged frog and Yosemite toad are not sufficient. The analysis is general and does not relate the actions of the alternatives to impacts that are known to occur. The localized impacts described in the analysis most likely would result in population-level effects; however, this is not stated in the WSP/EIS. In addition, the WSP/DEIS contains conflicting statements regarding the impacts to these special-status species, and mitigation measures for the protection of special-status species should be included in the plan.

> *The WSP/DEIS is substantially lacking in analysis of the impact of the proposed action on the Yosemite Toad ("YT") and the Mountain Yellow Legged Frog ("MYLF").*
> [Recreational Group, #235]
>
> *The YT and MYLF habitat is described in the WSP/DEIS, along with common stressors on the species' well being. WSP/DEIS at 300-304. However, the WSP/DEIS is lacking meaningful analysis regarding the known impacts on the YT and the MYLF in regards to the alternatives discussed. Instead, it states conclusions and identifies general impacts without explaining them in relation to the proposed WSP/DEIS in any meaningful way. For instance, stock grazing is expected to occur in primary YT habitat (meadows) and recreation will likely overlap with all segments of YT habitat. WSP/DEIS at 302. This is the extent of the analysis of stock use on YT habitat. The DEIS is ridden with reference to impacts, trampling and habitat degradation, but reference does not equal analysis.*
> [Recreational Group, #235]
>
> *Even the draft EIS analyses of the potential for disturbance by recreational stock use and trampling of Yosemite toad and Yellow-legged frog is qualified numerous times throughout the draft WSP/EIS as representing merely a minimal overall adverse effect on Yosemite toad populations (given) the scale of the parks. This is because the amount of toad/frog habitat readily accessible by private stock users is infinitesimally small as compared to overall habitat both within SEKI Wilderness and the Sierra Nevada. Yet the draft WSP/DEIS contains several conflicting statements regarding the severity of impacts to threatened species. For example it states: Yosemite toad populations may be adversely affected by degradation of habitat due to the presence of trails and injury or mortality from human or stock trampling. Under alternative 1, there are few locations where Yosemite toad populations are known to exist near trails; therefore, the overall potential for degradation and trampling under this alternative would continue to be limited (DEIS, p. 366).*
> [Recreational Group, #171]
>
> *The draft WSP/EIS is therefore deficient as it fails to disclose a rationale to further regulate private stock use (Alternatives 2, 4 and 5) in the absence of identified natural or cultural resource-related regulatory triggers. While a remote potential nonetheless remains for stock users and hikers/backpackers alike to trample individual toads/frogs or their habitat, we implore the Park Service to consider other measures to mitigate documented threats to threatened species and wilderness character. Such measures could*

include re-routing of problematic trails, enhanced visitor education, placement of interpretive materials, or targeted seasonal closure of known vulnerable habitats, if deemed necessary. These site-specific measures stand in contrast to the approach currently applied in the draft WSP that includes sweeping restrictions in terms of maximum party size, trails available for stock-related travel, broad closures to grazing of open meadows, and wholesale prohibitions of meadow grazing (Alternative 4) and off-trail travel (Alternative 5).
[Recreational Group, #171]

Response: The results of the impact analysis on mountain yellow-legged frog and Yosemite toad are summarized in the Executive Summary and Summary of Impacts Table of the WSP/EIS. "Chapter 3: Affected Environment" discusses the existing conditions of the mountain yellow-legged frog and Yosemite toad, including a discussion of current stressors and threats to these special-status species. A thorough analysis of the impacts on these species for each of the alternatives is presented in the "Special-status Species" section of "Chapter 4: Environmental Consequences." The reader should refer to the "Mountain Yellow-legged Frogs" section and the "Types of Impacts on Mountain Yellow-legged Frogs" subsections for a complete discussion of the impact analysis for mountain yellow-legged frogs under each alternative. For a complete discussion of the impacts to Yosemite toads, the reader should refer to the "Yosemite Toad" section and "Types of Impacts on Yosemite Toad" subsections under each alternative. The analysis of the alternatives included three primary means by which the mountain yellow-legged frog and Yosemite toad could be adversely affected, all of which are related to recreational activities: (1) disturbance during encounters with hikers and stock, (2) injury or mortality due to trampling by hikers and stock, and (3) degradation of habitat due to trails and/or stock use.

The conclusion that impacts on mountain yellow-legged frogs could result in population-level effects is mentioned in the analysis of mountain yellow-legged frogs in the "Special-status Species" section of chapter 4. It can be found in "Types of Impacts on Mountain Yellow-legged Frogs" — "Injury and Mortality due to Trampling" and "Degradation of Habitat," and within the analysis of each of the alternatives. The conclusion that impacts on Yosemite toads could result in population-level effects is mentioned in the analysis of Yosemite toads in the "Special-status Species" section of chapter 4. It can be found in "Types of Impacts on Yosemite Toad — Degradation of Habitat" and within the analysis of each of the alternatives. However, these conclusions are qualified by the statement that population effects could occur *if* management let unacceptable recreational impacts or habitat degradation occur (emphasis added). A long record of monitoring mountain yellow-legged frog and Yosemite toad populations has shown that, in the few places where frogs/toads and moderate- to high-use overlap, there has been no evidence of population effects from recreation. Likewise, a long record of monitoring meadow condition has shown that habitat degradation has not occurred due to packstock grazing and access (see "Impacts of Alternative 1: No-action / Status Quo" in the "Vegetation" section of chapter 4). In addition, the percentage of habitat with current or recent detections of mountain yellow-legged frogs or Yosemite toads that overlaps with packstock grazing/access or trails is relatively small. For example, an analysis conducted by the parks for consulting with the USFWS on these newly listed species (NPS 2014d, Sequoia and Kings Canyon National Parks, Wilderness Stewardship Plan, U.S. Fish and Wildlife Service Consultation Package, October 2014) shows that, of 64,187 acres of lake, stream, and meadow habitat with current or recent detections of mountain yellow-legged frogs, 17,384 acres (27%) would have packstock grazing or access under alternative 2. A smaller amount of meadow habitat with current or recent detections of Yosemite toads (6,599 acres) would have packstock grazing or access under alternative 2. An even smaller amount of habitat with current or recent detections of mountain yellow-legged frogs or Yosemite toads would overlap with trails (356 acres). Therefore, the analysis appropriately discloses that there is potential for population effects, but that the potential is extremely low.

It may seem as if the WSP/DEIS has conflicting statements, such as, "Yosemite toad populations may be adversely affected by degradation of habitat due to the presence of trails, and injury or mortality from human or stock trampling. Under alternative 1, there are few locations where Yosemite toad populations are known to exist near trails; therefore, the overall potential for degradation and trampling under this alternative would continue to be limited." In this case the term "adversely," used to describe impacts to special-status species, has a specific definition by the USFWS (see the "Special-status Species — Methodology for Analyzing Impacts" section in chapter 4) in which trampling of one individual or degradation of critical habitat of a listed species would be considered an adverse effect. However, as described in the analysis, past trampling events have been extremely rare and are expected to continue to be extremely rare in the future under alternative 2. In addition, due to the life-history strategies of the Yosemite toad and mountain yellow-legged frog, in which a small percentage of individuals survive to adulthood under natural conditions, occasional individuals lost to trampling would not be measurably different than background conditions and thus would be highly unlikely to have adverse effects at the population level.

The WSP/EIS includes measures to minimize impacts on special-status species in "Mitigation Common to All Alternatives" section in "Chapter 2: Alternatives":

> "To limit the potential for adverse effects from the presence of hikers and stock in Yosemite toad habitat, the following mitigation measures would be implemented under all action alternatives:
>
> - Existing trails that go through or near meadows used by Yosemite toads would be rerouted away from those meadows.
> - Park staff and visitors would be educated about how to avoid impacting Yosemite toads and encouraged to exercise caution when they encounter populations.
> - Monitoring would be used to determine if effects of visitor use on Yosemite toads or their habitats are approaching unacceptable levels; visitor use would be adjusted in Yosemite toad habitat to prevent or mitigate degradation.
>
> To further limit the potential for adverse effects from increased presence of hikers and stock in mountain yellow-legged frog habitat, the following measures could be implemented:
>
> - Existing trails that run immediately adjacent to waters used by mountain yellow-legged frogs could be rerouted away from those waters.
> - New Class 1 trails could be designed to avoid running immediately adjacent to waters used by mountain yellow-legged frogs.
> - Educate hikers and stock users about the status and importance of mountain yellow-legged frogs, the parks' efforts to restore and conserve them, and encourage exercising caution when they encounter populations.
> - If monitoring detects habitats used by mountain yellow-legged frogs as being degraded due to overuse from stock grazing and/or hiker and stock traffic, visitor use restrictions could be changed to prevent or mitigate degradation.
> - Off-trail travel could be limited near certain mountain yellow-legged frog populations, reducing the potential for trampling events."

In addition mitigation measures may be added in the future as knowledge about stressors increases.

Cultural Resources

Concern 200: The Area of Potential Effect (APE) identified in the WSP/DEIS does not encompass the entire cultural landscape. The trails of the parks are historic; however, the document did not

evaluate the trails for historical significance. Additionally, the trails extend beyond the boundaries of the parks, connecting the trails to commercial pack stations, creating a cultural landscape. The whole landscape must be considered. Because the document fails to properly identify historic trails and cultural landscapes, the impacts to the cultural resources cannot be adequately characterized. The document should state when the formal evaluation of the historic value of each trail segment will be conducted, and the NPS should consult with the California SHPO, as well as adjacent federal agencies, to determine the cultural significance of the historic trail system that extends from the parks to lands beyond.

The DEIS limits the Area of Potential Effect (APE) to the wilderness areas of the park, without considering the ramifications of their actions which extend beyond agency, park, and wilderness boundaries. The parks actions create an adverse effect on historic structures and landscapes outside of the APE. The DEIS should expand the APE to include the commercial stock facilities addressed in their plan. While specific names of operators and operations were not particularly addressed in the plan, it can be assumed that the plan is addressing the commercial operators which currently hold a CUA with the parks.
[Business, #182]

It is noted that the WSP addresses commercial stock use, but fails to include recent wilderness and non-wilderness INF studies, plans, and RODs regarding both front country and John Muir Wilderness. The only plan referred to is the 2001 Wilderness Plan for the INF/Sierra Forest. The parks did not utilize the information in the 2007 ROD Commercial Pack Station and Pack Stock, Outfitter Guide Permit Issuance completed by the Inyo National Forest. If they had utilized this available information, they would have known that the pack stations located on the eastern and western portions of the Sierra Nevada range utilizing the John Muir Wilderness are national register eligible. Together they comprise a historic district/landscape connected by a vast network of trails which travel in out of front and back-country, non-wilderness/wilderness, as well as forest and park administrated areas. Because these historic places are National Register eligible, they must be treated the same as being listed on the National Register of Historic Properties.
[Business, #182]

Features of Value: Appendix K, page K-10 addresses how formal evaluation of historic value of each trail segment should be conducted, but does not indicate when or if this will be accomplished. Without this evaluation, the historic character, and historic context is at risk for adverse effect, as the trails management/classification plan cannot address this issue.
[Business, #182]

Travelways of social importance; WSP should address fluid connection between NPS and USFS lands, administrated separately, but connected by trails, leading to historic facilities, creating a large historic landscape, much like historic Pony Express Stations situated in various states, connected by trails which are only now being evaluated for their historical significance.
[Business, #182]

We request that the parks consult with CA SHPO re the trails, and to spend adequate time to identify, evaluate and nominate properties to the NR. It is clear insufficient time has been allowed on this portion of federal planning, and thus has not been a

> *consideration when addressing trail classifications, uses, and design. The parks have not completed an independent NEPA regarding the trail classification process, and the public was not given the chance to comment on the process as it was not presented in draft form, but rather is being squeezed into this WSP.*
> [Business, #182]
>
> *Wilderness does not exist in a vacuum, and therefore any federal planning, particularly that of the Department of Interior which manages the NRHP, should be farther reaching, and include collaboration with adjacent federal agencies, and members of the public in regards to potential effects on National Register eligible properties*
> [Business, #182]
>
> *The DEIS does not satisfy the NEPA process re the new proposed trail classification, and because the trails have not been evaluated for historical significance, the classification of trails has the potential to erode, diminish, and apply an adverse effect on trails which serve as a landscape feature of commercial pack stock use, and their associated features of historic pack stations.*
> [Recreational Group, #201]

Response: The NPS has historically worked and will continue to work, as capacity and fiscal resources will allow, to ensure compliance with section 106 as well as section 110 of the NHPA.

In compliance with NHPA, the parks locate, inventory, and nominate cultural resources, including trails that may be eligible for listing on the NRHP. The strategy for preserving potentially historic trails is included in attachment 4 in "Appendix K: Trail Management and Classification System for Sequoia and Kings Canyon National Parks." Trails are divided into five tiers for the purposes of prioritizing needs for the evaluation of historic properties and features per NPS-28: Cultural Resource Management Guideline and Section 110 of the NHPA. The NPS will work with the California SHPO to develop a strategy for completing these evaluations and preserving the historic trail systems in the parks.

NHPA includes guidance such as 36 CFR 800.4, which stipulates that federal agencies must determine and document the Area of Potential Effect (APE). This includes seeking information from other organizations likely to have knowledge of, or concerns with, historic properties in the area. Section 110 of NHPA also states that "agency preservation-related activities are to be carried out in consultation with other Federal, State, and local agencies, Indian tribes, Native Hawaiian organizations, and the private sector."

The parks are in the process of ensuring that the APE is adequate, which includes not only public review and comment but review and concurrence by the California SHPO. As discussed in "Chapter 5: Consultation and Coordination," the NPS notified the California SHPO on March 30, 2011 of the intent to prepare an EIS. The preliminary draft alternatives were provided to the California SHPO on October 25, 2012. Consultation with the California SHPO has been formally initiated and will continue throughout the environmental compliance and implementation process.

Concern 201: The use of stock on the trails in Sequoia and Kings Canyon National Parks is historic, and therefore, culturally valuable.

> *The current trail system reflects a varied history. Packers have contributed to that trail history by participating in trail rehabilitation, construction, and maintenance. There is considerable historic stock use on the trail system and any changes will result in a loss of historical and cultural values. Commercial stock packing is a compatible purpose for*

which these trails have been established. Because the formal trail system in the parks predates wilderness designation, historical use must be considered. Trails should preserve the diversity of users, providing equal access to the area.
[Recreational Group, #201]

Response: The preferred alternative recognizes stock use as an allowed use on trails, except where there are overriding resource protection or visitor safety concerns.

Socioeconomics

Concern 202: The failure of the WSP/EIS to properly assess the cumulative socioeconomic impacts violates NEPA. There was no economic analysis completed for any of the alternatives in respect to the loss of jobs and businesses that would occur with the restrictions and closures that are aimed specifically at commercial stock operations, specifically the proposed restrictions limiting commercial stock to access the Mount Whitney Management Area.

There was no economic analysis completed for any of the alternatives about the loss of jobs, and possibly the complete loss of businesses that would occur with the restrictions and closures that are aimed specifically at commercial stock operations. There is little to no discussion about the positive benefits of having a thriving packing industry that can assist groups and families in visiting the wilderness. There is discussion about past groups that frequented the areas (eg: Sierra Club trips). but there is no desire expressed to see that level of use re-occur. The DEIS does not address the impacts and effects of the potential closure of historic businesses that could likely occur with the proposed grazing restrictions, camping closures, and new trail management plan.
[Recreational Group, #201]

The proposed restrictions limiting commercial pack stock to access the Mt. Whitney zone is a 'deal killer. ' These additional limitations . . . will have a profound impact on the commercial pack stations that supply the hikers and other outfitters who have permits and clients to climb Mt. Whitney. The existing limits (camping, Mt. Whitney access, and grazing) have already resulted in a 60% impact to business and more restrictions with be devastating. The Plan should actually decrease the number of individuals able to the Whitney zone, and should increase the commercial service providers. The number of search and rescues that are conducted on Mt Whitney each year not only costs hundreds of thousands of dollars of tax funds - but also costs lives. Clients of outfitters may be injured, but because they are with their guides, they do not cause massive searches with up to 50 people per day, with helicopters and other air support searching for them. Outfitters play a valuable role in providing their clients with wilderness skills and equipment. Thus, a greater share of the quota for Mt. Whitney should be reserved for the commercial service providers.
[Recreational Group, #201]

The DEIS's failure to properly assess the cumulative socioeconomic impacts violates NEPA.
[Recreational Group, #251]

NFRA stated in its comments that the DEIS was defective because "[t]here was no economic analysis completed for any of the alternatives about the loss of jobs, and possibly the complete loss of businesses that would occur with the restrictions and closures that are aimed specifically at commercial stock operations." This very serious

defect, which results in NPS essentially ignoring a very devastating impact of the plan. See CFR § 1508.14 ("When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment"); see North Carolina Wildlife Federation v. North Carolina Dept. of Transp. , 677 F. 3d 596,604-605(4th Cir. 2012)(noting deficient socioeconomic data in the EIS, the court held that "[w]hen relevant information is not available during the [impact statement] process and is not available to the public for comment[,]. . . the [impact statement] process cannot serve its larger informational role, and the public is deprived of [its] opportunity to play a role in the decision-making process.”).
[Recreational Group, #251]

Response: Uncertainties regarding the timing, scale, and the responses to the management alternatives by wilderness visitors and commercial packers alike preclude quantitative analysis. Alternatives 2 and 3 would allow increased use supported by commercial services, while alternatives 4 and 5 limit the number of users but extends night limits in many areas and maintain current limits on consecutive nights per trip and per season (see tables ES-1 and 45, Elements 7, 8 and 11). Consequently, the net effect on commercial service providers is indeterminate. Nonetheless, the potential for adverse economic effects on individual service providers is acknowledged (see table ES-2 and 53, Socioeconomics and the alternative 4 analysis of the ““Socioeconomics” section of “Chapter 4: Environmental Consequences”). Additional discussion addressing the uncertainties has been added to “Socioeconomics” section of chapter 4.

Concern 203: The commercial service providers in Inyo County would be impacted greater by the commercial service limitations in the preferred alternative, as Inyo County relies heavily on tourism.

Adverse impacts to Inyo County community economies due to limitations on visitor-use, stock use, and commercial services would be disproportionate to those anticipated for counties on the west side of the Sierra, which have significantly larger populations, more diverse economies, and greater economic growth opportunities through development of private land than Inyo County. It is essential that the DEIS recognize the significant and detrimental impacts specific to Inyo County's economy and cultural heritage that would result from curtailing these recreational and commercial opportunities. The DEIS neglects to consider the Inyo County General Plan as part of the planning efforts of adjacent lands and wilderness areas. Specifically, the DEIS conflicts with goals and polices addressing collaboration with State and Federal partners to increase access to recreation in public lands, continued branding and marketing of Inyo County as a destination, expansion of existing and new businesses, and preservation of our historical heritage (see attached Appendix A).
[County Government, #237]

I am concerned however by the adverse socioeconomic impacts identified in the preferred alternative that will impact gateway communities to the National Parks; specifically those impacting visitor-use levels, stock use and grazing, and commercial services in the National Parks. I believe restrictions to these activities in the National Parks will have direct adverse impacts to the economy of Inyo County. My concern focuses specifically on the DEIS proposal to limit visit-use and commercial operations in the Mount Whitney Management Area, Mount Langley, Rae Lakes, Lamarck Col, and Dusy Basin. As identified in Chapter 3 of the DEIS, nearly one-third of all employment in Inyo County is related to tourism serving establishments. The dependence of Inyo County community economies on visitors to National Parks is disproportionately high due to the large

percentage of federally managed land in Inyo County and the geographically remote character of the eastern sierras. Many of the most popular destinations in Sequoia and Kings National Parks are accessed from trailheads originating in Inyo County, and the relationship between gateway communities and economic vitality is evidenced by the two most economically robust communities in Inyo County, Lone Pine and Bishop, which provide access to Mount Whitney and Dusy Basin, respectively. Limiting or reducing the day-use and overnight quotas, stock-use and commercial operations will have direct and proportionate adverse impacts to Inyo County residents and businesses, and the health of Inyo County's economy generally.
[County Government, #237]

Page 562 states "the gross income derived . . . . . total expenditure associated with wilderness use represents a very small proportion of the overall regional economy" This might be true for west side communities but not so for east side where wilderness expenditure is a very significant proportion. I draw your attention to the 2008 Economic and Fiscal Impacts and Visitor Profile of Mono County Tourism. Where the report finds that 69.7% of visitors came for outdoor recreation and of that 47.5% went hiking. While it is true that the majority of these people will not access SEKI from the Eastside outdoor recreation and wilderness is important to our communities in Inyo and Mono Counties. Please do not discount us.
[Business, #205]

Response: The relative greater dependency of the Inyo County economy on outdoor recreation and tourism is acknowledged in "Chapter 3: Affected Environment." The potential for disproportionate effects on commercial services active in the Mount Whitney Management Area is also acknowledged in "Chapter 4: Environmental Consequences." However, available data regarding recreation use and commercial services suggest that the resulting economic effects (due to the potential reduction in commercial use of 10% of the 2010-2013 average in the Mount Whitney Management Area) would not constitute a significant threat to the Inyo County economy. Additional discussion has been added to the "Socioeconomics" section of "Chapter 4: Environmental Consequences."

Visitor Use

Concern 204: The analysis of visitor access in the WSP/EIS states that quotas may be reduced and destination quotas implemented; this would greatly impact visitor access, and therefore, visitor experience. However, the WSP/EIS does not describe how these changes would impact visitors.

The Environmental Consequences section seems to assume that the trail encounter standards in Alternative 2 were established at a point that would ensure the retention of existing levels of visitor use and the existing opportunities for solitude throughout the parks wilderness areas. It shows little difference in the impact on visitor use and the opportunity for solitude between the no-action alternative and Alternative 2.
[Individual, #97]

Just as important, the document does an inadequate job of addressing the impact of controls on visitors. The Environmental Consequences section has only a vague statement about visitor impacts; it is so vague and superficial as to be virtually meaningless. In describing the methodology for analyzing impacts on visitor encounters (page 517), the document says "Note that effects on solitude or opportunities for primitive or unconfined recreation are analyzed in the Wilderness Character section in this chapter. . . None of the alternatives would extend or reduce the quota period, and no

change to the seasonal nature of overnight visitation is expected to occur. The effect of visitor encounters on opportunities for solitude or primitive and unconfined recreation was discussed in the Wilderness Character section in this chapter; therefore this topic will not be further discussed under the Visitor Use section." The above section sounds reasonable on its face. But it really says that the only significant effects on visitor encounters are those that are described and analyzed as effects on solitude or opportunities for primitive or unconfined recreation in the Wilderness Character section. The Visitor Access section on page 521 says that trailhead quotas would remain at their existing levels, approximately; but there could be a reduction in quotas in busy areas. Existing destination quotas would continue to be applied and additional destination quotas may be added for specific areas. A reduction in trailhead quotas in busy areas, and the application of additional destination quotas could impact some visitors wanting to visit these areas. Visitors may need to change their entry point, destination, or the day of the week they enter the wilderness. If day-use permits or quotas are implemented, visitors may decide not to utilize those trailheads, or may not be able to obtain a permit at the trailhead of their choice, resulting in an adverse effect on visitor use and experience.
[Individual, #97]
The EIS should adequately describe the impact on visitors as a result of the proposed carrying capacity process, especially if use were to increase is some areas. Visitors in Alternative 2 would get a different experience than in the no-action alternative or existing conditions. For example, there would likely be increased use during shoulder seasons, and therefore decreased opportunities for solitude. There would be additional constraints and less freedom. Because of small sample size, use levels could go well above standard before monitoring detected this and provided enough information to trigger management action to bring conditions back within standard. If day use levels were to increase, these visitors would likely encounter capacity constraints where none existed before. These visitor impacts were not adequately described and assessed in the Draft WSP.
[Individual, #97]

The portion of the Environmental Consequences that describes the Methodology for Analyzing Impacts on Visitor Use (page 517) seems reasonably comprehensive. It recognizes the potential for impacts on both visitor encounters and visitor access. But the document did not follow through with a meaningful description of the impacts that Alternative 2 would have on visitor access and visitor encounters if visitor use were to increase. The Environmental Consequences section of the document assesses these two impact topics in such a vague and superficial way as to be virtually meaningless. The document needs a clear description and assessment of the impacts of imposing visitor capacity standards on visitors. The Description of the Alternative and Environmental Consequences sections of the document, as currently written, fails to provide that. The document implies that there will be negligible impacts on visitors, except in four popular areas that experience trail encounter rates higher than the proposed standard in Alternative 2. Such language is misleading at best.
[Individual, #97]

Response: The NPS does not agree that the preferred alternative "would greatly impact" visitor access and the visitor experience. As explained in "Chapter 4: Environmental Consequences," alternative 2 allows for continued access and use; however, in some popular areas visitor use could be affected by reduced trailhead quotas, destination quotas, or day-use quotas. Visitors would continue to have opportunities to experience the wilderness both on- and off-trail. Wilderness conditions would continue to

improve in many areas. There would be fewer facilities, and visitors would continue to have the opportunity to receive support from commercial service providers to engage in proper activities in most areas of the wilderness.

Visitor Experience

Concern 205: The WSP/EIS should clearly describe the changes in visitor use patterns and their relationship to encounter rate. Some changes are not clearly described. Although the changes would reduce encounter rates and provide a better wilderness experience, it is not clearly explained in the document.

> *One of the proposed actions for the Evolution Basin and Valley portion of the PCT/JMT is to impose an overnight stay limit in Alternative 2. That would certainly reduce the encounter rate because through-hikers would not have as many encounters with people who are camping in the basin. But this idea is not clearly communicated in the document. The proposed action will make a significant change to how people use Evolution Basin and Valley. The parks are proposing to convert this area of the parks to more of a through-hiking experience and reduce the opportunity for camping, a wilderness experience that many people now enjoy. That change in use pattern is not clearly described in the Description of the Alternative, nor is it adequately assessed in the Environmental Consequences section. This is true for the actions being contemplated for the other popular trails. The proposed change in visitor use patterns should be clearly described in the Description of the Alternative, and the impact on the visitor experience should be assessed in the Environmental Consequences section.*
> [Individual, #97]

Response: Visitor use patterns are managed only at the point of entry (trailhead quotas), and in some areas, by night limits. Once in the wilderness, visitors determine their own trip route with few limitations. The "Opportunities for Solitude or Primitive and Unconfined Recreation" section for the preferred alternative in "Chapter 4: Environmental Consequences" describes the effects of management actions on visitor encounters in the highest use areas. Other areas would be similar to the no-action alternative, where trailhead quotas remain consistent with no action. Visitors would continue to have opportunities to experience the wilderness both on- and off-trail.

Concern 206: The impact analysis for visitor experience is misleading, as it claims that the preferred alternative would have few impacts. However, trail encounters would increase and visitor experience would decline prior to monitoring methods detecting a change in standards. Additionally, when quotas are filled, the trail encounter standards may force visitors to other areas that are currently not heavily used, which may reduce solitude for some visitors.

> *The document says on page A-3 that If the standard is exceeded, then specific management actions will be taken to address the situation to ensure that the wilderness resource/character is protected and any deterioration of condition is arrested before there are unacceptable impacts to wilderness resources and experiences. The document does not describe the impacts of that increased trail encounter rate on the visitor experience, the reduction in the opportunity for solitude. The Draft WSP uses the trail encounter standards to describe one visitor experience condition. But in reality, the WSP proposes to deliver a more crowded condition by the time the problem analysis detects that actual conditions (the real world conditions that visitors experience) have gone above standard and management action is warranted.*
> [Individual, #97]

The Environmental Consequences section did not assess the impacts of that encounter rate on the visitor experience. The document indicates that there would be few impacts on the visitor experience from Alternative 2, either from crowding, decrease in the opportunity for solitude, or from management actions taken to stay within standard. That is misleading at best.
[Individual, #97]

When visitors are turned away during the peak times because a quota is filled, many of them will likely switch to time periods or to trails where the quota is not filled. That will increase use in those periods. The end result is that what are now the quieter periods will be managed more closely to the established standard. There will be reduced opportunities for solitude during those periods. That is one consequence of the proposed action, and this impact should be assessed in clear language (not just in a vague and superficial way) in the Environmental Consequences section.
[Individual, #97]

Response: Trailhead quotas (table 46 in "Chapter 2: Alternatives") are similar to current levels with some new quotas on trails where currently none exist. The analysis in "Chapter 4: Environmental Consequences" under the "Opportunities for Solitude or Primitive and Unconfined Recreation" section for the preferred alternative, acknowledges that there may be impacts to individual visitors wanting to visit specific areas when quotas are filled; however, where visitors opt to go instead would be a personal choice.

Visitors would continue to have opportunities to experience the wilderness and solitude both on- and off-trail, with off-trail use providing the best opportunities for solitude. The preferred alternative provides for relatively high use in some popular areas and increases opportunities for solitude in a number of areas that are near or exceed the trail encounter standard. Other areas would be managed for lower levels of use.

Park Operations

Concern 207: Per 16 USC 45f, the parks cannot issue commercial use permits for the Mineral King area; therefore, there would be no impacts on park operations.

Page 535. If commercial pack stations are reopened at Wolverton and Mineral King, concessions office would be charged with managing additional concessions contracts." And back to Page 389. paragraph 5. Alternative 3 would result in more development in wilderness and therefor would result in the most adverse effects on this quality. Comment: My concerns hear is the Park's not recognizing the intent, and Law regarding, 45f Mineral King Valley Addition. Park hear indicating they have the option to give permits for commercial use's in Mineral King. Which 45f makes clearly they do not have. As refereed to earlier in the front this letter, regarding the Park preferred plan. To turn the MK. cabins over to private commercial operators. As called out in my third paragraph above.
[Individual, #28]

Page 537. This alternative would limit commercial services in the front country and wilderness more than the other action alternatives. There would be no additional commercial services at Wolverton and Mineral King. Comment: Commercial services at Mineral King. Do not exist now, and are not allowed by, 16 U. S. 45f Mineral King Valley Addition. As Congressionally enacted in 1987.
[Individual, #28]

Response: In Public Law 95-625 (November 10, 1978), transferring lands known as the Mineral King Valley and the Sequoia National Game Refuge to the management of the NPS, Congress established certain provisions relating to commercial purposes (Sec. 314(c)(3)). The provisions pertaining to use of property for commercial purposes is reserved for those existing cabin permittees who retained stated rights to continue use of their cabins (which reside on federally owned land). However, these permittees are subject to the restrictions on commercial uses as stated in the statute. The provisions regarding commercial purposes do not pertain to the authorities of the NPS to issue or control commercial services provided to the visiting public. The WSP/EIS proposes no changes to the use and occupancy of the permitted cabins.

Concern 208: The NPS should explore new methods of managing wilderness without the use of helicopters.

> *Administrative Functions Some of SEKI's methods of performing management functions in wilderness seem to be the product of a 19th- and early 20th-century mind set. The use of stock animals is an anachronism, a relic of 70 years ago. By doing some elementary research, staff at SEKI would soon become educated as to more advanced, more environmentally friendly methods. How could you justify employing ground and/or air vehicles/devices? The answer lies in Vol. I, page 349 of the WSP.*
> [Recreational Group, #254]

Response: The parks perform Minimum Requirement Analyses for all helicopter flights that are not conducted on an emergency basis to comply with the Wilderness Act (Section 4(c)), and have specific criteria that are reviewed prior to approving flights/landings (see "Appendix I: Minimum Requirements Analysis"). It is a stated management preference that wilderness administrative operations seek non-motorized means to accomplish tasks before resorting to helicopters.

CHAPTER 5: CONSULTATION AND COORDINATION

Consultation and Coordination: General Comments

Concern 209: The NPS should consult with the USFS regarding the proposed new trail on Mount Langley and removing food-storage boxes. Adding a new trail and removing food-storage boxes could put a strain on the other agency's resources.

> *Lastly, the park should consult with Inyo Natl Forest if a trail up Langley is being considered. With such few forest service rangers, their lands could be greatly impacted. An actual "trail" up a California 14'er would bring hordes of people to a sensitive foxtail pine forest. Pets in wilderness & human waste management along w/illegal campfires & trash all would be topics of concern (i.e., a new "Whitney Portal").*
> [Individual, #158]

> *Alternative 2 Element 4 Food Storage: With the surge of PCT hikers (& upcoming movie Wild) the park may see a sudden shift in use patterns. The JMTs also increasingly popular. Locking or removing boxes may cause repercussions on adjacent forest service lands. These agencies should be consulted.*
> [Individual, #158]

Response: The NPS has been coordinating with the USFS regarding any changes that could affect their resources or wilderness management throughout this wilderness stewardship planning process. The coordination between the agencies is described in "Chapter 5: Consultation and Coordination."

Concern 210: The WSP/EIS should describe the complications that could arise in coordinating with adjacent agencies to collaborate on reducing trailhead quotas for higher use areas. The WSP/EIS should also have a backup plan to reduce use if collaborating with other agencies fails.

> *Although somewhat unclear, the Draft WSP seems to suggest that the parks are proposing the following actions for those two popular areas: Mount Whitney (Crabtree-3): The document proposes Consulting with USFS regarding area use levels. The term consulting is a euphemism bordering on obfuscation. The parks know that what needs to be done is to lower the number of hikers who use this very popular trail. Evolution Basin and Valley (McClure-1): The document proposes Consulting and coordinating with USFS and Yosemite on quota reductions for PCT/JMT. Quotas may be reduced at certain trailheads. Impose overnight stay limit. Consulting and coordinating with other agencies and park units to reduce quotas on popular trails is a significant undertaking. Success in such a venture is far from certain. That should be disclosed in the Description of the Alternative and in the Environmental Consequences sections of the document. The document should disclose what the parks fallback plan is if those efforts fail to work.* [Individual, #97]

Response: As detailed in "Table 23: Area-specific Management Actions" under alternative 2, many of the actions for protecting wilderness character do not rely on collaborating with adjacent land managers to reduce trailhead quotas for higher use areas; that is just one strategy. However, successful collaboration is important and the NPS will continue to work with neighboring forests to retain this important relationship in the future.

APPENDICES

Appendix A: Visitor Capacity

Concern 211: The WSP/EIS should describe which measures will be monitored, when monitoring will occur, and where monitoring will occur.

> *Under the Process to Address Visitor Capacity section (page A-6), the document says that visitor capacity limits are primarily for overnight use. The justification for this is because at this time and in the foreseeable future, day visitor use is anticipated to remain at acceptable levels. No rationale is given for that statement. In the description of the management of visitor day-use capacity in Alternative 2 (page A-13), the document says that Day-use levels would not receive any new controls such as permits or quotas. Day use would continue to be monitored and may be the subject of people at one time (PAOT) or other monitoring methodologies to ensure that biophysical resources and wilderness experiences are not adversely impacted. That statement is not at all clear. The WSP is committing to measuring day-use levels, but it does not appear to be committing to monitoring any of the three visitor capacity measures that have established standards.* [Individual, #97]

> *Under the Process to Address Visitor Capacity section (page A-6), the document says that visitor capacity limits are primarily for overnight use. The justification for this is because "at this time and in the foreseeable future, day visitor use is anticipated to remain at acceptable levels." No rationale is given for this statement. The WSP needs to justify such an assumption. There would seem to be only two possible ways that the WSP could justify such an assumption: 1. Visitor use is assumed to be flat or declining in day use areas of the wilderness close to the frontcountry. That seems implausible, and it is*

contrary to the forecast contained in the GMP. But the reader has no way to know whether the WSP is making such an assumption because there is no clearly articulated visitor use projection section. 2. The Draft WSP has established the visitor capacity standards in the action alternatives high enough to accommodate anticipated growth in day use areas of the wilderness close to the frontcountry. If that were the case, the WSP would be saying that standards were established low enough in Alternative 2 to retain existing levels throughout the wilderness, but that the standards were established high enough to accommodate anticipated growth in day use areas of the wilderness close to the frontcountry. The WSP cannot have it both ways. Under the Management of Visitor Capacity Proposed in Alternative 2 section (page A-13), the document says "Day-use levels would not receive any new controls such as permits or quotas." No rationale is given for this statement. Does this statement really mean that the parks are just ruling out permits and quotas as a means of managing day-use levels? It seems implausible that the parks would be ruling out all new permit and quota controls as a means of managing day-use levels.
[Individual, #97]

How often will the three visitor capacity measures be monitored? In the Selection of Measures section (page C-4), the document discusses selection of the two primary aspects of visitor use to monitor: trail encounters and campsite conditions. It says that standards for these two measures have been established for all action alternatives of the WSP and would be applied in the future. The document does not give any sense of when in the future the parks intend to start this monitoring or how often it will occur.
[Individual, #97]

Given the budget that the parks can reasonably expect during the next few years, the document should disclose how much monitoring of each of the three established visitor capacity measures the parks can reasonably expect to accomplish, at least in general design. It seems unlikely that the parks can achieve a sample size to achieve its implied objective for the trail encounter measure.
[Individual, #97]

Human nature being what it is, the NPS has to hire rangers to enforce its rules and regulations. This is true in the wilderness just as in the frontcountry. Somebody has to be the enforcer. I assume that wilderness rangers will be checking permits to verify compliance. Did the wilderness traveler enter at the proper trailhead on the proper day? Are they in the proper zone? Did they stay too many nights in Evolution Basin and Valley? Is that really how you're designing the system? If so, that is a significant impact on the wilderness experience. That impact should be assessed in the Environmental Consequences section of the document.
[Individual, #97]

On page 512, the socioeconomic impact section says that Alternative 2 would not necessitate or support substantive changes or reprioritization of budgeted resources to fund park operations in wilderness. That seems to say that the parks intend to accomplish monitoring of the three established visitor capacity measures within existing budgeted resources, without substantive changes or reprioritization of budgeted resources. Is that the meaning of this statement?
[Individual, #97]

On Page A-14, the document says that trail encounter standards were established for the day-use areas. Table A-6 (Visitor Capacity Monitoring - Encounter Sub-zones) on page A-28 also clearly shows that trail encounter standards have been set for trails that are in day use areas of the wilderness close to the frontcountry. A reasonable reader would conclude that the parks intend to monitor trail encounters on those trails just like on all the other trails in the parks wilderness areas. But it is not clear that this is how the parks really propose to monitor use on trails in day use areas of the wilderness close to the frontcountry; the WSP does not explicitly make that statement.
[Individual, #97]

Which of the trails will be monitored for the trail encounter measure? Table A-6 (Visitor Capacity Monitoring - Encounter Sub-zones) on page A-28 establishes standards for essentially all of the trails in the parks wilderness areas. In numerous places, the document implies - but never explicitly states - that the parks intend to monitor trail encounters on all of those trails. A reasonable reader would conclude that the parks intend to monitor trail encounters on all of the trails that have established standards. Is that what the parks intend to do? Even if the parks do not intend to monitor trail encounter on trails in day use areas of the wilderness close to the frontcountry, a reasonable reader would conclude that the parks intend to monitor trail encounters on all the trails in the overnight areas of the wilderness. But it is not even clear that the parks really do propose to monitor trail encounters on all of those trails in the overnight areas of the wilderness; that commitment is never explicitly made. What does the phrase extrapolated across wilderness mean in the definition of the trail encounter measure? Does that mean that every trail and route, even those not included in Table A-6, has an established standard? If that is the meaning of this phrase, it should be expressed more clearly.
[Individual, #97]

Is the intent to decide in the monitoring plan which trails will be monitored and which trails will not? The WSP should clearly state which of the trails that have established standards will be monitored to ensure that conditions remain within standard. If the intent is to monitor some trails differently than others (e.g., the group of nine most popular trails), this should be clearly called out. Then the document should use language consistently so that the reader knows what is really being proposed. Under the Permits and Quotas section of Key Elements of Alternative 2 (page 96), the document says that areas to be monitored for continued acceptable levels of use that may require a future trailhead quota change includes only the trails in the nine most popular and sensitive areas. What about all the other trails in the parks wilderness for which trail encounter standards have been established as shown on Table A-6? What is the significance of excluding those trails from the above group of nine areas? Are those other trails going to be monitored for continued acceptable levels of use that may require a future trailhead quota change?
[Individual, #97]

Management of carrying capacity in day use areas. The three visitor capacity measures are focused on those parts of the parks wilderness where there is overnight use, far removed from the frontcountry. The monitoring program appears to largely not focus on those parts of the wilderness where day use occurs. But those are the areas where use could most likely increase relative to existing conditions, and where the opportunity for solitude is most likely to decrease relative to existing conditions. Yet the Environmental Consequences section assumes that this will not occur. The WSP should commit to

> *regularly monitoring the three visitor capacity measures throughout the parks wilderness areas, including the parts of the wilderness where day use occurs. If there are areas where the WSP does not anticipate regularly monitoring one of those measures, then that should be clearly stated and justified.*
> [Conservation/Preservation, #184]

> *The Draft WSP does not present a compelling argument that the parks can put enough government employees and/or volunteers in the wilderness to collect the required quantity of monitoring sample data. The Draft WSP also fails to disclose whether any large national park or forest has ever successfully implemented a trail encounter monitoring program on this scale. The program, as designed, appears to be too labor intensive to be practical to implement within existing budgeted resources as the plan indicates on page 512.*
> [Individual, #97]

Response: "Appendix A: Visitor Capacity" commits to monitoring all three visitor capacity measures that have explicit standards and managing to ensure that conditions remain in standard. Monitoring for grazing conditions and visitor encounter frequency is already occurring. A monitoring plan for campsite condition would be adopted after a ROD is published for the WSP/FEIS.

Appendix A establishes visitor encounter standards for all types of trails, including areas subject to day-use. Decisions about how to commit monitoring resources will be made adaptively, and will be adjusted to focus on areas where potential problems are detected.

Some measures relate to both day-use and overnight use, and others relate only to overnight use. Trail encounter frequency, for example, does not distinguish between day and overnight visitors, while campsite condition is obviously related only to overnight camping. Grazing measures would apply to all parties that choose to graze stock, although these are primarily overnight parties. Other measures such as VUDs are obtained from the permit database for overnight use, and therefore, only reflect overnight use. The wider range of measures related to overnight use reflects the wider range of impacts that is associated with overnight use. For clarity, the sentence in the "Step 5: Establish Visitor Capacities" section of appendix A regarding limits and overnight use was omitted in the WSP/FEIS.

Concern 212: There are concerns with visitor capacity at Mount Whitney. Reducing use in the Mount Whitney Management Area by restricting use by people who have permits from the parks is an unfair burden and if use patterns change and fewer through hikers utilize the area local wilderness permit holders should be allowed to increase use.

> *One of the primary areas of growth is the annual onslaught of PCTers and JMT through hikers, something that, on an anecdotal basis, is increasing every year. Any restrictions in use should be based on as complete of a picture as possible and take into account the impacts that through hikers create. Trying to reduce use in the Mount Whitney area by restricting use by people who have SEKI permits is an unfair burden and if use patterns change and fewer through hikers utilize the area local wilderness permit holders should be allowed to increase use. Without having a complete baseline long term management could prove difficult.*
> [Business, #196]

Response: If future observed visitor use patterns suggest that a larger number of permits could be issued while maintaining desired conditions, managers would have the latitude to increase the permit volume at that time.

Concern 213: Visitors seeking solitude on the trail to Mount Whitney would seem to be looking in the wrong place.

> *There are concerns that increased use necessitates reduced opportunities for solitude. From a practical standpoint the marginal detraction of solitude between encountering 45 people an hour vs. 59* people an hour would be negligible, yet it would afford hundreds of more people the opportunity to climb Mt. Whitney every year. Indeed, visitors seeking solitude on the Mt. Whitney trail would seem to be looking in the wrong place. Further, it is our opinion that while the Mt. Whitney area is extremely busy relative to other areas in the Park, there are no safety hazards that would necessitate additional restrictions to use.*
> [Business, #196]

Response: While the visitor density in the Mount Whitney Management Area may be inconsistent with some visitors' definition of solitude, it is nonetheless necessary to control visitor density at a level that the parks' managers consider compatible with the purposes of wilderness.

Appendix B: Extent Necessary Determination (END) for Commercial Services

Concern 214: The END for commercial services, does not demonstrate that commercial stock use is necessary.

> *The DEIS Extent Necessary Determination ("END") for commercial services, Appendix B, does not demonstrate that commercial stock use is necessary. The END makes the following conclusion regarding commercial stock use: "Stock riding, packing, and camping are activities that are proper for realizing the public purposes of wilderness." However, nothing in the DEIS shows they are necessary in and of themselves as a COMMERCIAL activity. The DEIS erroneously concludes that necessity for commercial service arises from the need of people to hire commercial stock if they do not own stock themselves. That is one step removed and says nothing about whether commercial stock use itself is necessary for those same people to access the wilderness at all, i. e. to realize the public purpose of wilderness. The DEIS concludes only that stock use in the abstract is a proper activity in wilderness. The DEIS does not conclude that commercial stock use is necessary in the wilderness above and beyond individual stock use. The reason why the DEIS does not conclude that commercial stock use is necessary in this manner is that it cannot. The DEIS would have to assume that all stock use, including by individuals, is necessary (which the DEIS does NOT conclude), and only then make the argument it actually makes, which is that commercial use should be allowed on the basis of economic equity since most people do not own stock. The hypocrisy of this economic equity argument is particularly evident given the relative affluence and comfort level required for an overnight commercial stock trip relative to the cost of accessing the wilderness without such commercial aid.*
> [Individual, #46]

Response: As explained in the END, the NPS interprets Section 4(d)(5) of the Wilderness Act to require an initial finding as to whether a particular activity (e.g., stock use) is "proper" for realizing one of the public purposes of the Act. This approach is consistent with the plain language of Section 4(d)(5), which states that commercial services may be performed "to the extent necessary *for activities which are proper* for realizing the recreational or other wilderness purposes" of a wilderness area. Having concluded that stock use is a proper activity in wilderness, the END then proceeds to determine whether commercial services are necessary to support that activity and, if so, what is the amount (i.e., the extent) of commercial services that would be allowed. This last step involves consideration of desired conditions

and visitor capacities to ensure that the amount of commercial services allowed preserves wilderness character.

Concern 215: There is a concern that commercial service providers are making the determination about which services are necessary versus unnecessary, and that there is an economic bias in such determinations.

> *Allow commercial services of SEKI's wilderness only to the extent that such services are truly necessary. Please don't allow the commercial service providers themselves to continue making the determination about which services are necessary vs. unnecessary. It is plainly obvious that they have an economic bias in such determinations. . .*
> [Business, #117]

Response: The NPS has the authority to make a determination about the necessity for and extent of commercial services and has exercised this authority through the END process.

Concern 216: The phrase "extent necessary" should not be a blanket authorization for visitors to utilize commercial services to any extent. The document should consider that "extent necessary" may refer to a commercial activity that would enhance the agency's ability to protect the resource, or a special provision for disabled people or for only those who can demonstrate a need for commercial support.

> *You also assume that "extent necessary" refers to access to wilderness. How do you know that? Perhaps the phrase refers to commercial activity that would enhance the agency's ability to protect the resource. Perhaps it refers to some sort of special provision for disabled people. Perhaps it means that only those who can demonstrate a need for commercial support may avail themselves of such support. You haven't considered any of those possibilities. In any event, the phrase "extent necessary," coming, as it does, after the statement that there shall be no commercial enterprise in wilderness, cannot possibly be blanket authorization to all comers to utilize commercial services to any extent whatsoever. "Extent necessary" is a limiting phrase, not, as you would have it, one that removes all limits.*
> [Recreational Group, #254]

Response: The END is not a "blanket authorization" but rather an authorization for a specific amount of commercial support for specific activities that are proper for realizing wilderness purposes, namely, the recreational, scenic, scientific, educational, conservation, and historical purposes. The Wilderness Act makes no mention of visitor disability or any other attribute of particular visitors, but instead states that commercial services may be allowed for activities that are proper for realizing wilderness purposes. The END therefore focuses on attributes of those activities as factors for determining the necessity for commercial support. The amount of commercial services allowed under each alternative is tied to the desired conditions and visitor capacities for that alternative to ensure that wilderness character is preserved.

Concern 217: Meaningful criteria must be applied to determine the "necessity" of commercial stock services in wilderness. To be meaningful, the criteria must refer to the physical needs of persons wishing to explore wilderness, not to provide a means for those who are circumventing trailhead quotas, who use stock to haul unnecessary items into the backcountry, or who are seeking convenience and ease.

SEKI's WSP/DEIS conflates the stringent "extent necessary" preservation language of the Wilderness Act with the public's wishes to take trail rides; their difficulties as individuals -versus large groups - in obtaining stock to use on SEKI's wilderness trails; the support that accompanies stock use on wilderness trails (such as caring for, feeding and maintaining stock); and the public's general lack of skill and knowledge in riding and using stock in the wilderness. None of these categories is a proper foundation from which to analyze whether commercial stock use is "necessary" in wilderness areas. SEKI's approach to the issue applies improper criteria, is not meaningful, minimizes the sacred protections of the Wilderness Act, and simply caters to commercial interests. SEKI's approach does not truly balance the impact of the commercial activity with its impacts on wilderness.
[Recreational Group, #235]

The NPS must apply meaningful criteria in the FEIS to meet the Act's narrow exception for commercial services. Criteria that should be met regarding necessity have been outlined in our past comments and are detailed once again here. To be meaningful, the criteria must refer to the physical needs of persons wishing to explore wilderness, not to provide a means for those who are circumventing trailhead quotas, who use stock to haul unnecessary items into the backcountry, or who are seeking convenience and ease. These uses of commercial stock do not constitute necessity.
[Recreational Group, #235]

The facts do not support a finding of necessity. Private stock is less than 20% of recreational stock use. The NPS uses this figure to attempt to demonstrate a "need" for commercial services to facilitate this recreational activity. WSP/DEIS Appx. B-18. The NPS is not tasked with facilitating recreational activity desired by a small percentage of users at the extreme environmental cost of degrading the wilderness and negatively impacting the experience of other park visitors. The great majority of visitors to SEKI (93%) of the park on foot. Yet, by referring to cost and individual difficulty as the primary reasons for the need of commercial stock services, the NPS continues to treat stock use as an accepted and favored activity in the parks that will continue simply because of its historical use in SEKI. Additionally, the current trailhead quota system has the undesired consequence of allowing those individuals who are denied access via the regular quota, and who can afford the tariff, to gain access to wilderness by hiring commercial stock.
[Recreational Group, #235]

SEKI should prohibit commercial stock-packing enterprises from providing or transporting excessive, bulky and/or heavy luxury items which are unnecessary to experience the wilderness (i.e., camp furniture, floats, ice chests, excessive beverages & fresh foods, etc.). Such items are clearly unnecessary to enjoy a true wilderness experience, and transporting such items requires more stock animals, which degrades trails, pollutes water, and harms wildlife habitat. . . . Please correct these deficiencies by reducing and limiting commercial services to the extent that is truly necessary.
[Individual, #117]

No commercial day rides within wilderness, and no commercial stock use in the Mt. Whitney Management Area.
[Recreational Group, #123]

Response: The Wilderness Act, including Section 4(d)(5), makes no mention of visitors' physical needs or provides any restriction on items brought into Wilderness other than those identified in Prohibition of Certain Uses in Section 4(c). Individual visitor's physical needs are therefore not used as a criterion for the necessity of commercial support.

These parks are aware that some visitors find certain items in the wilderness setting distasteful (e.g., chairs and ice chests). However, putting restrictions on these items is neither necessary nor practicable. All visitors, regardless of commercial support, are restricted from using items identified as prohibited in Section 4(c) of the Wilderness Act, and are required to comply with established restrictions on behavior as it affects the wilderness (and National Park) environment, both natural and social (see "Appendix F: Wilderness Regulations and Permit Conditions"). It is worthwhile to note that the issue of what some visitors deem to be "unnecessary items" was addressed in High Sierra Hikers Association vs. U.S. Department of Interior, May 29, 2012. The court, in denying the validity of the claim of "unnecessary items," stated, "It is not appropriate for one group of the parks' users to impose its vision of wilderness etiquette over others" (High Sierra Hikers Association v. U.S. Department of the Interior, 2012 U.S. Dist. LEXIS, 74124 (N. D. Cal.)).

In all action alternatives (alternatives 2-5), all visitors entering the parks' wilderness on NPS-managed trailheads are subject to NPS trailhead permit quotas, which do not give preference to those supported by commercial services, and which cannot be "circumvented." Those visitors entering these parks via USFS managed trailheads are subject to similar quotas, though some of the USFS managed trailheads do have separate quotas for private and commercial service supported use (and which were established through a court action: High Sierra Hikers v. Randy Moore, 561 F. Supp. 2d 1107 (E. D. Cal 2008)

Concern 218: The NPS must weigh the impact of all relevant factors and potential consequences of permitting commercial stock use on wilderness character and preservation.

> *Despite the lack of adequate findings, if one applies the competing interests tests, the END fails. For example, the END further fails in its attempt to properly weigh competing interests by failing to address the-denial of permits to hikers while there exist, at some popular trailheads, special quotas for commercial stock users. Pack stock are utilized much less for wilderness travel than travel by those who go on foot, yet the END does not take this into account when it determines that commercial services are necessary to facilitate wilderness travel.*
> [Recreational Group, #235]
>
> *The impacts on the resources of the park are well documented, id . , yet the WSP/DEIS failed to adequately assess and make known to the public the impacts of stock use. With these faults in raising issues, specific findings cannot be made, the required balancing between wilderness values and commercial services cannot be conducted, and subsequent reliance by the NPS on the END is wholly deficient.*
> [Recreational Group, #235]

Response: The WSP/FEIS discloses impacts associated with stock use, and considers these impacts in combination with other factors, such as the way in which the activities that may be supported by a commercial service realize the recreational or other purposes of wilderness." Section I: Activities which are Proper for Realizing the Recreational or Other Purposes of Wilderness" section of "Appendix B: Extent Necessary Determination for Commercial Services" identifies activities that are proper for realizing wilderness purposes and the ways in which these activities are regulated to protect wilderness character. Table B-4 in appendix B discusses the relationship between proposed visitor capacities and proposed commercial allocations, and the consequences for wilderness character. "Section V: Summary"

of appendix B summarizes the factors that were considered in determining proposed commercial service allocations for each alternative. There are no "special quotas" for wilderness visitors supported by commercial service providers, and all commercial service providers will be limited to the annual overall (parkwide and for the Mount Whitney Management Area) allocations of commercial service days as established in the END.

Concern 219: The END should include the positive role that the commercial pack stations play in accomplishing the goal of wilderness education.

> *The WSP identifies Wilderness Education and Information as a goal for all park divisions to take, yet there is no discussion in the Extent Necessary Determination about the positive role that the commercial pack stations play in accomplishing that goal for the Park Service.*
> [Recreational Group, #201]

Response: The END recognizes that commercially supported activities can contribute to several of the Wilderness Act's public purposes. The END acknowledges this in the following passage: "It is worthwhile to note that these [public] purposes are rarely, if ever, discrete; that is, a recreational activity would commonly involve scenic or educational pursuits, or even both."

Concern 220: The END failed to address the 5th wilderness character. The END also failed to assess impacts from non-commercial visitor use entering from other sources, such as Yosemite National Park. These visitors are not included in the parks' statistics; however, they should be incorporated into the data and their visits should be included in the visitor-use days.

> *In determining the END the establishment of measures and standards failed to address the 5th wilderness character, and does not address non-commercial visitor use entering from other sources. Until a collaborative permit system is in place, the parks do not really know how many visitors they have at any one time, their location, destinations, and the intensity of the visit. In determining the END, if considering assigning a hard fast VUD number, we request instead the parks work on clarifying true visitor numbers and recognize how much smaller the commercial use numbers (stock and non-stock) are. Per Appendix B B-40 the limits on commercial services imposed by this plan should be recalculated when changes in patterns occur (and they will due to new restrictions) and once true visitor use patterns can be tracked, we request flexibility and evaluation of increased use. We appreciate and agree with the findings and recognition of commercial packing as a proper activity for wilderness.*
> [Business, #182]
>
> *One issue I'm concerned about is that lack of ability to included JMT and PCT users who start on other jurisdictions (e.g., Yosemite) in the park use statistics. I think a way needs to be found to include these use numbers if the park is to be able to have a true picture of [Individual, #12]*
>
> *Reported Visitor Use Days (VUD) non-commercial use must be significantly higher than reported d/t the statement in the DEIS that visitors who obtained their wilderness permits from other sources (other than the parks) were excluded in the calculations. Therefore the percentage of total commercial use is much smaller in relation to total VUD. Better reporting has come from the commercial users apparently, and therefore the parks actually do not have an accurate number of non-commercial visitors from which to develop any kind of visitor capacity plan.*
> [Business, #182]

Response: The fifth quality of wilderness character, "Other Features of Value" (which are: "other" ecological, geological, scientific, educational, scenic, or historical values) from Section 2 (c)(4) of the Wilderness Act is generally supported by the analysis of the first four qualities, and through associated compliance activities, including the Section 106 process under the NHPA and the NEPA analysis contained in "Chapter 4: Environmental Consequences" of the WSP/EIS.

The "Alternative Visitor Capacities" section of "Appendix A: Visitor Capacity" considered the amount of visitors entering from origins other than those in the three adjacent national forests and the parks. Although precise data for the numbers of visitors traveling through the parks from these other locations are unavailable, there is general data available on which to base reasonable estimates (see table A-2 in appendix A). The parks will be working to collect this visitor use data more accurately in the future to guide and improve management actions. It should be noted that visitors entering the parks from these more distant origins are rarely guided by commercial service providers, though they do regularly use resupply services.

Appendix D: Stock Use and Meadow Monitoring and Management Strategy

Concern 221: The proposed strategy for monitoring and managing stock use is insufficient to prevent impacts to meadows, identify impacts in a timely fashion, or ensure consistent compliance with forage utilization limits. The thresholds for management actions described in the proposed strategy are not sufficient to protect meadow systems from potential degradation due to grazing impacts.

> *The proposed SUMP in the DEIS is inadequate to consistently prevent significant damage to meadows, identify meadow damage in a timely fashion, or ensure consistent compliance with forage utilization limits.*
> [Business, #238]
>
> *The SUMP's TMA are not adequate to protect meadow systems from major degradation due to grazing impacts. The TMA are also inadequate to ensure that effective measures are taken in timely manner to arrest and reverse meadow degradation by grazing.*
> [Business, #238]
>
> *Under the SUMP TMA, once significant degradation has been documented, more monitoring is called for rather than arresting the cause of degradation, as exemplified for bare ground (Table D-4, App. D). Notably the SUMP TMA do not require that the additional monitoring be completed within a specific timeframe. As a result, serious and major degradation can persist or be exacerbated by continued grazing before additional monitoring assessments are made. Importantly, the TMA for bare ground in Table D-4 (App. D) are not true thresholds that require management action. Instead, they are clearly identified as "potential" thresholds for bare ground conditions.*
> [Business, #238]
>
> *The SUMP and IMA (App. D) plainly do not include concrete requirements to implement specific on-the-ground measures to reduce, arrest, or reverse meadow degradation by stock that might ultimately be identified. Therefore, the DEIS must make known that the outcome of SUMP, if adopted, cannot be assessed with any certainty, because there are no specific measures that certain to be implemented. Instead, the SUMP only provides a menu of approaches that might be taken, several of which, such as increasing "education" (Table D-4, App. D), do not have predictable on-the-ground outcomes.*
> [Business, #238]

> *While the WSP/DEIS states that grazing will be "managed," it does not explain other than the Stock Use and Meadow Management Plan ("SUMMP"), which NPS previously admitted is to be replaced by the WSP/DEIS. See WSP/DEIS at iii. This proposed management approach is confusing, seems circular, and guaranteed not to produce any management functions. It also further proceeds with a balancing test, stating that the managing will occur "to maximize protection of resources while allowing visitors traveling with stock continued access to forage." WSP/DEIS at 116.*
> [Recreational Group, #235]

Response: The proposed strategy for managing stock use is designed to prevent unacceptable impacts to meadows through implementation of multiple complementary field protocols and a suite of adaptive management tools. Because grazing is both self-reported and documented by field staff at regular intervals, managers are able to track the timing, duration, and intensity of use throughout the season. Meadow condition is evaluated during and at the close of the grazing season by both field rangers and professional ecologists. The frequency of site visits is determined by documented use levels and patterns, which are largely well established and predictable, as well as through regular communication with commercial outfitters and administrative packers. As part of the annual work planning process, administrative packers share their grazing plans with wilderness managers early in the season; commercial outfitters are required to submit trip itineraries to the parks two weeks in advance of entering the wilderness. These requirements facilitate the focusing of monitoring efforts on popular locations as the need arises. Field staff are trained to recognize impacts before they become significant and protocols are in place to communicate observations to managers so that appropriate action can be taken in a timely manner. Wilderness rangers encountering resource issues in the field that require immediate action are trained to recommend closure or other limits to their district ranger, who then have the authority to implement temporary restrictions as necessary to ensure resource protection.

The proposed grazing limits and opening dates are site-specific, and are revised as additional information becomes available to address meadow-specific vulnerability to impacts. Thresholds for management action are designed to provide managers with a range of tools which are triggered by either use levels and/or conditions. The responsiveness of the management system has been demonstrated and documented (Haultain and Frenzel 2014; Haultain and Frenzel 2013).

Taken together, the complementary elements of the management program at the parks — monitoring, which includes residual biomass and bare ground, stream bank alteration, stock use, species composition, repeat photography, and regularly scheduled site visits; an opening-date system based on moisture, soil, and vegetation conditions; management tools including the ability to rest meadows when needed, as well as adjust use levels through controls on party size and length of stay; and ongoing research into meadow function and the effects of grazing on meadow ecology — is designed to protect meadows by preventing, minimizing, and/or mitigating impacts.

The proposed strategy for managing stock use has been revised in the WSP/FEIS to better describe how the adaptive management program triggers actions that prevent unacceptable resource impacts.

Concern 222: The proposed strategy for monitoring and managing stock use does not address the potential impacts of stock use on the aesthetic experience of some visitors. Potential aesthetic impacts include trampling of vegetation and streambanks, bare ground, deepened or widened trails, changes in hydrology, and the presence of manure.

> *RBM and proposed forage utilization guidelines (App. D) do not protect vegetation attributes that are important components of meadow appearance. The DEIS suggests*

limiting grazing utilization to targets of about 25 to 45% of biomass produced in meadows subject to grazing mainly as a function of touted logistical value to facilitate stock grazing. Meeting these quantitative goals is highly unlikely to protect vegetation conditions that affect meadows aesthetics, because the removal of half the height of meadow plants only equates to a forage utilization of 20% of the biomass of these same plants (Neuman, 1993). The loss of more than half of the height of grazed vegetation would be an aesthetic impact that is easily observable, yet be considered to meet forage utilization goals for most meadows subject to grazing under the SUMP. Therefore, the proposed utilization levels clearly do not protect meadow aesthetics.
[Business, #238]

Many of the previously discussed impacts of stock use that are not captured by the SUMP or RBM also affect the aesthetics of meadows, including stream bank damage, bare ground, deepened and/or widened trails, and drier meadows.
[Business, #238]

Stock excrement in meadows is an obvious aesthetic impact. However, the SUMP and RBM does not assess the magnitude of stock excrement in meadows or the resulting impacts on aesthetics.
[Business, #238]

Response: The WSP/EIS acknowledges the impacts of stock use on some visitors' experiences. The impacts are discussed and analyzed in the "Visitor Use" sections of "Chapter 3: Affected Environment" and "Chapter 4: Environmental Consequences" of the WSP/EIS. Maps illustrating allowed stock use across alternatives are available in "Chapter 2: Alternatives" and as supplementary material at http://parkplanning.nps.gov/sekiwild. In addition, a detailed assessment of the meadow area subject to grazing (where stock waste, grazed vegetation, and other stock impacts could potentially affect visitor experience) is provided in the "Vegetation" section of "Chapter 4: Environmental Consequences."

The WSP/EIS recognizes the value of ungrazed meadows to visitor experience. Because aesthetics are highly subjective, the WSP/EIS does not define specific standards for aesthetic impacts in meadows open to stock use. Instead, opportunities to experience ungrazed meadows would be ensured by closing some of the meadows in the parks to all grazing or all stock travel, monitoring and managing stock use, and enforcing stock use and grazing restrictions. The action alternatives propose to provide a range of opportunities for visitors to experience solitude, pursue opportunities for primitive and unconfined recreation, and to observe and enjoy ungrazed meadows. These include areas open to both stock travel and grazing, open to stock travel but closed to grazing, and extensive areas of the parks which are closed to all stock travel and grazing. The amount of meadow area in each of these categories under each alternative is evaluated and presented in chapter 4. The preferred alternative closes six additional meadows for the express purpose of providing visitors with the opportunity to experience ungrazed meadows along major trail corridors; coupled with closures for other purposes this alternative significantly increases these opportunities.

Concern 223: The use of range monitoring methods is inappropriate for managing grazing by recreational and administrative stock in wilderness. The proposed strategy for monitoring and managing stock use relies on a single measure — the amount of vegetation removed from a meadow — and thus does not take into account all potential ecological and social impacts.

The meadow monitoring methodology is completely unsuitable to this effort. It was adapted from range monitoring and, because it measure only the amount of grass removed from a meadow, is inappropriate for use in wilderness where ALL impacts -

aesthetic as well as ecological - need to be monitored. Meadow monitoring measures one very narrow aspect of stock impact. Once again, the aesthetic impacts of stock are completely ignored.
[Conservation/Preservation, #116]

FEIS Must Provide a Preventative Rather Than ad hoc Approach to Managing Stock Use in SEKI Wilderness A. Background The Wilderness Act establishes a "National Wilderness Preservation System." 16 USC Sect. 113l(a). Preservation is the core goal of the Act. Preservation requires, necessarily, prevention of further harm or remediation of harm caused.
[Recreational Group, #235]

As to the physical and organic impacts of stock animals on SEKI Wilderness, the WSP/DEIS attempts to utilize a system of current monitoring programs to determine when an area within SEKI has been over utilized by stock use/grazing. See, e. g . , WSP/DEIS pg. 366, pg. 373; see also WSP/DEIS Appx. D. This system, however, is faulty. It allows for the degradation of wilderness and encourages a pattern of attempted restoration rather than preservation. See id. (the monitoring procedures described in the Stock Use and Meadow Management Plan in Appendix D referred to in the Alternatives is a reactive strategy and describes a system of damage and restoration, rather than protection).
[Recreational Group, #235]

Response: As described in "Appendix D: Stock Use and Meadow Monitoring and Management Strategy," the proposed strategy for monitoring and managing grazing in wilderness includes several complementary monitoring protocols. Several of these protocols have been adapted from the field of range management, including the residual biomass monitoring protocol, the stock use monitoring protocol, and the species composition monitoring protocol. These provide tested methodology for quantifying specific ecological parameters which are not unique to range management, including the amount of vegetation and bare soil present in a meadow, and for detecting changes in species composition. The field of range ecology also provides management tools proven effective in the management of recreational stock, including the establishment of night and head limits, and opening dates for grazing. These monitoring and management techniques have been modified to reflect the unique needs of wilderness managers, specifically with regard to minimizing the use of installations in wilderness and responding to use which is highly variable with regard to timing, frequency and intensity. The use of productivity models to estimate grazing capacity, as described in appendix D, also represents a traditional range management tool modified for application to wilderness management. Although the capacity model is used to determine grazing levels, it differs from range management applications in that the proposed levels are designed to meet specific wilderness stewardship goals as opposed to those of livestock production.

The amount of vegetation consumed by grazing animals would be just one measure employed by the proposed monitoring strategy, although several other impacts of interest are correlated with it. Monitoring would also include evaluations of impacts to soils and sensitive areas (e.g., hoof prints, trampling, and streambank alteration), presence of nonnative plant species, changes in species composition, and changes in bare ground. Management action would be taken to address such impacts even if the amount of vegetation consumed was within standard.

As noted in response to concern statement number 221, because aesthetics are highly subjective, the WSP/EIS does not define specific standards for aesthetic impacts in meadows open to stock use. Instead, opportunities to experience ungrazed meadows would be ensured by closing some of the meadows in the

parks to all grazing or all stock travel, monitoring and managing stock use, and enforcing stock use and grazing regulations.

Concern 224: The proposed strategy for monitoring and managing stock use should provide specific procedures for monitoring of trampling impacts to capture how trampling can potentially affect meadow function, condition, and aesthetics.

> *The SUMP does not provide or require any sound monitoring of trampling impacts. The RBM in the SUMP only measures residual biomass and bare ground in some "core" (grazed) and "reference" (ungrazed or "lightly" grazed) areas in some meadows estimated to have undergone relatively heavy stock use over several years (Neuman 1993; 1994). This monitoring is not adequate to capture how stock trampling impacts significantly affect meadow function, conditions, and aesthetics.*
> [Business, #238]

> *The SUMP and RBM are not adequate for assessing the impacts of stock trampling on meadows. These limitations of the RBM and SUMP are significant because the impacts of trampling by stock persistently affect meadow function and condition in numerous ways. Therefore, RBM and SUMP have very limited utility in consistently identifying and assessing these impacts, resulting conditions, and the status of affected ecological functions of meadows.*
> [Business, #238]

Response: "Appendix D: Stock Use and Meadow Monitoring and Management Strategy" describes how trampling and other mechanical stock impacts will be monitored through site visits and bare-ground monitoring. Appendix D summarizes the kinds of impacts that would be monitored and the management actions that would be taken in response.

As noted in response to concern statement number 221, because aesthetics are highly subjective, the WSP/EIS does not define specific standards for aesthetic impacts in meadows open to stock use. Instead, opportunities to experience ungrazed meadows would be ensured by closing some of the meadows in the parks to all grazing or all stock travel, monitoring and managing stock use, and enforcing stock use and grazing regulations.

Concern 225: The proposed strategy for monitoring and managing stock use does not adequately address the potential for stock use and grazing to result in soil compaction.

> *Neither the SUMP nor the RBM assess the inevitable soil compaction and meadow damage caused by stock use. This is a significant defect, because, as previously discussed, soil compaction has numerous persistent adverse impacts on meadow function and condition. The proposed monitoring (App. D) of deep (ca. 1 inch or greater) hoofprints is not a surrogate for monitoring of soil compaction, because significant compaction can occur in the absence of such hoofprints, especially in drier meadows.*
> [Business, #238]

Response: The NPS recognizes that visitor use, including stock use and grazing, has the potential to result in soil compaction. This is particularly true in areas where use is concentrated, such as along trail corridors, in camps and in animal holding areas. In such areas a certain amount of compaction is expected and accepted as a consequence of recreational and administrative stock use. Preliminary results from ongoing soil surveys (2011-2016) by the Natural Resource Conservation Service in the parks have found no evidence of compaction in meadows despite levels of grazing that were notably higher in the past than

the present. These soil scientists speculated that high levels of biological activity have allowed soils to recover from historic impacts and that this activity provides resiliency to compaction under current grazing levels.

The proposed strategy for monitoring and managing stock use relies on the measurement of proxy variables, preventive management strategies, and adaptive management to provide for recovery should impacts occur. Soil compaction is addressed indirectly through the use of measures that are known to be closely correlated with changes in soil condition, including bare soil, changes in vegetation composition, and plant production. Quantitative data on bare ground is collected in conjunction with residual biomass and species composition monitoring; these data are used to inform decisions regarding grazing management on an annual basis. The opening date system serves to prevent soil impacts by restricting stock use in meadows during periods of high soil moisture, while grazing limits are designed to maintain grazing at levels that would not result in significant soil compaction. In the event that such impacts may occur, the adaptive management strategy allows for changes in grazing levels, including periods of rest, in order to allow for recovery. Field assessment of trampling impacts and erosion potential employed by wilderness field staff, both during mid-season site visits and during residual biomass monitoring, is key to the early detection and prevention of unacceptable levels of soil loss and compaction.

Concern 226: The residual biomass monitoring protocol described in the proposed strategy for monitoring and managing stock use does not adequately assess forage utilization by stock, grazing impacts to meadows, or biomass condition and trend. It is also not suited to evaluating trends in meadow condition, as the locations of the grazed and ungrazed plots do not appear to be fixed. The NPS should disclose the potential shortcomings of the monitoring protocol, including issues regarding the availability of ungrazed reference sites for comparison.

> *The selection and applicability of "reference" areas are major problems that seriously affect the veracity of RBM results. These are critical issues because the RBM uses reference areas as: 1) the indicator of the amount of residual biomass produced/present in meadows in the absence of consumption by stock; 2) as a "yardstick" to estimate of residual biomass consumption (forage utilization) by stock in core, grazed areas; and 3) assess the consistency of residual biomass in core areas relative to reference areas with management targets for forage utilization and/or percent residual biomass in meadows grazed by stock. Therefore, RBM results are quite sensitive to reference area conditions.*
> [Business, #238]
>
> *The fundamental problems related to the applicability of reference areas presents a major obstacle to accurate assessment of meadow impacts, forage utilization, and meadow biomass conditions and trends via RBM, although the DEIS fails to disclose these obvious and major limitations of the SUMP and RBM.*
> [Business, #238]

Response: The residual biomass program is only one element of the stock use monitoring and management program in place in the parks. The NPS makes a concerted effort to co-locate grazed (core) and ungrazed (reference) plots in order to minimize non-grazing related environmental factors. Where confounding factors appear to be at play, this is noted and taken into account when interpreting monitoring results. Although they are not permanently marked (in order to minimize the use of installations in wilderness), the location of these plots is fixed over time (Frenzel and Haultain 2014) and they are easily relocated using site maps, photographs, and geographic positioning devices. Plots are only moved in response to major changes in the way that stock graze a particular area or in the event of significant changes in the physical environment such as stream channel realignment or debris flow; these events are rare and are thoroughly documented when they do occur. Therefore, residual biomass plots can

provide some information about trends. Academic reviews of the residual biomass monitoring methods have affirmed their utility for managing recreational stock use (Abbott et al. 2003; Hopkinson et al. 2013). Residual biomass monitoring provides a reasonable estimate of the amount of biomass left at the end of the grazing season and an estimate of the amount of biomass removed through grazing (where reference sites are available) on the most heavily grazed portion of a meadow. By focusing monitoring efforts on the most heavily grazed area of each meadow, the resulting data are likely to overestimate impacts at the meadow scale, and thus are designed to trigger responsive management action before impacts become unacceptable or irreversible. As the relationships between residual biomass and utilization with other attributes of interest (productivity, basal cover, relative graminoid cover, and soil nitrogen and carbon) have been described by research in similar study areas, monitoring residual biomass provides an effective way to predict impacts which are not monitored directly. Because residual biomass and utilization are responsive to changes in the timing and amount of grazing, they can also be used to assess the efficacy of management actions.

Under the monitoring strategy proposed in "Appendix D: Stock Use and Meadow Monitoring and Management Strategy," the residual biomass protocol would represent only one of several monitoring techniques used to detect impacts from grazing stock. The adaptive management system is designed to ensure that management action would be taken to address resource concerns identified during monitoring even if those concerns were not reflected in residual biomass and utilization values. For example, if deep hoofprints are observed in a sensitive area, such as a spring, seep, or near a rare plant population, action would be taken to mitigate soil impacts, such as a midseason grazing closure or a modification in stock regulations at the site, as appropriate. Consistent with adaptive management principles, the proposed strategy for monitoring and managing stock use has been revised to reflect that as improved methods of monitoring biomass and utilization become available, they would be incorporated into the monitoring methods as appropriate.

Concern 227: The forage utilization limits described in the proposed strategy for monitoring and managing stock use are not sufficient to protect and restore meadow conditions and functions. As residual biomass monitoring is conducted at the end of the growing season, concern is raised over the ability of the NPS to determine when grazing limits have been exceeded.

> *Due to their inherent susceptibility and/or degraded condition, it is likely that the recovery of many meadows requires the suspension of grazing.*
> [Business, #238]
>
> *There is not strong scientific evidence that currently recommended forage utilization limits are adequate to protect and restore meadow conditions, functions, and aesthetics.*
> [Business, #238]
>
> *The DEIS's assessment of the impacts of forage utilization levels for lower elevation meadows in SEKI, which are partially based on a consideration of decomposition rates, and, hence, the provision of organic matter to meadows, may not protect meadow functions associated with organic matter and residual biomass in meadows, due to cumulative effects.*
> [Business, #238]
>
> *There are also major problems with the implementation of forage utilization limits. RBM only occurs towards the end of the grazing season, which is highly inadequate for ensuring that forage utilization limits on biomass loss are not exceeded. It is well-established that the successful implementation of utilization limits requires that*

> *utilization levels are monitored during the period of grazing and with the data used to suspend grazing before utilization limits are exceeded.*
> [Business, #238]

Response: The site-specific grazing levels proposed in the WSP/EIS are based on the best available information about the effects of varying utilization values on ecosystem structure and function in the meadows of the Sierra Nevada (see the "Existing utilization guidelines" section of "Appendix D: Stock Use and Meadow Monitoring and Management Strategy"). They take into account such factors as elevation zones (upper montane and subalpine vs. lower montane / woodland), subalpine vegetation types (three vegetation types that span a moisture gradient from wet to dry), and the susceptibility of different vegetation types to different kinds of impacts (productivity, basal cover, and relative graminoid cover) as detailed in appendix D (see the "Proposed Utilization Rates for Action Alternatives Allowing Grazing" section of appendix D). Furthermore, the management strategy provides additional management tools (site visits, grazing opening dates, grazing night and head limits, temporary grazing closures) and the flexibility to adjust grazing proactively as needed to address impacts other than defoliation (see the "Grazing Levels" and "Validating and Refining Estimated Capacities" sections of appendix D). As described in the "Proposed Utilization Rates for Action Alternatives Allowing Grazing" section of appendix D, the grazing capacities proposed for alternatives 2, 3, and 5 would keep grazing to levels that would limit changes to vegetation and soils attributes, and allow for appropriate management response before irreversible impacts occur.

Because grazing is both self-reported and documented by field staff at regular intervals, managers are able to track the timing, duration, and intensity of use throughout the season. Meadow condition is evaluated during and at the close of the grazing season by both field rangers and professional ecologists. The frequency of site visits is determined by documented use levels and patterns, which are largely well-established and predictable, as well as through regular communication with commercial outfitters and administrative packers. As part of the annual work planning process, administrative packers share their grazing plans with wilderness managers early in the season; commercial outfitters are required to submit trip itineraries to the parks two weeks in advance of entering the wilderness. These requirements facilitate the focusing of monitoring efforts where they are most needed, and allows field staff to recommend changes in grazing management throughout the season.

Concern 228: The proposed strategy for monitoring and managing stock use would be improved by an expanded discussion of the potential for Type II statistical errors when estimating the amount of biomass remaining on a site at the end of the growing season.

> *The most rational approach to setting levels of statistical significance is to base it on the expected ecological costs associated with making Type II and Type I errors, respectively. However, these considerations do not appear to have been incorporated into the RBM. As a result, it is likely that costly type II errors will regularly occur in the assessment of whether residual biomass levels and/or forage utilization levels comply with targets. The DEIS fails to disclose the significant probability of Type II errors inherent in RBM monitoring and analysis.*
> [Business, #238]

Response: The monitoring strategy in Appendix D does not establish criteria for statistical significance. However, estimates of uncertainty which disclose the probability of Type I and Type II errors would be calculated and reported for the residual biomass values obtained by the double-sampling methodology described in Appendix D. Rather than establish formal error rates, this approach allows managers to take into account the uncertainty in the monitoring results when formulating actions, as they would not be limited to taking action when a certain level of statistical significance is obtained. Recognizing that there

is uncertainty in any estimation process, and that the ecosystems being monitored are subject to a high degree of variability in weather, climate, and use patterns, the proposed strategy relies on a suite of overlapping and complementary monitoring protocols in order to minimize the chance that important impacts are not detected by a single monitoring measurement.

The uncertainty around these estimates is thus taken into account when reporting and evaluating monitoring results. Rather than establish formal error rates, this approach allows managers to consider all estimates including any uncertainty, including the potential for Type I and Type II errors in their precision, and thus they are not limited to taking action when a certain level of statistical significance is obtained. Recognizing that there is uncertainty in any estimation process, and that the ecosystems being monitored are subject to a high degree of variability in response to changes in weather, climate, and use patterns, the proposed strategy relies on a suite of overlapping and complementary monitoring protocols in order to minimize and mitigate such errors.

Appendix E: Wilderness Legislation Related to Sequoia and Kings Canyon National Parks

Concern 229: "Appendix E: Wilderness Legislation Related to Sequoia and Kings Canyon National Parks" should contain a complete copy of 16 USC 45F.

> *Your current Park: Appendix E is lacking. I request again all of 16 USC 45f to be added to "this Park Draft at Appendix E. section. (a) "Mineral King Valley ." (b) "transfer of Sequoia National Game Refuge. (c) "Acquisition of property." and the call out at (c) "commercial use of such property . . . incompatible with such purposes.*
> [Individual, #28]

Response: It is not the intent of appendix E to contain all legislation relevant to the parks, only that which deals directly with the designation of wilderness in these parks. The Act transferring the Sequoia National Game Refuge (Mineral King Valley and surrounding lands) to the management of Sequoia and Kings Canyon National Parks (PL 95-625) is listed in the "References" section of the WSP/EIS.

Appendix H: Wilderness Information and Education Strategy

Concern 230: The parks should acknowledge the function that commercial service providers provide in educating their clients on Leave No Trace © and other wilderness messages, and the parks should consider using licensing to enhance or professionalize that function. In addition, the term "commercial," as used throughout the WSP/EIS, carries negative connotations and is a very loaded term.

> *It should be required of commercial stock users to educate their clients about wilderness etiquette with the expectation that wilderness impacts will be minimal and sustainable.*
> [Individual, #145]

> *Mt Whitney Zone D. Trailcrest. I ask that consideration be given to allowing commercial services to enter/exit the Whitney Zone via Trailcrest. I understand that this would need to happen in cooperation with Inyo National Forest. Several management goals would be resolved by opening this pass to commercial use: [. . .]4. It would allow for guides to be present in this high-use area as agents of SEKI who would interface with the general public and offer additional educational, LNT, and safety services.*
> [Business, #90]

As such, we guides fill two very important roles for the public who wishes to visit SEKI wilderness areas:[. . .] 2. Commercial services allow trained, professional guides to act as agents of SEKI, educating our guests about the park, the wilderness, history, natural history, and Leave No Trace practices. The benefits of guides as agents/educators are twofold; Our guests receive an enriched wilderness experience while visiting SEKI, while SEKI benefits by having trained professionals educating people about Leave No Trace, wilderness ethics and principles, and the parks own history and culture. In addition to the direct benefits for the commercially guided public and SEKI itself, there are other benefits related to non-guided wilderness users that we encounter. We guides, especially at SYMG, always wear logoed uniforms and look professional. It is very common to have the general public approach us with questions ranging from where should I camp or where can I find water, to what is that bird or what tree is this pinecone from? We can answer all of those types of questions. The result is that as agents of SEKI we guides can disseminate information important to preserving wilderness character as well as generally enhancing the wilderness experience of the general public we encounter. Furthermore, I have seen many times over situations where the non-guided public needs medical help. I myself have been approached (while guiding a trip) to assist in giving medical attention to a hurt person, and to aid in creating an efficient plan for care/evacuation. Another common situation for us (relative to the number of times we are there) is encountering folks on Mt Whitney who have altitude sickness. Again, I myself have turned people around on the trail and sent them to lower elevations. So to summarize, guides operating with valid CUAs in the SEKI wilderness add additional elements of safety and education for the general public as well as for our own guests, thus benefiting all wilderness users and SEKI itself.
[Business, #90]

The AMGA is an educational institution, an accrediting body, and a standard setting organization that is our nations sole representative to the twenty-five member-countries International Federation of Mountain Guides Associations (IFMGA), the international governing body responsible for guiding standards around the world. Since its genesis in 1979, the AMGA has grown to represent over 2,900 members that are represented in 49 states and 13 countries, over 30 Accredited Guide Services and educational institutions, and 60 Corporate Partners. Each year the training provided by the AMGA reaches over 700,000 people through direct contact between certified guides, climbing instructors, accredited businesses, and their clients. [. . .] Commercial Services We do want to acknowledge the work that has gone into developing the END process recently outlined in Reference Manual #41, and assessing the aspects of wilderness recreation that may require commercial services for some members of the public, such as specialized equipment and knowledge. The AMGA agrees with that assessment, and believes that professional mountain guides help fulfill all of those aspects for the guided public, in addition to setting the example to the self-guided public. With regards to mountaineering, SEKI already requires professional credentials for lead guides operating under a CUA, which provide a baseline assurance of an assessed degree of professionalism and skill, including Leave No Trace. The AMGA would be happy to work with park staff to continue refining that program to provide the best possible outcomes with regard to resource protection and public safety, and assuring that all mountaineering guides are professionally trained for the terrain on which they work. We believe that properly trained and credentialed mountain guides are a resource to both the public and the park, and can serve as effective partners for public education and wilderness stewardship.
[Recreational Group, #153]

Commercial Stock Use is a service to the public. The providers help educate their guests on proper wilderness behavior, camping etiquette, sanitation methods, and safe travel. The WSP identifies Wilderness Education and Information as a goal for all park divisions to take, yet there is no discussion in the Extent Necessary Determination about the positive role that the commercial pack stations play in accomplishing that goal for the Park Service. - - Benefits of having successful Commercial service providers: - they provide a valuable service to the public to enjoy their public lands; - they provide handicapped users access to the wilderness; - they allow hikers to take long distance trips by providing resupply services; - they provide rescues and evacuations thereby reducing non-conforming wilderness use of helicopters and other mechanized means of travel; - they augment Park services in participating in administrative work including backcountry communication, collaborative rescues, lost hiker searches, trail clean up and re-habilitation, and trash reduction, and - they are an extension of the public service the parks provide.
[Recreational Group, #201]

The term "Commercial" used throughout the plan carries negative connotations and is a very loaded term. We prefer to look at those using the Park as "guided" and "non-guided." The guests who come to SMC are all the "public" They are however those who choose to make use of the Park through the services that SMC can offer for a lot of reasons. Time, safety and a lack of skills are just some of those reasons. It is not up to the Park to place a value upon those reasons and to decide that the choice to go by one's self is of greater value then the choice to go with a guide. It is the Park's job to make sure that all of the public has equal opportunities and is offered equal protection in those choices under the law. Education should be the primary mechanisms for protection and this is not used enough. This is somewhere that guides can assist SEKI. Please use us!!! As a guide part of my job is that of an educator. The educational element of the plan ignores totally the contributions that trained guides can make. Alternative 4 is designed to "Emphasize undeveloped and non-commercial recreation. This alternative by its very title emphasizes that commercially facilitated recreation is something only to be tolerated and needs to be limited since it necessitates development. A more proper title would simply be "Emphasize undeveloped recreation." The bias against "Commercial" based recreation is implicit. I believe that this can be better titled simply, Undeveloped Recreation. Alternative 2 also seeks to reduce the guided public under the title of "Protect Wilderness Character" but fails to reduce use by the non-guided. A well-guided group in the mountains is indistinguishable from a non-guided one. If there are any differences it is probably that the guided group is better educated, better prepared, has great local knowledge and is able to travel upon the land more responsibly and lightly. Rather than seeking to limit the guided public SEKI should be encouraging them. A valid view is that all groups must be under the supervision of a qualified leader trained in natural history, LNT and wilderness skills. In other words someone who looks very much like a trained professional guide. But limiting the non-guided is hard to do; limiting the guided is far easier and thus becomes the chosen option.
[Business, #205]

Response: "Appendix H: Wilderness Information and Education Strategy" acknowledges the information-sharing efforts made by the parks with commercial service providers and by many commercial service providers and their clients. Appendix H points out that commercial service providers are partners with the parks in disseminating this information. Wording has been added to the "For Assistance" section in appendix H to clarify this intent. Future operational or adaptive management efforts could consider licensing, training, required sharing of the parks' wilderness information, and

similar programs. The WSP/EIS uses the terms "commercial" and "commercial services" to describe guided trips in accordance with the vocabulary of the 1964 Wilderness Act and related policy.

Concern 231: The parks should seek ways to broaden the demographics of those who use and care about wilderness.

> *Demographics Most wilderness users belong to one demographic group; White people of European ancestry. The demographics of California are obviously changing. Latinos are now about 50% of California's population and growing rapidly. The Oriental portion of our population is growing rapidly as well. Those ethnic groups as well as black visitors are seldom seen in wilderness. The Sierra Club is concerned that general public support for wilderness may decrease if those ethnic groups do not begin to use wilderness for all of the reasons delineated in the Wilderness Act. We do not have a simple solution to this problem but feel that all of us who value wilderness must reach out to those groups and help them understand the value of wilderness and experience positive visits to this outstanding resource. This perhaps may be the most serious threat to the future of protecting our invaluable wilderness resource in SEKI and elsewhere in the Sierra Nevada. We suggest that you, other wilderness managers at Yosemite National Park and the National Forests and the Bureau of Land Management that manage wilderness in the Sierra Nevada, conceive of various ways to help make wilderness relevant to the lives of underserved ethnic groups and vigorously implement a plan to encourage a wider group of ethnic people to learn about the value of the wilderness resource and to enjoy its use. The Sierra Club would be pleased to participate in such an effort.*
> [Conservation/Preservation, #60]

Response: "Appendix H: Information and Education Strategy" outlines strategies and methods to ensure that the wilderness of these parks is welcoming to all. The first objective of the strategy is "Diverse people feel welcomed and encouraged to connect with wilderness." The parks will continue to cooperate on common issues with our neighboring land management units and affiliated groups. The strategy includes statements about reaching a broad variety of audiences. Wording has been added to appendix H to clarify this intent.

Concern 232: Use of and reliance on electronic technologies in the wilderness, including the potential impacts on wilderness qualities from electronic technology should be addressed in the parks' informational efforts.

> *One of my chief concerns is that your draft plan appears to be devoid of any serious treatment of what has become one of the most important wilderness issues of our time: the explosion in use of and reliance on modern electronic technological gadgetry. Your plan should address this issue in two ways: First, you should include a provision that explicitly directs NPS staff to EDUCATE visitors about the adverse impacts of electronica on the wilderness experience. Your plan should specifically direct NPS staff to actively discourage the use of electronic gadgets in wilderness, in order to promote the "disconnect" from modern contrivances that is at the heart of the wilderness experience (i. e. , actively urge visitors to leave their gadgets at home, via your website, bulletin boards, and wilderness handout materials). Second, you should adopt and announce an explicit policy that the NPS WILL NOT RESPOND via helicopter to any signal/s from "SPOT" or other such beacon devices, unless you have enough SPECIFIC details about the situation (in text, voice, or image) to VERIFY that there is some specific life-threatening emergency.*
> [Individual, #86]

> *Limit visitors' use of and reliance on electronic devices. The Wilderness Stewardship Plan should direct NPS staff to educate all visitors about the negative impacts of these electronic devices and discourage visitors from bringing them into the SEKI Wilderness. Furthermore, the WSP should adopt an explicit policy that the NPS will NOT respond with helicopters to signals from "SPOT" or other beacon devices without specific corroborating details about a legitimate life-threatening emergency to warrant helicopter use. Too many wilderness visitors expect a helicopter airlift for non-emergency situations and that endangers not only the SEKI Wilderness but NPS staff as well.*
> [Conservation/Preservation, #166]

Response: The use of hand-held electronic devices may detract from some visitors' ability to experience the self-reliance that characterizes wilderness, but provided that these devices do not notably impact the experiences of others (e.g., through excessive noise or lights), their use is a personal choice. That is, they are not necessarily consistent with wilderness experience, but the Wilderness Act does not specify their prohibition. This topic is addressed in chapter 2 under "Alternative Elements Considered but Dismissed from Detailed Analysis." The parks have developed an internal procedure on how best to respond to personal locator beacon activations, and this operational detail is not within the scope of this WSP/EIS. Educational efforts will inform the public of the detriments and benefits of electronic devices.

It was not the goal to list every possible subject that might be addressed in information-sharing efforts in appendix H, knowing that such topics will change over time. Future operational plans will develop more detailed topics and related information to produce the most relevant information for future sharing efforts. The term "electronic technologies" is now specified in the list of topics in appendix H.

Appendix J: Climbing Management Strategy

Concern 233: The social impacts section of "Appendix J: Climbing Management Strategy" is insufficient and should include available survey statistics that would provide a perspective on the number of climbers, the distribution of climbing resources, and the distribution of climbers across the landscape.

> *The Social Impacts sub-section of Appendix J is insufficient. We recommend that the Social Impacts section include available survey statistics that would provide perspective on the number of climbers, the distribution of climbing resources and the distribution of climbers across the landscape. The Visitor Use section of the WSP notes that 3% of the 25,000 - 35,000 annual overnight wilderness visitors engage in technical climbing. This indicates that approximately 1000 climbers per year overnight in the wilderness. Based on the number of climbers using SEKIs wilderness (and the probable spatial distribution of climbers), it is important to recognize that climbers have an extremely low impact on other climbers and, more importantly, other wilderness visitor groups. It is also imperative to note that the vast majority of climbers have never placed a fixed anchor, opting instead to climb established climbing routes thereby avoiding the burden of the careful deliberation and labor associated with placing a fixed anchor in wilderness. Acknowledging the visitor-use statistics associated with climbing is critical in order to provide proper perspective for the entire Impacts of Climbing And Mitigation section of Appendix J.*
> [Recreational Group, #161]

Response: "Appendix J: Climbing Management Strategy" states: "The intent of this appendix is to focus on a limited set of issues, impacts, and mitigations that are directly related to climbing in wilderness. This appendix is not intended as a comprehensive climbing management plan, but will serve as interim

guidance on climbing activities in the absence of such a plan. A future climbing management plan would more thoroughly document and analyze use levels and patterns, identify significant issues, and implement detailed management actions to comprehensively address climbing related issues." In the "Research and Monitoring" section, it also states: "The parks have sporadically conducted informal surveys of a small proportion of known and potential climbing areas. Given this limited information, a comprehensive inventory would be of value in assisting the proper management of climbing. It is a goal of the parks to develop and maintain an inventory and monitoring program to gather detailed information on how climbing activities affect wilderness character and resources. This inventory would be conducted prior to or in conjunction with the future development of a comprehensive climbing management plan." Data on the amount of climbing and number of climbers, approximately 3% of the wilderness users surveyed, is limited at this time to anecdotal information and data collected during the 2011 Wilderness Visitor Survey.

Concern 234: Comments on fixed anchors included moving the definition of "fixed anchors" to earlier in the document and removing the requirement that climbers obtain approval via the proposed permit system to replace fixed anchors.

> *The Hardware/Equipment sub-section of Appendix J introduces the types of equipment that are used for technical climbing. We recommend that the definition of the term 'fixed anchors be included in this sub-section, or earlier, rather than later in the document (currently defined in the Public Use of Fixed Anchors sub-section). Defining the term fixed anchor is critical to a discussion on climbing hardware and equipment.*
> [Recreational Group, #161]
>
> *Although we support the statement, fixed anchors which are currently in place may remain, we do not agree that climbers should need approval, via the proposed permit system, to replace fixed anchors. The Access Fund contends that facilitating the climbing communitys maintenance of existing fixed anchors is essential to fixed anchor management in wilderness. Replacing an inadequate fixed anchor is not considered an emergency or self-rescue situation - it is simply an element of typical wilderness climbing best practices. Therefore, we recommend that the word only be removed from the statement, [t]he placement of new fixed anchors without receiving prior permission is allowed only when necessary to enable a safe means of descent in order to facilitate emergency retreat, during self-rescue situations. Wilderness fixed anchor management must also provide provisions (programmatically or case-by-case basis) to allow climbers some level of control, while in a wilderness setting, to make decisions regarding fixed anchor placements where no other options are available.*
> [Recreational Group, #161]
>
> *The Access Fund recommends that fixed anchor replacements and new, semi-permanent fixed anchors (e.g., pitons, slings and nuts) do not necessitate a Special Use Permit. The ability to control personal safety decisions is fundamental to the self-reliant component of the wilderness climbing ethic. Programmatic fixed anchor authorization, similar to climbing management strategies at Zion and Rocky Mountain National Parks, is an effective way to preserve the wilderness quality of solitude or primitive and unconfined recreation.*
> [Recreational Group, #161]

Response: "Appendix J: Climbing Management Strategy" has been modified to more clearly define fixed anchors as consisting of two types: permanent and removable (see the "Background" and "Hardware/Equipment" sections in appendix J for these expanded definitions). Only those fixed anchors

which are permanent (e.g., bolts) would require prior approval for placement or replacement (see the "Public Use of Fixed Anchors" section in appendix J).

Concern 235: The sentence "[n]ew, bolt intensive climbing routes (e.g., sport climbs and bolt ladders) are not appropriate in wilderness and are prohibited" should be qualified with "bolt-intensive climbs are defined by the concentration of human activity which they support, and the types and levels of impacts associated with those routes."

> *The statement, [n]ew, bolt intensive climbing routes (e.g., sport climbs, bolt ladders) are not appropriate in wilderness and are prohibited, needs to be qualified with: 'bolt-intensive climbs are defined by the concentration of human activity which they support, and the types and levels of impacts associated with those routes.*
> [Recreational Group, #161]

Response: Bolt intensive routes are not appropriate in wilderness and are defined by the number and concentration of bolts, as well as by the concentration of human activity which they support. Director's Order-41, Section 7.2 Climbing, states: "Climbing management strategies will address ways to control, and in some cases reduce, the number of fixed anchors to protect the park's wilderness resources or to preserve the untrammeled, undeveloped, and outstanding opportunities for solitude qualities of the park's wilderness character." Therefore, any new bolt intensive routes are not appropriate, and the parks will work to reduce the number of bolts (i.e., permanent fixed-anchors) in wilderness in order to protect wilderness character.

Concern 236: It was recommended that the statement "the NPS, when it encounters fixed anchors during the parks' operations, may remove those fixed anchors deemed unsafe, unnecessary, or intrusive to wilderness" be elaborated to include a commitment to notify the public of any administrative actions with regard to fixed anchors.

> *Administrative actions regarding fixed anchors must be well substantiated and noticed to the public. Therefore, the Access Fund recommends that the statement, [t]he NPS, when it encounters [fixed anchors] during park operations, may remove those fixed anchors deemed unsafe, unnecessary, or intrusive to wilderness , be elaborated to include a commitment to notify the public of any administrative actions with regard to fixed anchors.*
> [Recreational Group, #161]

Response: "Appendix J: Climbing Management Strategy" has been modified to include a method by which a variety of information on climbing could be communicated to the public (see the "Patrol, Education and Enforcement Program" section of appendix J).

Appendix K: Trail Management and Classification System

Concern 237: The trails planning process should include a survey of stock user attitudes and preferences.

> *The trails planning process should include a similar survey of stock user attitudes and preferences as that applied in the 2011 Wilderness Visitor Survey.*
> [Recreational Group, #171]

Response: The WSP/EIS did not rely heavily on the 2011 Wilderness Visitor Survey in the development of the trails management and classification system. In determining which trails would be open to specific

uses and the classification of trails, information about terrain, trail condition, sensitive resources, and total and relative amounts of stock and foot traffic were considered (see the "Alternative 2 – Protect Wilderness Character by Implementing Site-specific Actions, Element 8 Stock Use" section of "Chapter 2: Alternatives, which reads: "some [trails] would be closed to stock travel entirely for reasons including visitor safety, resource protection, and/or popular day-use by hikers"). In addition, park staff have a long history of working with stock groups, both private and commercial service providers, and are aware of their concerns and preferences (as exemplified by their comments submitted throughout this planning process). Public input has been considered in this WSP/EIS in the development and refinement of the alternatives. A separate stock-user survey may be desirable in the future, but it is not necessary for this WSP/EIS.

Concern 238: The document should quantify either in the text or in tabular form the total miles of trails that are proposed as Trail Class 1.

> *For example, application of the proposed Trail Class 1 (TC1) would create a new class of trails within park Wilderness that essentially would no longer be maintained for public use. Yet remarkably, the draft WSP/EIS fails to quantify-either via text or in tabular form-the total miles of trail that are proposed as Trail Class 1. Absent this information, the public is precluded from making informed comments on the trail classification system.*
> [Recreational Group, #186]

Response: The WSP/EIS describes the total miles of trails that are proposed as Trail Class 1in several places (see tables 47a - 47e in "Chapter 2: Alternatives"). In addition, attachment 1 in "Appendix K: Trail Management and Classification System for Sequoia and Kings Canyon National Parks" lists all trail segments by trail class and allowed use for the preferred alternative. Chapter 2 of the WSP/FEIS has been updated to include a complete list of trail classifications per alternative.

Concern 239: For cost-savings, the Trail Management and Classification System should include the concept of the use of qualified volunteers that could partner with the NPS to help maintain existing trails and/or construct new trail segments.

> *Nowhere in the draft Trail Management Plan is the concept of the use of qualified volunteers, including the Backcountry Horsemen of California, mentioned as a partner that might be utilized to help maintain existing trails and/or construct new trail segments. Instead, the plan ignores the potential and valuable contributions of partner organizations and volunteers and, as such, appears to reflect an insular and go-it-alone mentality that we find troubling.*
> [Recreational Group, #186]
>
> *Granted, there remains significant fixed cost for the Park Service associated with trails-related design, environmental compliance, and crew oversight. But there could be cost-savings associated with utilizing skilled (i.e., certified) volunteers in trail maintenance and construction. The potential for such cost-savings should not be overlooked. By reaching out to and including partners, additional opportunities for trails-related grant writing and partnerships could appear.*
> [Recreational Group, #186]

Response: The WSP/EIS outlines what the desired conditions are for the parks' wilderness. The decisions about how to accomplish the goals of the plan are operational decisions, not planning decisions. The plan neither prescribes nor precludes use of volunteers. The trail classification system is not being adopted primarily to save trail maintenance costs; it was developed primarily as a means to ensure appropriate

levels of development and the desired range of visitor recreational opportunities (see the "Protect Wilderness Character" section of "Appendix K: Trail Management and Classification System for Sequoia and Kings Canyon National Parks").

Appendix P: Permitted Research Program and Process

Concern 240: The benefit to visitors from the opportunity to interact with and learn from scientists conducting research in the wilderness should be addressed in the WSP/FEIS.

> *I also would like to see some recognition that much of the research conducted in the park wilderness is of interest to the visitor and the opportunity to interact with and learn from scientists working there is a benefit. As I read the draft science is mostly portrayed as an impact, with benefits in terms of the knowledge gained but not as a direct and immediate benefit to the user.*
> [Individual, #12]

Response: The NPS agrees that there are beneficial effects from research conducted in wilderness. Research allows the parks' managers to better understand conditions and react to changes. Visitors who come across researchers in wilderness may also benefit from interactions with researchers, but this depends on the researcher and the visitor. In some situations, research in wilderness can have an adverse effect on wilderness character. More information on research and the Omnibus Management Act has been added to the WSP/FEIS.

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Appendix R

Consultation with the U.S. Fish and Wildlife Service

ON THE PREVIOUS PAGE
Bighorn Sheep
NPS Photo

APPENDIX R:

CONSULTATION WITH THE U.S. FISH AND WILDLIFE SERVICE

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
FF08ESMF00-
2015-F-0201

MAR 11 2015

Memorandum

To: Park Superintendent, Sequoia and Kings Canyon National Parks, National Park Service, California (Attn: Nancy Hendricks)

From: Field Supervisor, Sacramento Fish and Wildlife Office, Sacramento, California

Subject: Biological Opinion on the Wilderness Stewardship Plan in Sequoia and Kings Canyon National Parks for the Endangered Mountain Yellow-legged Frog, Endangered Sierra Nevada Yellow-legged Frog, and the Threatened Yosemite Toad

This is in response to your June 30, 2014, request for formal consultation with the U. S. Fish and Wildlife Service (Service) on the Wilderness Stewardship Plan in Sequoia and Kings Canyon National Parks in California. At issue are the adverse effects on the endangered Northern Distinct Population Segment of the mountain yellow-legged frog (*Rana muscosa*), endangered Sierra Nevada yellow-legged frog (*Rana sierrae*), and the threatened Yosemite toad (*Anaxyrus canorus*). Your letter was received by the Service on June 30, 2014. This biological opinion is issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*)(Act).

Many of the published peer-reviewed papers and unpublished reports on the Sierra Nevada yellow-legged frog and the Northern Distinct Population Segment of the mountain yellow-legged frog were issued prior to the analysis and taxonomic reclassification by Vredenburg *et al.* (2007). These two species have undergone elevation of subspecies and other changes in their systematics and taxonomy; possess similar morphologies, behaviors, biologies, and ecologies; and within this programmatic biological opinion when the information applies to both animals, they will be collectively referred to as "mountain yellow-legged frog."

The Service concurs with the National Park Service's determination that the proposed project may affect, but is not likely to adversely affect the endangered Sierra Nevada Distinct Population Segment of the bighorn sheep (*Ovis canadensis*) and the proposed threatened Western Distinct Population Segment of the Pacific fisher (*Martes penanti*). The Wilderness Stewardship Plan includes the following measures for the bighorn sheep: 1) New Class 1 trails will be constructed in a manner that minimizes opportunities for people to approach bighorn from above or constructed completely outside of bighorn habitat. Limiting human approaches from above would be beneficial because

bighorn generally run uphill when alarmed. 2.) Increased educational efforts cautioning Park staff and visitors not to approach bighorn will be increased; and 3) Helicopter use in bighorn sheep habitat will be scheduled to avoid sensitive periods (e.g. lambing season) and would avoid flying low or landing within one mile of bighorn sheep. This concurrence is based on the determination that the activities that comprise this project will have insignificant or discountable effects on these two animals.

This biological opinion is based on: (1) letter from the National Park Service to the Service dated April 17, 2014, and attached information (Biological Assessment); (2) *Sequoia and Kings Canyon National Parks California Wilderness Stewardship Plan and Draft Environmental Impact Statement Volumes 1 and 2* dated June 2014, that was issued by the National Park Service (Plan); (3) *Status of the Mountain Yellow-legged Frog, Yosemite Toad and Pacific Chorus Frog in the Sierra Nevada, CA* prepared by the U.S. Forest Service; and (4) other information available to the Service.

During emergency activities such as wildfire suppression, the National Park Service should initiate emergency consultation in accordance with the section 7 implementation regulations as outlined in 50 CFR § 402. The Service considers the protection of firefighters and other personnel to be of paramount importance.

Consultation History

2011-2015	The National Park Service and the Service discussed the proposed project in several telephone, email, and in-person meetings.
October 15, 2014	The Service and the National Park Service discussed the proposed project on the telephone, including the project description, conservation measures, bighorn sheep, Pacific fisher, and the section 7 process.
March 3, 2015	The Service and the National Park Service discussed the bighorn sheep on the telephone.
March 6, 2015	The Service and the National Park Service discussed the project description on the telephone.
March 10, 2015	The Service and the National Park Service discussed the conservation measures on the telephone.

BIOLOGICAL OPINION

Description of the Proposed Action

Sequoia National Park and Kings Canyon National Park (Park) are administered as a single 865,964 acre unit of the National Park Service (Figure 1). The two National Parks are located on the western slope of the Sierra Nevada in east-central California from the low western foothills at approximately 1400 feet to the summit of 14,500 foot Mount Whitney. Two wilderness areas are located within SEKI, including the Sequoia-Kings Canyon Wilderness and John Krebs Wilderness. These wilderness areas, along with proposed wilderness which under policy is managed as wilderness, encompass approximately 97percent of the Parks. The entirety of Sequoia and Kings Canyon

National Parks is within Tulare and Fresno counties in California. Eleven additional peaks over 14,000 feet are located along the eastern boundaries. A wide variety of habitats occur across the elevation gradient including chaparral- and oak-dominated communities in the foothills, mixed conifer and giant sequoia groves at mid-elevations, red fir and lodgepole pine forests in the subalpine zone, and alpine lakes surrounded by granite peaks at the highest elevations

The goal of the Wilderness Stewardship Plan is to encourage wilderness use and minimize restrictions while preserving wilderness character. The Wilderness Stewardship Plan will provide management direction for two designated wilderness areas, several potential wilderness additions, and an area of proposed wilderness. The total designated wilderness in Sequoia and Kings Canyon National Parks is 808,078 acres, approximately 93.3 percent of the Parks' total of 865,964 acres. In addition, because the southern end of the Hockett Plateau (approximately 29,500 acres) remains proposed wilderness, it is managed as wilderness. The Parks also contain several designated potential wilderness additions, including the area around the Pear Lake Ski Hut and Bearpaw Meadow High Sierra Camp. These would become wilderness when and if the non-conforming activities (e.g., commercial enterprise) and/or facilities are removed. Altogether, designated and proposed wilderness areas comprise nearly 97 percent of the total acreage of Sequoia and Kings Canyon National Parks. Wilderness Acreages in Sequoia and Kings Canyon National Parks:

There are eleven elements that comprise the Wilderness Stewardship Plan:

1. Visitor-use Levels: The Wilderness Stewardship Plan will retain existing types and levels of use that would be allowed in wilderness in an attempt to provide opportunities and access for appropriate wilderness experiences. Limited and targeted controls would be applied only in those areas where levels and types of use may be leading to some localized degradation of wilderness character. The overnight visitor capacity would be set at 134,000 Visitor Use Days. Ten-year average overnight use would be limited to 108,000–114,000 Visitor Use Days/year. To ensure that there are opportunities for solitude, the Parks would adopt a measure of the number of people encountered per hour (EPH) on trails and would take action based on established standards. The standards would vary depending on the desired condition of solitude in a given area. For this measure, each trail would be assigned to one of four encounter-rate standards: very high use (primarily Mount Whitney and day-use areas), high use (generally Class 3 trails, with some exceptions), moderate use (generally Class 2 trails, with some exceptions), and low use (generally Class 1 trails, with some exceptions).

   Daily trailhead quotas would not change at this time, with the possibility of some future quota reductions in specific targeted areas. Areas to be monitored for continued acceptable levels of use that may require a future trailhead quota change include Bishop Pass (Dusy Basin), Bubbs Creek (Rae Lakes Loop), Cottonwood Lakes / New Army Pass (Mount Whitney and Mount Langley), Cottonwood Pass (Mount Whitney), Lamarck Col (Darwin Canyon), HST (from Crescent Meadow and Wolverton), Lakes Trail (Emerald and Pear lakes), Sawtooth Trail (Monarch Lakes), and Woods Creek (Rae Lakes Loop).

   Visitors entering Park wilderness via trailheads managed by Sequoia-Kings Canyon National Parks on the west side of the Parks would be subject to established quotas regardless of whether they were traveling as private individuals or groups, or with support from commercial service providers. Quotas could only be exceeded on rare occasions through a formal request to, and approval by, the superintendent.

Those visitors entering the Parks' wilderness via trailheads managed by the Forest Service on the east side of the Parks are subject to the trailhead quotas of Inyo National Forest. Most of these quotas are "combined" (i.e., one quota for both private and commercially supported users), and some are "split" (i.e., separate quotas for private users and commercially supported users). Visitors also enter the Parks' wilderness from more distant Yosemite National Park and Forest Service managed trailheads (e.g., Sierra and Sequoia National Forests), some of which have quotas and some of which do not. These visitors are subject to the entry policies of the agency issuing the permits at the trailhead.

Current destination quotas at Emerald and Pear lakes would continue to apply. Additional destination quotas may be added to protect wilderness character at specific locations such as Bearpaw Meadow, Dusy Basin, Guitar Lake, Hamilton Lake, Monarch Lakes, Rae Lakes, and other areas.

No day-use permits or quotas would be implemented at this time but they may be considered in the future in popular areas to achieve desired conditions.

The National Park Service would continue to work with the Forest Service to manage and improve the quota and permitting systems (e.g., adjust the Mount Whitney exit quota), to add trailheads currently not included in the quota system (e.g., Tehipite Valley and Kern River), and on other relevant cooperative cross-boundary wilderness-management issues.

2. Trails: Most of the approximately 650 miles of wilderness trails in Sequoia and Kings Canyon National Parks are already designated and constructed. A few existing trail segments are inadequately constructed to support projected use and will be target for further development. Some trails are more developed than projected use patterns require, and they will be maintained to a lower development class. A few trails will be designated hiking-only where there are threats to sensitive resources or visitor safety issues. Where the designated unmaintained routes listed in the 1986 Stock Use Meadow Monitoring Plan are still passable to stock, and where stock travel does not pose undue threats to natural and cultural resources they would be designated as Class 1 trails and targeted for appropriate construction and maintenance.

3. Campfires: Recreational campfires would be allowed in the foothill and montane forest areas where adequate wood supplies exist. To protect downed wood resources, campfires would be prohibited in most of the high-elevation forests and woodlands. In areas where available wood could be burned without unduly depleting ground fuels or consuming paleo resources, variances could be established for specific areas above these elevations in the future. In addition, site-specific prohibitions would be implemented where downed wood resources cannot sustain campfires, including: Hamilton Lakes, Mineral King Valley, Pinto Lake, and Redwood Canyon. Recreational campfires will be allowed up to 10,000 feet in the San Joaquin, Kern, and Kings River drainages, and up to 9,000 feet in the Kaweah and Tule River drainages. The proposed action allows recreational campfires in 395,710 acres of the 837,806 acres of wilderness in the Parks (47percent of the wilderness).

Park Superintendent – Sequoia and Kings Canyon National Parks 5

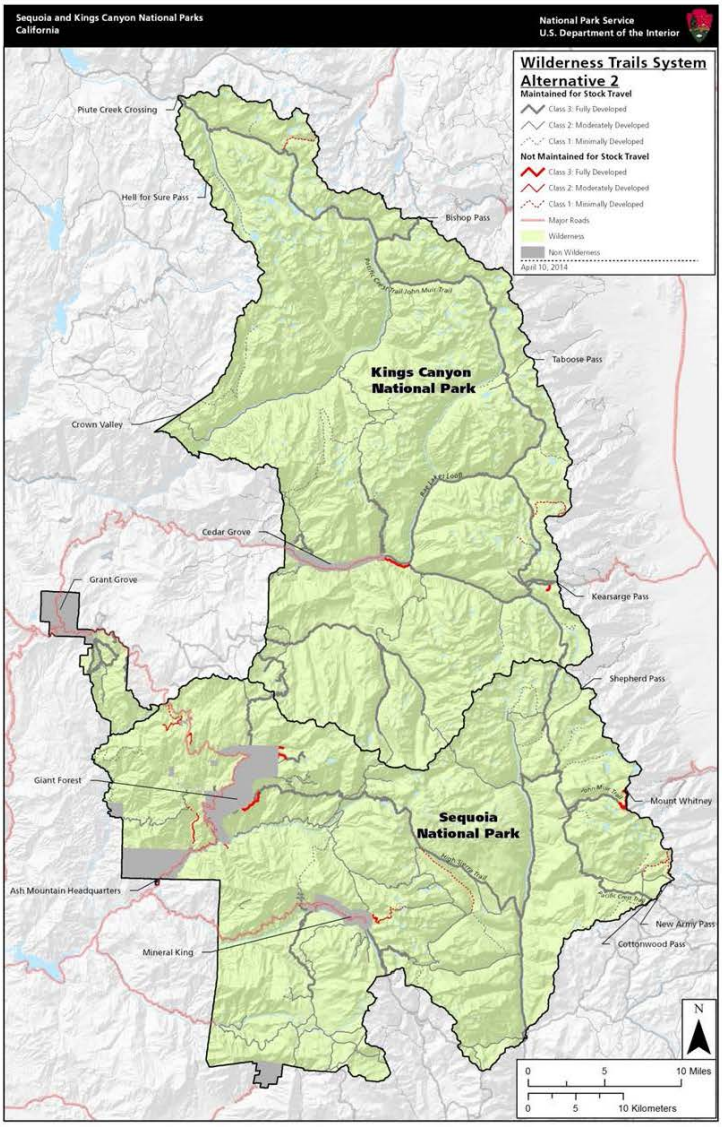

Figure 1: Wilderness Trail System at Sequoia and Kings Canyon National Parks. The trails are constructed and currently in use.

4. Food Storage: Portable containers would be required for overnight use at North Dome, Dusy Basin, Rae Lakes Loop and Rock Creek areas, and may be required in other areas in the future in response to increased incidents. In areas where portable containers are not required, counterbalance hanging would be allowed.

   Food-storage boxes would be retained at the most popular areas and new ones would be considered for areas meeting criteria for placement (e.g., Rae Lakes Loop and HST). Criteria for retention or placement include proximity to trailheads, area visitation levels, quality of bear habitat, and frequency and severity of historic incidents. Where criteria are not met, the undeveloped quality of wilderness character would be improved by removing food-storage boxes. In the future, additional food-storage boxes may be installed in response to site-specific issues or incidents.

   The Wilderness Stewardship Plan will retain 48 of the existing 86 food-storage boxes, and 25 would be removed. An additional 13 food-storage boxes would be considered for removal. Prior to removal of the additional 13, the Park would test the areas by temporarily locking food-storage boxes and/or by establishing a container requirement for visitors. If the testing is successful, the food-storage boxes would be removed. There may be additional food-storage boxes located in wilderness that have not been documented.

5. Human-waste Management: Cat-holes will be required where there are no privies or toilets. Requirements to pack out used toilet paper will be retained. Pack-out waste kits will be recommended for use in popular areas or where privies or restrooms are not feasible (e.g., lack of suitable soils, archeological concerns, or other resource concerns). Pack-out waste kits may be required in specific areas to minimize the need for privies and restrooms.

   Existing privies and restrooms will be evaluated and when they are beyond reasonable repair, or if they are located in unsuitable locations (low-use, close-in areas, where soils allow for cat-holes), they will be removed. The remaining privies would be retained and maintained. New privies will be considered for a few popular day-use areas where other methods have proved unsuccessful.

   Ten public-use privies will be retained, including Bearpaw Meadow (2), Crabtree, Franklin Lake, Kern Hot Spring, Monarch Lake, Paradise Valley (2), Roaring River, and Woods Creek Crossing. Seven public-use privies would be removed including privies in the Bearpaw Meadow area, Hockett, Middle Paradise, Sphinx, Roaring River (2) and Upper Funston areas. One public-use privy will be added at Rock Creek Crossing.

   Three additional public-use privies may be removed at Eagle Lake, Mosquito Lake, and Twin Lakes, but only after pack-out waste kits prove successful in the test areas. The public-use restroom buildings at Emerald and Pear lakes may be removed in the future if maintenance of the facility becomes cost prohibitive or if repairs or renovations are not cost efficient.

   The National Park Service will consider future implementation of new technologies for human-waste management as they are developed. The use of new technologies may require site-specific planning and compliance. Some technologies may require visitors to be more self-sufficient.

6. Party Size: The Wilderness Stewardship Plan includes party-size limits for people and stock. These limits are based on three numbers: the total number of people, the total number of stock, and the combined total of people and stock. The party-size limits differ for on-trail and off-trail travel. The total number of people allowed per party will be the same for hikers and stock users and is limited primarily to protect opportunities for solitude. The total number of stock allowed per party is limited primarily to protect the natural quality of wilderness in campsites, stock tie areas, and off-trail travel areas. The combined total of people and stock allowed in a party may be lower than the sum of the maximum allowed numbers of people and stock; it is limited primarily to protect opportunities for solitude and to control impacts from very large groups on the natural quality at camps.

   The maximum party sizes for Day Rides is 20 people, 20 stock, with a combined maximum of 40; On-Trail is 15 people, 20 stock, with a combined maximum of 28; and Off-Trail is 12 people, 12 stock, with a combined maximum of 14.

   The Wilderness Stewardship Plan keeps the current maximum numbers of people and stock for on-trail travel, but reduces the combined party size. Lower party-size limits are set for off-trail travel to preserve opportunities for solitude and to discourage development of informal trails. The combined party size for stock plus people is reduced to prevent impacts on solitude by the largest stock parties. Party-size limits for hikers would apply to boaters.

7. Camping/Campsites and Night Limits: Camping will be allowed in specific areas close to the front country (e.g., Colony Mill Trail, Don Cecil Trail, and North Dome) to allow a greater diversity of recreational opportunities where risks to resources are low. One or more universally accessible campsites will be constructed closer to a trailhead (e.g., near the confluence of Bubbs Creek and the South Fork Kings River), designed to meet wilderness standards.

   The locations of established stock camps will be identified and the National Park Service would recommend their use. In specific popular areas, stock users may be required to camp in designated stock camps. These areas may include Woods Creek Crossing, Rock Creek Crossing, and Big Pete Meadow. If an area is designated as a required stock camping site/area, backpacker camping will be prohibited. Criteria used for establishing stock-only campsites will include the areas' historic visitation by both backpackers and stock users.

   a. First Allowable Campsite: Camping is prohibited on these trails prior to the listed first-camp locations.

   b. Length of Stay/Night Limits for All Campers (stock-supported and backpackers): Campers will be limited to stays of 14 consecutive nights at a single location, 25 total nights per trip, and 75 total nights per year.

c. Designated Campsites: The use of designated campsites/camp areas will be mandatory in areas where past visitation has impacted resources, including Emerald and Pear lakes, Lower Paradise Valley, and Bearpaw Meadow. There will no longer be designated campsites in Middle and Upper Paradise Valley. Additional designated camp areas may be established in areas where concentrated use and limited campsites could create a risk of rapidly increasing physical or social campsite impacts. Areas to be monitored for a potential future change include Dusy Basin, Guitar Lake, Kearsarge Lakes Basin, Middle and Upper Rae Lakes, and Woods Creek Crossing. Designation of campsites or areas will require site-specific analysis to address issues such as hazard trees and archeological resources. The campsites at Upper and Lower Funston Meadows will no longer be designated for use by stock users only.

d. Campsite Condition Standards: The measure of campsite condition will be adopted to ensure that the number of campsites and their condition does not exceed standards. The metric of aggregate campsite impacts or Weighted Value per Campable Mile, will be used to measure campsite condition. Each area of the Park will be assigned to one of three levels of a campsite condition standard based on desired conditions: high use, moderate use, or low use. These areas, or subzones, are based on long-established wilderness travel zones, each of which is comprised of several subzones. The metric will be calculated at the subzone level. Each subzone has a specified Weighted Value per Campable Mile that serves as a standard. Under the proposed action, the standard will be 1000 for high use subzones, 500 for moderate use subzones, and 250 for low use subzones. A monitoring plan will be developed to establish protocols and schedule monitoring frequencies to ensure that subzones remain within their applied standard.

Under the standards developed for the proposed action, two subzones (83-1 Guitar Lake and 86-1 Kern Hot Spring) will be out of standard in the higher use category, and one subzone (80-3 Shepherd Pass Lake) would be out of standard in the moderate category. All other subzones will be within standard.

8. Stock Use: Visitors will have opportunities to travel with stock (horses, mules, burros, and llamas), from day rides to multi-day trips, in a manner that ensures the protection of wilderness character. Access and grazing will be managed to protect resources, provide other types of primitive recreation, and reduce conflict of user groups. The number of meadows available to grazing will be reduced.

a. On-trail: Visitors traveling with stock will continue to have access to most maintained trails in the Parks (650 of 691 miles). Stock parties will be allowed to travel up to 0.5 mile from trails in areas where they are allowed to camp. In areas open to day-use only, stock parties will be allowed to travel up to 100 yards from trails.

Approximately 530 miles of maintained trails will be open to camping with stock. Some trails will be open to stock parties for travel only, some would be open to camping for walking parties with burros and llamas but limited to travel only for parties with horses or mules, and some will be closed to stock travel entirely for reasons including visitor safety, resource protection, and/or popular day-use by hikers.

b. Off-trail: Stock parties will continue to be allowed to travel up to 0.5 mile from trails to reach camps. Travel more than 0.5 mile from maintained trails will continue to be allowed in four areas of the Parks: on the Hockett Plateau, on the Monarch Divide, in the Roaring River drainage, and along the western side of the Kern River watershed south from the Chagoopa Plateau.

c. Stock Grazing: Grazing will be managed to maximize protection of resources while allowing visitors traveling with stock continued access to forage. Grazing generally will be allowed in areas open to camping with stock (within 0.5 mile of maintained trails open to overnight stock use or in off-trail travel areas). Grazing will not be allowed in those areas open to stock travel only.

Grazing will be managed and informed by the results of the Stock Use and Meadow Monitoring and Management Strategy. Traditional methods of adjusting use levels and patterns will continue to be employed when necessary, including: adjusting the number of nights a given party may graze an area; adjusting the number of stock per party that may graze an area; adjusting opening dates to reflect moisture conditions, which are designed to prevent unacceptable mechanical disturbance to surface soil and vegetation; and temporarily closing an area to stock access or grazing.

Estimated grazing capacities for wilderness meadows have been developed using a model of biomass production and forage consumption that takes into account the elevation, soil moisture, and condition of the meadow. These capacities will continue to be used to inform grazing management, and will be refined as additional information is acquired. The capacity of individual meadows and uplands to sustain grazing will continue to be informed by each meadow's vulnerability to erosion or change in hydrologic function, susceptibility to invasion by nonnative plants, habitat requirements of sensitive plants and animals, productivity and the ability to sustain herbage removal, and the requirements of unique ecological communities such as peat-accumulating wetlands. Site-specific grazing capacities will be refined on an ongoing basis to protect resource integrity and to protect the natural quality of wilderness in the face of a changing climate.

These capacities also reflect the logistical importance of key meadows and forage areas for stock travel in popular areas. The methodology for developing grazing capacities for all Park meadows open for grazing, including those identified as important for those traveling with stock, is provided in the Stock Use and Meadow Monitoring Strategy in the Wilderness Stewardship Plan.

Areas closed to grazing will remain open to camping by visitors traveling with stock, but visitors will be required to hold and feed their animals. Administrative grazing will be managed to limit impacts on public grazing. With rare exceptions, visitors are given preference for limited grazing resources.

California or Nevada certified weed-free forage (baled or loose hay, hay cubes, or straw bedding) will be required when using hay products as supplemental forage or bedding in frontcountry zones. Feed carried into wilderness will be limited to commercially processed pellets, rolled grains, or fermented hay (e.g., Chaffhaye™). These products have a high level of mechanical milling, heat treatment, and/or anaerobic fermentation that result in much lower seed viability.

Baled or loose hay and compressed hay cubes, which have little to no processing, will not be allowed in wilderness.

The monitoring system described in the Wilderness Stewardship Plan will be implemented to track use, document conditions, and provide information for preventing and mitigating impacts. This monitoring program takes into account variation in annual climate, the characteristics of specific forage areas, and the inherent abilities of different species to withstand grazing and trampling pressure. Monitoring of species composition will continue in five pairs of grazed and ungrazed meadows on a five-year rotation, and repeat photography points would be updated as time and resources allow. Monitoring of residual biomass and bare ground, initiated in 1993, will continue to be implemented and the results used to inform decisions regarding grazing management. The National Park Service will continue to support research to further understand the effects of grazing on Sierran ecosystems, and to modify management of grazing and monitoring protocols as new information becomes available.

The meadows closed to grazing for scientific and social value by the 1986 Stock Use and Meadow Monitoring Plan will remain closed to grazing. The meadows closed to grazing due to high levels of visitation and resource concerns by the Stock Use and Meadow Monitoring Plan will remain closed with the exception of Tom Sears Meadow, which will be reopened to grazing.

The following additional locations which are otherwise open to overnight use will be closed to grazing due to high levels of visitation and resource concerns: Crabtree Lakes (closed to stock access and grazing above existing camp west of lowest lake), Darwin Meadow proper, Forester Lake Meadow, Guyot Creek Meadows (expanding the existing closure to the meadows east of the trail), Kern Hot Spring Meadow, Kettle Dome (Randle Corral) Meadows, Lake South America loop, Mineral King basin, Summit Lake Meadow, Upper LeConte Canyon above 10,000 feet in elevation, and Whitney Creek drainage above the Crabtree Ranger Station. Meadows associated with areas or trails closed to stock will be closed to grazing.

Recognizing that the opportunity to observe and experience ungrazed meadows is of value to many Park visitors, the following meadows along popular travel routes which are otherwise open to camping by stock will be closed to grazing: Bighorn Plateau and the meadow 0.6 mile south of Bighorn Plateau; Chagoopa Plateau #3 Meadow; Darwin Meadow; Grouse Meadow; Lower Crabtree Meadow; and Taboose Pass Meadow. These meadow closures will make it possible for visitors traveling along the JMT and HST to experience at least one ungrazed meadow in each drainage through which the trails pass. McClure Meadow will be closed to grazing until Evolution and Colby Meadows reach capacity.

Bubbs Creek below Junction Meadow, Evolution Lake to Muir Pass, Kern Headwaters, and Woods Lake Basin will be open to grazing by walking parties with burros or llamas, and closed to grazing by parties with horses or mules

Lower Whitney Creek (Strawberry) Meadow, Lower Soldier Lake Meadow, and Upper Vidette Meadow will be open to grazing by private parties only.

Hockett Pasture, JR Pasture, Kern Ranger Station Pastures, Lackey Pasture, and Upper Redwood Meadow will be open to administrative use and grazing only.

9. Administrative Structures: Administrative structures and developments will be the minimum necessary for the administration of wilderness, and similar to current conditions.

    a. The following ranger stations will be retained in their current locations: Crabtree, Hockett Meadow, Kern Canyon, LeConte Canyon, Little Five Lakes, McClure Meadow, Pear Lake, Rae Lakes, Roaring River, Rock Creek, Tyndall Creek

    b. The patrol cabins at Quinn, Redwood Meadow, and Simpson Meadow will be retained.

    c. Three ranger stations may be relocated, modified, considered for conversion, or replaced: Bench Lake tent platform may be moved to a more suitable location for patrol functions. Bearpaw Meadow Ranger Station will be removed and reconstructed to better meet the area's historic character. The Monarch tent platform will be converted to an administrative camp and the footprint would be reduced.

    d. Other Administrative Structures: Use of the Redwood Canyon Cabin by researchers will continue to be authorized.

    e. Administrative Pastures: Existing administrative pastures and associated structures will be retained (Hockett Meadow, Kern, Redwood Meadow, and Roaring River) in their current locale and within their current footprint.

    f. Crew Camps: Existing trail crew camps will be retained, but the number of long-term wood-storage boxes in each camp will be reduced to one. Other project crew camps for the administration of wilderness will be established as needed on a case-by-case basis with no equipment left on-site after project completion.

10. Front country Facilities to Support Wilderness Access and Use: Front country facilities that support activities in wilderness will encourage and/or facilitate visitor use and enjoyment of wilderness. Commercial service providers will be permitted to use some front country facilities, but other facilities will only be used by non-commercial or administrative entities.

    a. Kings Canyon National Park

        i. Cedar Grove Pack Station: The Cedar Grove Pack Station will continue to be operated under concession authority based on a contractual relationship with National Park Service with approved use types and levels. Stock camping sites will be developed at the Cedar Grove Pack Station primarily for private users. Holding pen/corral space, hitch rail(s), adequate Parking and turnaround space for stock trailers, campfire pit, picnic tables, restrooms, food-storage boxes, and water supply will be installed.

    b. Sequoia National Park

        i. Middle Fork Kaweah Trailhead: At the Middle Fork Kaweah Trailhead the National Park Service will provide improved Parking and turnaround space for stock trailers and a hitch rail; no other stock amenities will be provided. Commercial service providers will be allowed to use this trailhead. No camping for stock or backpackers will be allowed.

ii. Mineral King Area: The Atwell Mill Campground will be adapted to accommodate stock camping in two or three sites. Facilities may include a holding pen, hitch rail(s), table, campfire pit, picnic table, and stock trailer Parking. The sites will be maintained through an agreement between the National Park Service and a cooperating partner. Commercial service providers will be allowed to use the Atwell/Hockett trailhead.

There will be no concessions operations at the Mineral King Pack Station. Existing facilities at Mineral King administrative corrals in east Mineral King Valley will continue to be used for the Parks' administrative purposes at the existing location or at a new location to reduce and minimize environmental impacts on wetlands and water quality. Existing stock facilities may be modified to allow for short-term public camping or staging and/or short-term camping by Commercial Use Authorization holders. Modifications to the site to provide for use by private individuals and/or Commercial Use Authorization holders will include adequate Parking and turnaround space for stock trailers, a small corral, water, a picnic table, and a vault toilet or restroom. These facilities will provide for stock camping for private parties (1 to 2 sites, one- or two-night limit). The site will be maintained through an agreement between the National Park Service and a cooperating partner.

iii. North Fork Kaweah Trailhead: At the North Fork Kaweah Trailhead improved Parking and turnaround space for stock trailers and additional hitch rail(s) will be provided. Commercial service providers will be allowed to use this trailhead and controlled through conditions of a permit. The area will be maintained through an agreement between the National Park Service and a cooperating partner. No camping for stock or backpackers will be allowed.

iv. South Fork Kaweah Campground and Trailhead: The South Fork Kaweah Trailhead will be modified to improve Parking and turnaround space for stock trailers at the trailhead, and a hitching post would be provided. Use primarily will be for private users, with limited commercial use by Commercial Use Authorization holders (managed via permit conditions) and administrative users. The site will be maintained through an agreement between the National Park Service and a cooperating partner.

v. Wolverton Area (trailheads and administrative corrals): The facilities in the Wolverton area will continue to be used for the Parks' administrative purposes. The Wolverton facilities may be modified to provide for stock camping for private parties and short-term staging for commercial service providers. Facilities such as adequate Parking and turnaround space for stock trailers, corral, hitch rail(s), picnic table(s), and campfire pit will be considered. Restrooms and a water supply exist currently at the Wolverton site. The site may be maintained through an agreement between the National Park Service and private partners.

11. Commercial Services in Wilderness: Specific wilderness activities have been determined to necessitate support from commercial services consist of backing packing and hiking, stock trips, including riding, packing, day rides, and overnight camping with stock, overnight camping with gear hauling support (stock spot, and stock and porter dunnage), oversnow travel (ski and snowshoe touring and winter overnight camping), climbing and mountaineering (summer and winter), fishing, river running, and photography.

The commercial services in the Wilderness Stewardship plan are similar to current conditions. However, the levels and types of commercial services that will be allowed will be specifically limited in the Mount Whitney Management Area, which is an area of approximately 27, 200 acres around Mount Whitney within Sequoia National Park. The Bearpaw Meadow High Sierra Camp will continue to be operated at near its current level of 1,700 use days by a Park concessioner. The Pear Lake Ski Hut will continue to be operated at near its current level of 1,500 use days during the winter months as a ski hut by a cooperating association under a cooperative agreement.

Conservation Measures

The National Park Service proposes to avoid and minimize effects to the mountain yellow-legged frog and the Yosemite toad by implementing the following measures:

1. Existing trails that go through or near meadows used by the Yosemite toad will be rerouted away from those meadows, when possible.

2. National Park staff and visitors will be educated about how to avoid impacting the Yosemite toad and encouraged to exercise caution when they encounter these animals.

3. Monitoring will be used to determine if effects of visitor use on the Yosemite toad or its habitat is approaching unacceptable levels. Visitor use will be adjusted in Yosemite toad habitat to prevent or mitigate degradation.

4. Existing trails that run immediately adjacent to waters used by the mountain yellow-legged frog will be rerouted away from these areas, when possible.

5. New Class 1 trails will be designed to avoid running immediately adjacent to waters used by the mountain yellow-legged frog.

6. The National Park Service will educate hikers and stock users about the status and importance of the mountain yellow-legged frog, the National Park Service's efforts to restore and conserve them, and encourage exercising caution when they encounter the animal.

7. If monitoring detects habitats used by the mountain yellow-legged frog are being degraded due to overuse from stock grazing and/or hiker use and stock traffic, visitor use restrictions will be changed to prevent or mitigate degradation, when possible.

8. Off-trail travel will be limited near certain mountain yellow-legged frog populations to reduce the potential of trampling, when possible.

9. Management actions that will be taken to return campsites in out-of-standard areas to within standard include: increased education to the public in specific areas; increased ranger patrols to achieve compliance; rehabilitation of impacted areas, site-specific actions such as modifying sites to render them uninviting to camping or implementation of site specific short- or long-term closures to camping; changing group size, night limit, or campfire restrictions; reduction of commercial visitor services in out-of-standard areas; and changing trailhead quotas.

10. Management actions that will be taken to return out-of-standard trail encounters to within standard include: increased education to the public in specific areas; changing group size, night limit, or campfire restrictions; reduction of commercial visitor services in out-of-standard areas; changing trailhead quotas; require day-use or special-management-area permits; and implementation of cross-boundary actions with the U.S. Forest Service.

11. National Park Service staff will comply with food storage, garbage disposal requirements, and the proper treatment of human waste at all times.

12. Proposed trail realignments in designated critical habitats will require review by National Park Service biologists or ecologists.

13. Projects will avoid in-stream work when possible. If in-stream work is required, activities will be coordinated with National Park Service hydrologists and compliance specialists.

14. When new raised causeways are required to prevent increasing trail associated resource impacts or to provide adequate trail footing, these causeways will be constructed so as to minimize the effects on natural hydrologic processes, in consultation with a National Park Service hydrologist.

15. A monitoring system is employed to track use, document conditions, and provide information for preventing and mitigating impacts from pack stock grazing. The monitoring program takes into account variation in annual climate, the characteristics of specific forage areas, and the inherent abilities of different species to withstand grazing and trampling pressure. The strategy for managing stock use is designed to prevent significant impacts to meadows through implementation of multiple complementary monitoring protocols and a suite of adaptive management tools. Taken together, the complementary elements of the management program at SEKI—monitoring, which includes residual biomass and bare ground, stock use, species composition, repeat photography, and regularly scheduled site visits; an opening date system based on moisture, soil, and vegetation conditions; management tools including the ability to rest meadows when needed, as well as adjust use levels through controls on party size and length of stay; and ongoing research into meadow function and the effects of grazing on meadow ecology—is designed to protect meadows by preventing, minimizing and/or mitigating impacts.

10. The National Park Service has the authority to adjust the number of nights a given party may graze an area; adjust the number of stock per party that may graze an area; adjust opening dates to reflect moisture conditions to prevent unacceptable mechanical disturbance to surface soil and vegetation; and temporarily close an area to stock access or grazing.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." For the proposed action, the action area includes all lands including stock grazing and holding areas, approximately 477 miles of trails, and associated activities and infrastructure within the 808, 078 acres designated as Wilderness in Sequoia and Kings Canyon National Parks.

Status of the Species and Environmental Baseline

Sierra Nevada Yellow-legged Frog and Northern Distinct Population Segment of the Mountain Yellow-legged Frog

The Sierra Nevada yellow-legged frog and the Northern Distinct Population Segment of the mountain yellow-legged frog were both listed as endangered species on April 29, 2014, under the Endangered Species Act of 1973, as amended (Service 2014a).

The mountain yellow-legged frog was originally described as a subspecies of the foothill yellow-legged frog (*Rana boylii*). Populations in the Sierra Nevada were considered to be subspecies *sierrae*, and populations inhabiting three mountain ranges in southern California were thought to represent subspecies *muscosa*. Later analysis of additional morphological data indicated what was considered *R. boylii sierrae* and *R. boylii muscosa* were instead more likely to be subspecies of *Rana muscosa* (Zweifel 1955). Later, Macey *et al.* (2001) conducted a phylogenetic analysis of mitochondrial deoxyribonucleic acid (DNA) sequences of the mountain yellow-legged frog and concluded the species consisted of two major genetic lineages comprised of three distinct groups in the Sierra Nevada, and a fourth distinct group in the mountains of southern California.
Based on mitochondrial DNA, morphological information, and acoustic studies, Vredenburg *et al.* (2007) concluded the mountain yellow-legged frog in the Sierra Nevada consists of two distinct species - *Rana muscosa* and *R. sierrae.*

Rana sierrae, or the Sierra Nevada yellow-legged frog, is endemic to the northern and central Sierra Nevada and adjacent Nevada ranging from north of the Feather River including the Plumas and southern edge of the Lassen National Forests, south to the Monarch Divide on the west side of the Sierra Nevada crest in the Sierra National Forest, and near Independence Creek on the east side of the Sierra Nevada crest in the Inyo National Forest. In the Sierra Nevada, *Rana muscosa* ranges from the Monarch Divide south to Dunlap and Taylor meadows in the Sequoia National Forest (California Department of Fish and Wildlife 2011; Vredenburg *et al.* 2007). R. *muscosa* also occurs as a Distinct Population Segment in the Transverse and Peninsular Ranges in southern California, where it is listed as an endangered species. In the Sierra Nevada, the taxon ranges in elevation from approximately 4,500 feet to more than 12,000 feet (Vredenburg *et al.* 2005). However, the distribution of the Northern Distinct Population Segment of the mountain yellow-legged frog appears to extend below 4,500 feet in elevation at higher latitudes; for example, on the Plumas National Forest (USFS 2014). Eight-percent of the observations on the Plumas National Forest are below 4,500 feet elevation; of which, thirty-one of the observations were between 3,500 and 4,500 feet in elevation. Figure 2 provide the distribution of the Sierra amphibians within the Park.

Physical Description

The body length (snout to vent) of the adult mountain yellow-legged frog ranges from 1.5 to 3.25 inches (Dodd 2013b; Stebbins and McGinnis 2012; Lanoo 2005; Green *et al.* 2014; Jennings and Hayes 1994; Vredenburg *et al.* 2005; Wright and Wright 1949; Stebbins 1951; Zweifel 1955). Females average larger than males, and males have a swollen, darkened thumb base. Dorsal (upper) coloration in adults is variable, exhibiting a mix of brown and yellow, but also gray, red, or green-brown, and usually a pattern of dark spots. These spots may be large (0.25 inch) with a few, smaller and more numerous spots, or a mixture of both. Irregular lichen- or moss-like patches may also be present on the dorsal surface. The belly and undersurfaces of the hind limbs of the mountain

yellow-legged frog are yellow or orange colored, and this pigmentation may extend forward from the abdomen to the forelimbs. The adults may produce a distinctive mink or garlic-like odor when disturbed (Wright and Wright 1949; Stebbins 2003). Although these two species lack vocal sacs, they can vocalize in or out of water, producing what has been described as a flat clicking sound (Zweifel 1955; Stebbins 2003). Mountain yellow-legged frogs have smoother skin, generally with heavier spotting and mottling dorsally, darker toe tips (Zweifel 1955), and more opaque ventral coloration (Stebbins 2003) than the foothill yellow-legged frog, which is a conspecific species in some portions of the Sierra Nevada.

The Sierra Nevada yellow-legged frog and the Northern Distinct Population Segment of the mountain yellow-legged frog can be distinguished from each other physically by the ratio of the lower leg (fibulotibia) length to snout vent length (Vredenburg *et al.* 2007). Typically, this ratio is greater than or equal to 0.55 for the northern Distinct Population Segment of the mountain yellow-legged frog and less than 0.55 for the Sierra Nevada yellow-legged frog. In addition, adult Northern Distinct Population Segment of the mountain yellow-legged frog generally has longer limbs than Sierra Nevada yellow-legged frogs.

Mountain yellow-legged frogs deposit their eggs in globular clumps, which are often somewhat flattened and roughly 1 to 2 inches in diameter (Stebbins 2003; Lannoo 2005; Vredenburg *et al.* 2005). When the eggs are close to hatching, egg mass volume averages 78 cubic inches (Pope 1999). An egg has three firm, jelly-like, transparent envelopes surrounding a grey-tan or black vitelline capsule or egg yolk (Wright and Wright 1949). The clutch size varies from 15 to 350 eggs per egg mass (Livezey and Wright 1945; Vredenburg *et al.* 2005). The development of the egg is temperature dependent. In laboratory breeding experiments, eggs took from 18 to 21 days at temperatures of 41 to 56 degrees Fahrenheit to hatch after being laid (Zweifel 1955).

Mountain yellow-legged frog tadpoles generally are mottled brown on the dorsal side with a faintly yellow venter or underside (Zweifel 1955; Stebbins 2003; Vredenburg *et al.* 2005). Their total length may reach a maximum of 2.8 inches, the body is flattened, and the tail musculature is wide at 1 inch or more before tapering into a rounded tip (Wright and Wright 1949). The mouth has a maximum of eight labial tooth rows (Stebbins 2003).

Current Range and Distribution

Since the mountain yellow-legged frog observations made by Grinnell and Storer (1924), a number of researchers have reported disappearances of these two listed amphibian species from significant portions of their historical ranges in the Sierra Nevada (Hayes and Jennings 1986; Bradford 1989; Bradford *et al.* 1994; Jennings and Hayes 1994; Stebbins and Cohen 1995; Drost and Fellers 1996; Knapp and Matthews 2000a; Vredenburg *et al.* 2005; Martin 1992; Heller 1960; Jenkins 1994).

The current distribution of the mountain yellow-legged frog is primarily restricted to publicly managed lands within National Forests and National Parks at high elevations in the Sierra Nevada. National Forests with extant populations include the Plumas National Forest, Lassen National Forest, Tahoe National Forest, Humboldt-Toiyabe National Forest, Lake Tahoe Basin Management Unit, Eldorado National Forest, Stanislaus National Forest, Sierra National Forest, Sequoia National Forest, and Inyo National Forest. National Parks with extant populations of mountain yellow-legged frogs include Yosemite National Park, and Sequoia and Kings Canyon National Parks

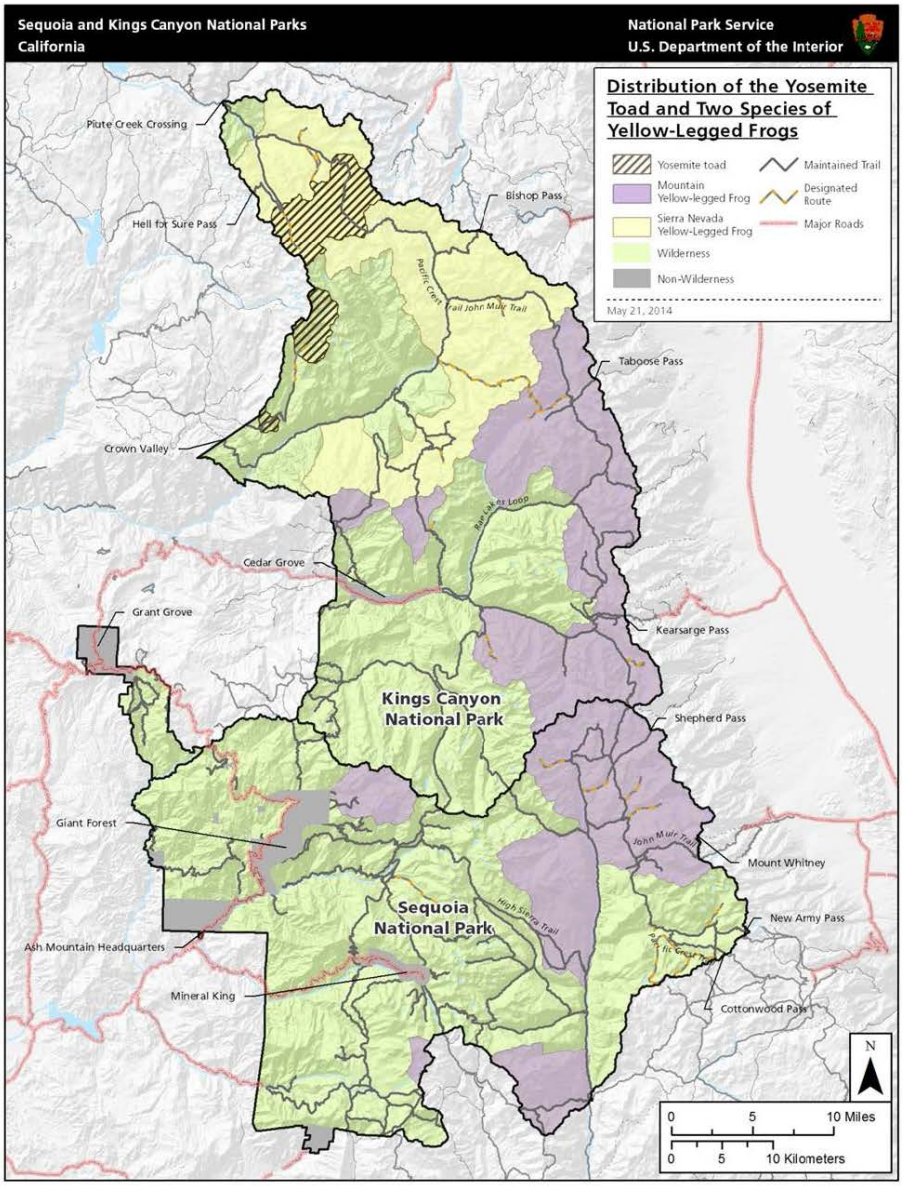

Figure2: Distribution of the Mountain Yellow-legged Frog and Yosemite Toad in Sequoia and Kings Canyon National Parks

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The number of known occupied sites, such as lakes, ponds, meadows, and streams, are estimated to be around 1,245 sites for the Sierra Nevada mountain yellow-legged frog and 12 sites for the Northern Distinct Population Segment of the mountain yellow-legged frog (Service 2014). There are important caveats to these estimates of the number of occupied sites. First, in some cases multiple observations may have been counted for a specific site. Second, not all aquatic habitats have been surveyed, and given the complexity of aquatic habitats, definitions of sites vary among scientists and land managers. Third, more surveys for these species have occurred in lake habitats. Than in other habitats. Finally, these numbers do not necessarily represent populations; a single population may occupy multiple sites.

Habitat and Life History

The mountain yellow-legged frog currently and historically inhabited lakes, ponds, marshes, tarns, meadows, and streams, largely in areas that were glaciated during the Pleistocene at elevations ranging from 4,500 feet to 12,000 feet (California Department of Fish and Wildlife 2014a, 2014b; Zweifel 1955). The two listed amphibian species are highly aquatic (Stebbins 1951; Mullally and Cunningham 1956; Bradford *et al.* 1993). Adults typically are found sitting on rocks along the shoreline, usually where there is little or no vegetation (Mullally and Cunningham 1956). Mountain Yellow-Legged Frog (*Rana sierra and R. muscosa* northern DPS) yellow-legged frogs may use a variety of shoreline habitats, both tadpoles and adults are less common at shorelines that drop abruptly to a depth of 2 feet than at open shorelines that gently slope up to shallow waters of only 2 to 3 inches in depth (Mullally and Cunningham 1956; Jennings and Hayes 1994).

The mountain yellow-legged frog is most abundant in high-elevation lakes and slow-moving portions of streams (Vredenburg *et al.* 2005; Zweifel 1955; Lannoo 2005; Mullally and Cunningham 1956). The borders of alpine ponds, lakes, and meadow streams above the tree line used by the two listed frogs are frequently grassy or muddy. The frog uses different aquatic habitats in various parts of its range, likely because of differences in availability. For example, the species is often found in streams in the northern and southernmost parts of its range where lakes are less common. At lower elevations within their historical ranges, they animals are known to be associated with rocky streambeds and wet meadows surrounded by coniferous forest (Vredenburg *et al.* 2005; Zweifel 1955; Zeiner *et al.* 1988). Adults use streams that vary from high-gradient channels replete with pools, rapids, and small waterfalls to reaches with marshy edges and sod banks (Brown *et al.* 2014; Zweifel 1955. Aquatic substrates vary from bedrock to fine sand, rubble consisting of rock fragments, and boulders (Zweifel 1955). Mountain yellow-legged frogs appear absent from the smallest creeks, possibly because these creeks have insufficient depth for adequate refuge and overwintering habitat (Jennings and Hayes 1994). Stream-dwelling yellow-legged frogs on the Plumas National Forest have been found in first order headwater streams to second order streams (Brown *et al.* 2014).

In the central and southern Sierra, the mountain yellow-legged frog breeds most commonly in permanent, deep lakes (Knapp and Matthews 2000a; Knapp *et al.* 2000b). In Yosemite National Park, occupancy was associated with deep water, elevation, absence of fish, and meadow vegetation on shorelines (Knapp 2005a). Adult mountain yellow-legged frogs breed in the shallows of ponds or in inlet streams (Vredenburg *et al.* 2005). Breeding has been observed in relatively shallow sites (< 1 foot) that dry frequently, but successful recruitment will only occur in water bodies that hold water for the duration of the 2-3 year larval period, even if only a small fraction of water remains (Lacan *et al.* 2008). They emerge from overwintering sites immediately following snowmelt, and will move

over ice to reach breeding sites (Pope 1999; Vredenburg *et al.* 2005). The females deposit their eggs underwater in clusters, which they attach to rocks, gravel, or vegetation, or under banks (Wright and Wright 1949; Stebbins 1951; Zweifel 1955; Pope 1999).

In lakes in the John Muir Wilderness and Kings Canyon National Park, the presence of tadpoles was associated with deep water depths, elevation, the absence of trout, higher proportions of silt, and degree of lake isolation (Knapp *et al.* 2000b). Frogs also breed less commonly in streams and meadows (Zweifel 1955). The larvae take two to three years to metamorphose into subadults (Bradford 1983; Zweifel 1955) and their deep water habitat protects them from freezing to death in the winter (Bradford 1983; Knapp *et al.* 2000b; Knapp 2005a). Habitat models, based on broad scale sampling throughout Yosemite National Park and portions of the John Muir Wilderness and Kings Canyon National Park, indicate that the probability of occupancy by mountain yellow-legged tadpoles increased as maximum lake depth increased from 0 to 13 feet or 16 feet and then remained relatively constant at greater depths (Knapp *et al.* 2000; Knapp 2005a). Desiccation of tadpoles in habitats that dry out during the summer was an important cause of mortality, and little evidence was found of winterkill in shallow water habitats (Lacan *et al.* 2008; Bradford 1983).

Bradford (1983) found that mountain yellow-legged frog die-offs sometimes result from oxygen depletion during winter in lakes less than 13 feet in depth. However, tadpoles may survive for months in nearly anoxic conditions in shallow lakes that are frozen to the bottom. Populations of mountain yellow-legged frogs have overwintered in lakes less than 5 feet deep that are assumed to have frozen to the bottom, and healthy frogs emerged the following July (Pope and Matthews 2001; Pope 1999). Radio telemetry indicated that the animals were utilizing rock crevices, holes, and ledges near shore, where water depths ranged from 0.7 foot to 5 feet (Pope and Matthews 2001). The granite surrounding these overwintering habitats probably insulates mountain yellow-legged frogs from extreme winter temperatures, provided there is an adequate supply of oxygen (Pope and Matthews 2001). In lakes and ponds that do not freeze to the bottom in winter, they may overwinter in the shelter of bedrock crevices as a behavioral response to the presence of introduced trout (Vredenburg *et al.* 2005).

Mountain yellow-legged frog tadpoles maintain a relatively high body temperature by selecting warmer microhabitats (Bradford 1984). During winter, tadpoles remain in warmer water below the thermocline, the transition layer between thermally stratified water. After spring overturn (thaw and thermal mixing of the water), they behaviorally modulate their body temperature by moving to shallow, near shore water when warmer days raise surface water temperatures. The tadpoles select the warmest temperature environments within an alpine lake, often using shallow shorelines during the day and moving offshore in the evening as surface temperatures cool (Bradford 1984). Warmer waters are conducive to faster development. During winter, tadpoles remain in warmer water below the thermocline, the transition layer between thermally stratified water. Tadpoles may take more than 1 year to mature (Wright and Wright 1949), and often require 2 to 4 years, to reach the metamorphosis stage in which they transform from tadpoles to frogs, depending on local climate conditions and site-specific variables (Bradford 1983; Bradford *et al.* 1993; Knapp and Matthews 2000b; Vredenburg *et al.* 2005).

The time required to reach reproductive maturity in mountain yellow-legged frogs is thought to vary between 3 and 4 years post-metamorphosis (Vredenburg *et al.* 2005; Zweifel 1955). Based on this, given the amount of time a tadpole takes to reach metamorphosis, it may take 5 to 8 years for a mountain yellow-legged frog to begin reproducing. Adults are long lived with a maximum recorded

age of 14 years (Vredenburg *et al.* 2005). Under normal circumstances, adult survivorship from year to year is very high (Pope 1999).

After breeding, adults may disperse into a larger variety of aquatic habitats (Pope and Matthews 2001). They appear to use a restricted set of lakes that provide suitable microhabitats for breeding and overwintering, then disperse into a greater number of sites during the summer months for feeding (Pope and Matthews 2001; Matthews and Preisler 2010; Pope and Matthews 2001; Wengert 2000). Frogs commonly are found basking in open areas near cover and water (Grinnell and Storer 1924; Mullally and Cunningham 1956; Storer 1925). Mullally and Cunningham (1956) found individuals more commonly along shallow, rocky shorelines often interspersed with vegetation rather than areas with large boulders from talus slope or sandy unprotected shorelines. The animals use a variety of cover including vegetation, logs, and partially submerged trees. Different habitats are used seasonally. Individuals select undercut banks and willows in August and rocky habitats in September and October (Pope and Matthews 2001). Similar to tadpoles, the adults and subadults seek warmer water, and Bradford (1984) found the abundance of frogs within a lake was significantly associated with warmer water. During the late afternoon and evening, mountain yellow-legged frogs move to offshore waters that are less subject to night cooling (Bradford 1984).

Mountain yellow-legged frog's display strong site fidelity and may return to the same overwintering and summer habitats from year to year (Pope 1999). In aquatic habitats of high mountain lakes, adults typically move only a few hundred yards (Pope and Matthews 2001; Pope 1999). In one telemetry study in lentic habitats, mountain yellow-legged frogs typically moved a few hundred feet during the active season (Brown *et al.* 2014; Pope and Matthews 2001). Distances greater than 0.621 mile have been recorded which included overland travel (Pope and Matthews 2001; Vredenburg *et al.* 2005). Moreover, given Barrowclough's (1978) caution that without extraordinary effort, population movement distances are consistently underestimated, the limited available data undoubtedly underestimate the movement patterns and capabilities of mountain yellow-legged frogs. At the scale of distances between lakes in many high Sierra basins, the data indicate that the species are capable of recolonizing other water bodies on a local scale. However, more studies of dispersal and movement will be necessary to elucidate their seasonal movements.

Adult mountain yellow-legged frogs move between breeding, feeding, or non-breeding active season, and overwintering habitats during the course of the year (Pope 1999a; Matthews and Preisler 2010). Adults sometimes travel over ice or snow to reach preferred breeding locations early in the season without apparent ill effects (Pope 1999a; Vrendenburg *et al.* 2005). Mullally and Cunningham (1956) stated that the animal avoids crossing dry ground over short distances, but individuals have been recorded moving overland for distances of 217 feet to 1312 feet (Pope and Matthews 2001; Vredenburg *et al.* 2005). However, the physical conditions under which the movements occurred are unclear. Movement of adults between habitats used in their seasonal rounds may be a function of the relative proximity of habitats that can fulfill their seasonal requirements, such as breeding, foraging, or overwintering; if all habitats that adults need are close to each other, seasonal movements may not be as great (Brown *et al.* 2014). In this context, trout occupancy in selected water bodies may force mountain yellow-legged frogs to move greater distances to fulfill their habitat requirements.

Status and Threats

The mountain yellow-legged frog is imperiled by a variety of factors, especially invasive trout, chytrid fungus, and global climate change (Bradford 1989, 1991; Bradford *et al.* 1998; 1994; Drost and Fellers 1996; Lannoo 2005; Moyle *et al.* 1996; Knapp and Matthews 2000a; Armstrong and Knapp 2004; Knapp 2005a, 2005b; Finlay and Vrendenburg 2000; Knapp *et al* 2007; Lacan *et al.* 2008; California Department of Fish and Wildlife 2011; Bradford *et al.* 2011).

Demographic data on historical populations of mountain yellow-legged frogs are anecdotal and limited. Essentially, no data actually precede the fish-planting era in the high mountain lakes and streams; the earliest recorded plantings date from the mid-1800s (Knapp 2005a). Nevertheless, mountain yellow-legged frog data from the earliest 20th Century dates available describe them as having been abundant in aquatic habitats in the high Sierra Nevada. Grinnell and Storer (1924) reported that it [=Sierra Nevada yellow-legged frog] was "…the commonest amphibians in most parts of the Yosemite section. Its total range is…less than that of the Pacific tree-toad [=Pacific tree frog]; but it numbers, especially at the higher altitudes, far exceed those of the smaller species. This frog is the species most likely to come to the attention of fishermen and others who may walk along the banks of Sierran streams and lakes." They also reported that "Certain of the lakes in the higher parts of the Yosemite contain large numbers of yellow-legged frogs in …tadpole and adult conditions" (Grinnell and Storer 1924).

The decline of the mountain yellow-legged frog was first recorded in the 1970's when large populations were reduced in size to near extirpation (Bradford 1991). Subsequent surveys of formerly occupied sites found few remaining populations (Bradford *et al.* 1994; Drost and Fellers 1996). Between 1988 and 1991, Bradford *et al.* (1994) resurveyed sites historically known to support mountain yellow-legged frogs, based on surveys from 1955 to 1979. Animals were not detected at 27 historical sites on the Kaweah River; they were observed at 52 percent of the historical sites within Sequoia and Kings Canyon National Parks, and at 12.5 percent of the historical sites outside of these two protected locations. When the Sierra Nevada yellow-legged frog and the Northern Distinct Population Segment of the mountain yellow-legged frog are combined for the purpose of analysis, into one species, the mountain yellow-legged frog, for this resurvey effort detected them at 19.4 percent of historical sites (Bradford *et al.* 1994). Drost and Fellers (1996) repeated Grinnell and Storer's early 20th century surveys, and reported their presence at 2 of 14 historical sites. The two positive sightings consisted of a single tadpole at one site and a single adult female at the second. They located 17 additional sites with suitable mountain yellow-legged frog habitat, and detected three additional populations.

Davidson *et al.* (2002) reviewed 255 previously documented locations with mountain yellow-legged frog based on Jennings and Hayes (1994) throughout the historical range, and they concluded that 83 percent of these sites no longer support extant populations. Vredenburg *et al.* (2007) compared recent surveys from 1995 to 2004 with museum records of specimens collected between 1899 to 1994 and found that 93.3 percent of locations with historic records of the Sierra Nevada yellow-legged frog sites, and 95.2 percent of the sites with historic records of the Northern Distinct Population Segment of the mountain yellow-legged frog were extirpated. The California Department of Fish and Wildlife (2014a, 2014b) updated the Vredenburg *et al.* (2007) study utilizing historic locality records from museum specimens during the same time interval (1899–1994), and included updated recent locality information with additional survey data (1995–2010). These recent surveys failed to detect any extant frog populations within 0.63 mile of 220 of 318 localities with

historic Sierra Nevada yellow-legged frog records and 94 of 109 localities with historic mountain yellow-legged frog records. Based on this study, the estimated loss from historic occurrences is 69 percent for the Sierra Nevada yellow-legged frog and 86 percent for the Northern Distinct Population Segment of the mountain yellow-legged frog.

In 2002, 302 water bodies known to have been occupied by the mountain yellow-legged frog and 744 sites where the species had not been detected were resurveyed between 1995 and 1997 (Knapp 2005a). Animals at 59 percent of the previously occupied sites, and 8 percent of previously unoccupied sites were recolonized (Knapp 2005a). These data suggest an extirpation rate five to six times higher than the colonization rate within this study area. The documented extirpations appeared to have occurred non-randomly across the landscape, typically spatially clumped, and included the disappearance of all or nearly all of the mountain yellow-legged frog populations in a watershed (Knapp 2005a). The California Department of Fish and Wildlife (2014a, 2014b) assessed data from sites where multiple surveys were completed since 1995 at least 5 years apart. The Sierra Nevada yellow-legged frog was not detected at 45 percent of sites where they previously had been confirmed, and the mountain yellow-legged frog including the endangered Southern Distinct Population Segment, was not detected at 81 percent of the historically occupied sites. These data combined with the Forest Service's monitoring data suggest that declines continued into the 1990s.

The Forest Service conducted bioregional monitoring for the mountain yellow-legged frog on National Forest lands within the species' range in the Sierra Nevada as part of their Sierra Nevada Amphibian Monitoring Program (Brown *et al.* 2014). This monitoring effort provided scientifically-based estimates for statistical comparisons of occupancy and relative abundance across 5-year monitoring cycles based on a sample of 208 watersheds (Brown *et al.* 2014). The results of this monitoring, from 2002-2009, found mountain yellow-legged frog breeding activity in 4 percent of watersheds rangewide, and the species has declined in both distribution and abundance. Evidence of breeding was found in only 47 percent of watersheds where the animal had been found relatively recently (1990-2001), and in only 2 percent of watersheds where the species had last been observed prior to 1990. Moreover, relative abundances were low; only an estimated 9 percent of occupied watersheds were large, numbering more than 100 frogs or 500 tadpoles, and more than half of the watersheds (57 percent) had fewer than 20 animals (>10 tadpoles and >10 adults or subadults) (Brown *et al.* 2014).

The introduction of trout to historically fish-free lakes in the Sierra Nevada reduced the distribution and abundance of the Sierra Nevada yellow-legged frog and the Northern Distinct Population Segment of the mountain yellow-legged frog (Bradford 1989; Knapp and Matthews 2000a; Knapp 2005a). Prior to the mid-Nineteenth Century, almost all lakes and associated streams in the Sierra Nevada above 6000 feet were fishless (Moyle *et al.* 1996). As a result of 150 years of fish stocking throughout the region, however, all watersheds now contain as many as five non-native trout species (USFS 2013b). Currently, these areas may be functioning as population sinks for the mountain yellow-legged frog because the fish are either self-sustaining or their reintroduction to waterways and waterbodies imperils the amphibians.

The biological and ecological characteristics of the mountain yellow-legged frog make it especially vulnerable to predation and subsequent extirpation by introduced trout (Bradford 1989; Bradford *et al.* 1998; Finlay and Vredenburg 2007; Knapp and Matthews 2000a; Knapp *et al.* 2001). First, adult mountain yellow-legged frogs are highly aquatic and inhabit alpine lakes, most of which now contain trout. Second, in contrast to the tadpoles of other Sierra Nevada frog species that complete their

metamorphosis to their terrestrial stage in a single summer, mountain yellow-legged frog larvae generally require at least two years to complete metamorphosis. This overwintering requirement restricts successful breeding and development to permanent water bodies that typically are deeper than six feet, however, they may be subject to predation by introduced trout in these locations (Brown *et al.* 2014; Bradford 1983; Knapp and Matthews 2000a; Mullally and Cunningham 1956). And third, by excluding the mountain yellow-legged frog from deep lakes, trout increase the isolation of the remaining populations of these amphibians.

In 2000, the California Department of Fish and Wildlife declared that no waters would be approved for fish stocking in which the mountain yellow-legged frog were present or where the presence of this animal was unknown due to a lack of recent surveys (California Department of Fish and Wildlife 2011). Based on an assessment of the status and distribution of the amphibian and the impacts on it from fisheries. The California Department of Fish and Wildlife reduced the number of high elevation Sierra Nevada waters stocked by 77 percent (California Department of Fish and Wildlife 2011). This was due in part to efforts to eliminate stocking of waters in the immediate vicinity of mountain yellow-legged frog populations, but also because of the results of resource assessments that showed that many trout populations were self-sustaining and did not require stocking to persist (California Department of Fish and Wildlife 2011).

The National Park Service has removed exotic trout from a number of alpine lakes with the goal of restoring habitat for the mountain yellow-legged frog. The Service issued a biological opinion for this program in 2014 (Service 2014c).

Sequoia and Kings Canyon National Parks currently has an in-progress habitat restoration program that includes exotic trout eradication. In 2001, the National Park Service began to implement preliminary experimental restoration of mountain yellow-legged frog (National Park Service 2001, 2009A). The primary goal was to assess the feasibility of the use of gill nets and electrofishers to eradicate nonnative fish from low- to moderate-use individual lakes having short associated streams. From 2001-2013, the National Park Service had removed more than 50,200 fish from targeted lakes and streams. By 2013, fish were fully eradicated from 10 lakes and nearly eradicated from nine lakes. The final five waterbodies previously approved for nonnative fish eradication were initiated in 2012 and are expected to be completed by 2016-2017.

In nine of the lakes eradicated of fish, mountain yellow-legged frogs remained disease-free 3 years after trout removal. Average tadpole density in these nine lakes increased by 13-fold (from 0.8 to 10.1 per 10 m of shoreline; $P = 0.008$), while average ranid density increased by 14-fold (from 0.8 to 11.1 per 10 m of shoreline; $P = 0.004$). One lake showed an overall 49-fold increase from 0.9 to 43.9 individuals per 10 m of shoreline (NPS 2011B). Two of these populations (LeConte = Sierra Nevada yellow-legged frog; Spur = Northern Distinct Population Segment of the mountain yellow-legged frog) are now likely the largest in the entire range of each species.

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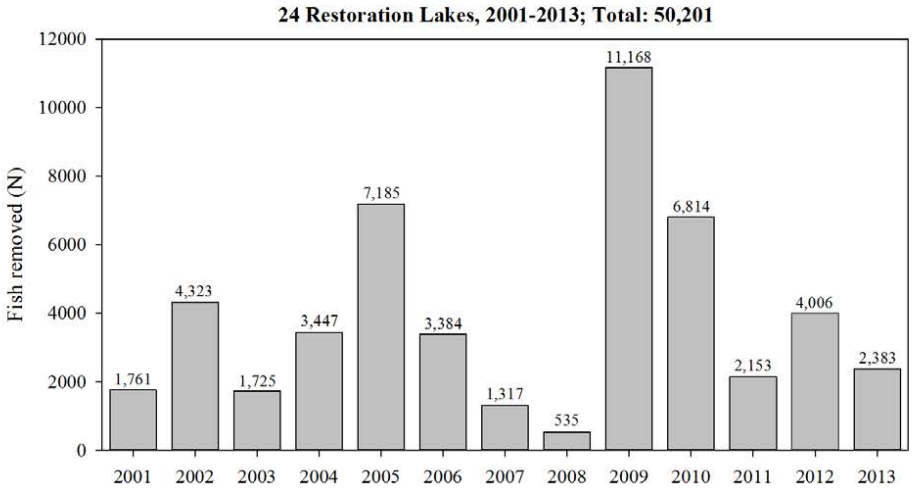

Figure 3: Total number of nonnative fish removed from a total of 24 fish removal lakes and adjacent streams in Sequoia and Kings Canyon National Parks, including nine lakes in Sixty Lake Basin, three lakes in Upper LeConte Canyon, three lakes in Upper Bubbs Creek, two lakes in Kern Point Basin, one lake in Pinchot Basin, two lakes in Upper Basin, and four lakes in Amphitheater Basin. From 2001 to 2013, a total of 50,201 nonnative fish were removed during 17,161 gill net set-and-pull events totaling 8,331,245 net hours, and 1,271 electrofishing events totaling 497 hours of output.

Another significant threat to the mountain yellow-legged frog is chytrid fungus (*Batrochytridium mycosis* = *Bd*). This fungus may have arrived in the Sierra Nevada in the 1960s or 1970s (Vredenburg *et al.* 2010) and is now present in most aquatic habitats in this bioregion. *Bd* is a waterborne fungus which is transmitted by a free-swimming zoospore that infects the keratinized tissue of amphibian skin (Berger *et al.* 1998). It disrupts critical skin functions such as osmoregulation (Voyles *et al.* 2007, 2009). Post-metamorphic frogs are most susceptible to the disease. It is responsible for amphibian declines and extinctions worldwide (Skerratt *et al.* 2007; Longcore *et al.* 1999; Mao *et al.* 1999). The chytrid fungus has contributed to widespread mountain yellow-legged frog declines throughout the Sierra Nevada (Briggs *et al.* 2010; Rachowicz *et al.* 2006; Vredenburg *et al.* 2010). Adults may shed *Bd* and persist with low levels of infection, but given their highly aquatic habitat requirements, likely are reinfected by tadpoles that can carry high infection loads (Briggs *et al.* 2010, Vredenburg *et al.*, 2010). Some populations appear to be persisting with chytrid at reduced abundances (Briggs *et al.* 2010). Research is underway to better understand the epidemiology of *Bd* in the mountain yellow-legged frog and to attempt to develop effective treatments (Stice and Briggs 2010; Vredenburg *et al.* 2010).

The majority of remaining mountain yellow-legged frog populations are small (Brown *et al.*, 2011) and many are isolated (Bradford *et al.* 1993; California Department of Fish and Wildlife 2011; Knapp *et al.* 2007). Small and isolated populations are vulnerable to stochastic events, such as severe weather or predation that can lead to their decline and extirpation (Shaffer 1981). Small populations also have increased chance of genetic drift and inbreeding, which can lead to losses in genetic variation (Service 2014a). The high degree of site fidelity also increases the vulnerability of small

populations if frogs continue to return to habitats that are no longer suitable due to fish introductions or climate change. Given the few populations remaining in the Sierra Nevada, losses of even a few populations of the mountain yellow-legged frog may be significant.

The Sierra Nevada yellow-legged frog and the Northern Distinct Population Segment of the mountain yellow-legged frog occur within the action area as demonstrated by: (1) recent observations of the mountain yellow-legged frog in the action area; (2) the biology and ecology of the animals, especially the ability of individuals to move distances and their ability to spend the dry months of the year in upland habitats with suitable environmental conditions; and (3) the action area contains physical features that provide refuge, forage, and dispersal habitat for the amphibians.

Yosemite Toad.

The Yosemite toad was listed as a threatened species on April 29, 2014, under the Endangered Species Act of 1973, as amended (Service 2014a).

The Yosemite toad was originally described as *Bufo canorus* by Camp (1916), who gave it the common name of Yosemite Park toad. Grinnell and Storer (1924) referred to it as the Yosemite toad when they found the species' range extended beyond the boundaries of Yosemite National Park.

Frost *et al.* (2006) divided the paraphyletic genus *Bufo* into three genera, assigning the North American toads, including the Yosemite toad, to the genus *Anaxyrus*. Feder (1977) found the Yosemite toads are the most genetically distinct member of the *boreas* group based on samples from a limited geographic range. However, it hybridizes with western toads in the northern part of their range (Blair 1972; Karlstrom 1962; Morton and Sokolski 1978). Shaffer *et al.* (2000) analysed a segment of mitochondrial DNA from 372 individuals collected in Yosemite National Park and Sequoia-Kings Canyon National Parks. They found there are significant genetic differences in Yosemite toads between the two National Parks. The genetic divergence in individuals from regionally proximate populations was high, implying low rates of genetic exchange.
Physical Description

The Yosemite toad is a moderately sized amphibian, with the adults ranging in size from 1.2 inches to 2.8 inches from the tip of their snout to their urostyle, a bony structure at the posterior end of the spinal column (Karlstrom 1962; Dodd 2013a; Lannoo 2005). A thin mid-dorsal stripe is present in juveniles of both sexes. The stripe disappears or is reduced with age; this process takes place more quickly in males (Dodd 2013a; Lannoo 2005). The iris of the eye is dark brown with gold iridophores (Dodd 2013a). The large paratoid glands are rounded to slightly oval in shape.

Male Yosemite toads are smaller than the females, and they have less conspicuous warts (Stebbins 1951, 2003; Stebbins and McGinnis 2012; Dodd 2013a; Green *et al.* 2014; Lannoo 2005). Differences in coloration between males and females are more pronounced in this species than in any other North American frog or toad (Stebbins 1951). Females have black spots or blotches edged with white or cream set against a grey, tan, or brown background color (Jennings and Hayes 1994). Males have a nearly uniform dorsal coloration of yellow-green to olive drab to darker greenish brown (Dodd 2013a; Green *et al.* 2014; Lanoo 2005).

Current Range and Distribution

The Yosemite toad is restricted to the Sierra Nevada in California from the Blue Lakes region north of Ebbetts Pass in Alpine County to just south of Kaiser Pass in the Evolution Lake/Darwin Canyon area in Fresno County (Green *et al.* 2014; Dodd 2013a; Lannoo 2005; Stebbins and McGinnis 2012; Jennings and Hayes 1994; Liang *et al.* 2010; Liang and Stohlgren 2011). The species historically inhabits elevations ranging from 6,000 to 11,910 feet (Stebbins 2003; Stephens 2001).

Habitat and Life History

Terrestrial habitats utilized by Yosemite toad adults vary, particularly by elevation, and include forests, meadows, shrublands, rock outcrops, and talus. Mid-elevation meadows occur in yellow pine (mixed conifer) and lower edges of lodgepole-red fir forests. Meadows above 7,500 feet generally occur in lodgepole–red fir, subalpine and alpine ecosystems (USFS 2001b). Higher subalpine and alpine areas tend to be more open than lower elevation regions. Yosemite toads inhabit wet meadow habitats and lake shores surrounded by lodgepole or whitebark pines (Camp 1916; Dodd 2013a; Stebbins and McGinnis 2012; Lannoo 2005; Wang 2012). The species is most often found in areas with thick meadow vegetation or patches of low willows (Dodd 2013a; Mullally 1953). Liang (2010) observed Yosemite toads most frequently associated with, in order of preference: wet meadows, alpine-dwarf scrub, red fir, water, lodgepole pine, and subalpine conifer habitats.

The Yosemite toad generally is associated with meadows because these are the areas used as breeding habitat. After breeding, adults move into the surrounding uplands. Yosemite toads emerge at snowmelt to breed, generally May-June depending on location and snowpack, and are active above ground for approximately four months each year, reentering overwinter sites in the fall when the weather becomes cold (Kagarise Sherman and Morton 1993, Karlstrom 1962). Upon emergence, males form breeding choruses (Kagarise Sherman 1980, Kagarise Sherman and Morton 1984) and breeding takes place over a short period of time ranging from a few days to 2-4 weeks (Brown *et al.* 2012; Kagarise Sherman 1980; Sadinski 2004). Males usually remain at breeding areas for 1-2 weeks whereas females usually spawn within 1-2 days (Kagarise Sherman and Morton 1984). Eggs hatch in about 4-15 days, depending on ambient water temperatures. Tadpoles metamorphose in an average of 48–63 days and do not overwinter (Kagarise Sherman 1980; Karlstrom 1962).

Yosemite toads are found at both large and small sites (Liang 2010), indicating that this species is capable of successfully utilizing small habitat patches. Liang (2010) found that population persistence was greater at higher elevations, with an affinity for relatively flat sites with a southwesterly aspect. These areas receive higher solar radiation and are capable of sustaining hydric, seasonally ponded, and mesic breeding and rearing habitat. The Yosemite toad is more common in areas with less variation in mean annual temperature, or more temperate sites with less climate variation (Liang 2010).

The Yosemite toad is a late maturing, long-lived species. Females first breed when they are 4-6 years old and males at 3-5 years of age (Kagarise Sherman 1980). Estimates of apparent annual survival of adult males in six meadows ranged from 50 percent to 72 percent (Brown *et al.* 2012). Some females may live as long as 15 years and males up to 12 years (Kagarise Sherman and Morton 1984). Periodic years of high recruitment and high survival rates of adults maybe important for the long-term persistence of populations (Biek *et al.* 2002; Brown *et al.* 2012).

Yosemite toads likely are more nocturnally active than has previously been reported. They actively breed during the day, but a recent study found them to be equally active at night (Brown *et al.* 2009). Martin (2008) and Liang (2010) observed movement of adults both during the day and night, and they speculated that long distance movements occur during the hours of darkness.

The breeding habitat of the Yosemite toad include very shallow waters, most commonly in wet meadows, but also in lake edges, and slow-moving streams and sloughs (Kagarise Sherman 1980; Karlstrom and Livezey 1955; Karlstrom 1962; Martin 2008; Mullally 1953). On the Sierra National Forest, Liang (2010) observed breeding in both large and small meadows, indicating that this species is capable of successfully utilizing small habitat patches. Liang (2010) found breeding site occupancy was greater in seasonal waters in relatively flat sites facing a southwesterly direction with warmer water temperatures. Breeding sites were associated with higher elevations, less variable air temperatures, more precipitation in the warmest three months of the year, and less precipitation during the driest three months. Liang (2010) also noted that the species' distribution was related to a number of different factors rather than a small set of variables. In Yosemite National Park, Knapp (2005a) found high elevation and meadow shorelines were significantly correlated with occurrence. Roche *et al.* (2012a) found annual occupancy to be positively correlated with annual precipitation.

Late winter or early spring, male Yosemite toads exit their upland burrows before the females, and they spend more time in the breeding pools (Kagarise Sherman and Morton 1993). Most adult males appear to breed annually, whereas females may skip years between breeding (Kagarise Sherman 1980; Brown *et al.* 2012). Females have high lipid storage levels, and there may be a trade-off between its use to enhance overwinter survival and the energetic expense of breeding every year (Morton 1981). The Yosemite toad is a prolific breeder that lays many eggs immediately at snowmelt over a short period of time. The reproductive output of the females is relatively high with estimates that some individuals may lay from 1,100 to 2,000 eggs in a single season (Kagarise Sherman 1980; Karlstrom and Livezey 1955; Karlstrom 1962). Females may split their egg clutches within the same pool, or even between different pools, and eggs may be communally laid with other toads. Mortality of eggs and tadpoles caused by freezing or desiccation may be high in some years leading to low or no recruitment (Brown *et al.* 2012; Kagarise Sherman 1980; Sadinski 2004).

The characteristics of Yosemite toad breeding sites generally are associated with warm environments conducive to rapid development (Kagarise Sherman and Morton 1984; Karlstrom 1962). This includes hydroperiods of sufficient length for successful metamorphosis. The female Yosemite toads generally lay their eggs in very shallow, warm, and often ephemeral water at the edges of small pools or in flooded meadow vegetation, most commonly with no or low flow (Kagarise Sherman 1980; Mullally 1953; Sadinski 2004). The tadpoles are most commonly observed in shallow warmer water, and the will move from cooler to warmer locations within a breeding site (Mullally 1953; Karlstrom 1962; Kagarise Sherman and Morton 1984). The eggs are laid at depths ranging from 1.5 inches to 3 inches with a median depth of about 2.5 inches (Sadinski 2004; Kagarise Sherman 1980; Karlstrom 1962; Roche *et al.* 2012a).

After the breeding period, adults Yosemite toads disperse into meadows, ephemeral streams, seeps and springs, and uplands (Liang 2010; Martin 2008). One telemetry study on the Stanislaus National Forest found that they moved a maximum distance of 2,156 feet (Martin 2008), another study recorded an individual had moved 4,137 feet in the Sierra National Forest (Liang 2010), and Morton and Pereyra (2010) found animals 2,789 feet away from their breeding pools. Females are recorded to move further than males. In the telemetry study on the Sierra National Forest, the maximum

distance travelled by females was 4,137 feet versus 2,838 feet by males, and the average distance travelled by females was twice that of males (Liang 2010). At Tioga Pass Meadows, 64 percent of females were in the furthest zone, 2,789 feet from the breeding pools, compared with only 4 percent of males. In contrast, 54 percent of males were found in the breeding meadows, compared with 19 percent of females (Morton and Pereyra 2010). Liang (2010) found that most long-distance travel was undertaken in the first 60 days after the breeding period, and individuals often stayed in the same location for several days or weeks. Adult females utilized different habitat than adult males during the non-breeding season (Morton and Pereyra 2010). Morton and Pereyra (2010) found that during late July and August, over 60 percent of Yosemite toads in upland rocky hillside habitat were adult females and less than 10 percent were adult males. In lowland meadow habitat near a breeding pond, 54 percent of the individuals were adult males and about 19 percent were adult females.

Overwintering habitat of the Yosemite toad may include rodent burrows, crevices under rocks and stumps, and root tangles at the base of willows (Davidson and Fellers 2005, Kagarise Sherman 1980, Martin 2008). Some metamorphs appear to overwinter their first year in the terrestrial meadow habitat adjacent to their rearing site and move to more distant terrestrial habitat during mid-summer of their second year (Kagarise Sherman and Morton 1993; Morton and Pereyra 2010).

Individual Yosemite toads show fidelity to breeding meadows and adult habitats (Brown *et al.* 2012; Kagarise Sherman and Morton 1984; Liang 2010). In Tioga Pass Meadows, most of the males and females returned to the same breeding sites (Kagarise Sherman and Morton 1984). During four years of a mark-recapture study, only three of 37 males moved to different meadows to breed, though males did move among breeding areas within meadows (Brown *et al.* 2012). In one radio telemetry study, individuals used the same upland nonbreeding areas and sometimes the same exact site for multiple years (Liang 2010).

The only long-term, site-specific population study of the Yosemite toads found a dramatic decline over 2 decades of monitoring. Kagarise Sherman and Morton (1993) studied the species at Tioga Pass Meadow from 1971 through 1991, with the most intensive monitoring between the years 1971 to 1982. A decline in the average number of males entering the breeding pools declined from 258 to 28 during the mid-1970s through 1982. During the same time period, the number of females varied between 45 and 100, but there was no apparent trend in number observed. During the 1980s, both males and females continued to decline, and breeding activity became sporadic. By 1991, only one male and two egg masses was found by Kagarise Sherman and Morton (1993). A similar population decline was recorded in local nonbreeding habitat.

Status and Threat

The Yosemite toad is imperiled by a variety of factors, especially damage or loss of habitat, global climate change, and chytrid fungus (Lannoo 2005; Martin 2008; Green *et al.* 2014 Davidson and Fellers 2005; Brown *et al.* 2011). The exact number of the remaining populations of the Yosemite toad is unknown, but the number of known occupied sites such as lakes, ponds, and meadows, streams is estimated to be around 740.

High meadow habitat quality in the western United States, and specifically the Sierra Nevada, has been degraded by various stressors over the last century (Vale 1987; Ratliff 1985). These various stressors have contributed to erosion and stream incision, leading to meadow dewatering and encroachment by invasive vegetation (Menke *et al.* 1996). The legacy of these impacts remains

extant to this day in the ecosystems of the high Sierra Nevada (Vankat and Major 1978). Given the reliance of the Yosemite toad on these high meadow habitats for breeding, and early life history stage and adult survival, the various stressors likely have had an effect on the viability of their populations via the degradation of their habitat.

Since high meadows in the Sierra Nevada are dependent on their hydrologic setting, most meadow degradation is due fundamentally to hydrologic alterations. Montane meadows have been identified among the most vulnerable and impacted habitat types of the Sierra Nevada (Kattelmann and Embury 1996, U.S.Forest Service 2004). While impacts have varied depending on meadow hydrogeomorphic type (Weixelman *et al.* 2011), drying on meadow systems associated with streams where downcutting has occurred is one of the most significant forms of change that has occurred, primarily as a result of livestock overgrazing (Wagoner 1886; Ratliff 1985; Menke *et al.* 1996). Roads and historic logging practices have resulted in meadow degradation in the form of drying, stream incision and creation of headcuts (Service 2014b).

Livestock grazing was historically widespread in the Sierra Nevada and historically caused widespread degradation of meadows (Menke *et al.* 1996), such as those utilized by the Yosemite toad for breeding. Studies investigating the effects of livestock grazing on amphibians have found positive, negative, and no associations, though most were not conducted in alpine meadows (Adams *et al.* 2009; Bull and Hayes 2000; Burton *et al.* 2009; Ford *et al.* 2013; Jansen and Healey 2003; Knutsen *et al.* 2004; Roche *et al.* 2012a; Lind *et al.* 2011; McIlroy *et al.* 2013).

Until recently, the effect of chytrid to Yosemite toad population declines was relatively unknown. Although the animal is hypothetically susceptible due to their co-occurrence with the Northern Distinct Population Segment of the mountain yellow-legged frog and Sierra Nevada yellow-legged frog, the spread and growth of chytrid in the warmer pool habitats, occupied for a much shorter time relative to the frogs may render individuals less prone to epidemic outbreaks (Green and Kagarise, Sherman 2001; USFS *et al.* 2009). Fellers *et al.* (2007) documented the occurrence of chytrid infection of Yosemite toad in Yosemite National Park over at least a couple of decades, and populations of the animal persisted in spite of the continued presence of the pathogen. In a survey of 196 museum specimens, Dodge and Vredenburg (2012) reported the first presence of Bd infection in Yosemite toads beginning in 1961, with the pathogen becoming highly prevalent during the recorded declines of the late 1970s, before it peaked in the 1990s at 85 percent positive incidence. Dodge and Vrendenburg (2012) collected 1,266 swabs from live Yosemite toads between 2006 and 2011, and they found Bd infection intensities at 17–26 percent, with juvenile toads most affected. The results from these studies support the hypothesis that chytrid have played an important role in Yosemite toad population dynamics over the period of their recent recorded decline.

Fire likely plays a significant role in the evolution and maintenance of meadows utilised by the Yosemite toad in the Sierra Nevada. Under natural conditions, conifers are excluded from meadows by fire and saturated soils. Small fires thin and/or destroy encroaching conifers, while large fires are believed to determine the meadow-forest boundary (Vankat and Major 1978). Fire is thought to be important in maintaining open aquatic and riparian habitats for amphibians in some systems, and fire suppression may have thereby contributed to conifer encroachment on meadows (National Park Service 2010).

Trampling and collapse of rodent burrows by hikers, livestock, pack animals, pets, or vehicles may have led to direct injury or death of the Yosemite toad. Recreational activity also may harass individuals and disrupt their behavior (Karlstrom 1962). Recreational anglers may be the transport mechanism of introduced pathogens and parasites, and they have been observed using toads and tadpoles as bait (USFS *et al.* 2009). However, Kagarise Sherman and Morton (1993) did not find a relationship between the distance from the nearest road and the declines in Yosemite toad populations, suggesting that human activity was not the cause of decline.

Small and isolated populations are vulnerable to stochastic events that can lead to their decline and extirpation (Shaffer 1981). For example, small populations are more likely to be devastated by adverse environmental factors than large populations. Small populations also have increased chance of genetic drift and inbreeding that can lead to losses in genetic variation (Service 2014). A high degree of site fidelity also can increase the vulnerability of small populations if Yosemite toads continue to return to habitats that are no longer suitable due to, for example, meadow degradation or climate change. Finally, some management activities may not adversely affect Yosemite toad populations across their range, but potentially may have significant effects on specific populations. Losses of even a few populations may be important in a declining species, such as this animal.

The Yosemite toad occurs within the action area as demonstrated by: (1) recent observations of the species on Sequoia and Kings Canyon National Parks; (2) the biology and ecology of the animal, especially the ability of individuals to move, forage, and winter in uplands; and (3) the action area contains physical features that provide refuge, breeding, foraging, and dispersal habitat for the amphibian.

Effects of the Proposed Action

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action, which will be added to the environmental baseline. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

There are two primary means by which the mountain yellow-legged frog and the Yosemite toad have the potential to be adversely affected by the proposed action: 1) direct effects from encounters with people and stock; and 2) indirect effects from people and stock, including degradation of habitat due to trails and/or meadow use. The amount or intensity of use, concentration, and timing of visitors, and the visitor's mode of travel influence the potential for adverse effects of the listed amphibians. The Conservation Measures in the Project Description of this biological opinion will minimize but not eliminate the potential for take of the mountain yellow-legged frog and the Yosemite toad.

1. <u>Direct Effects from Encounters with Human and Stock</u>

   Humans and stock can directly adversely affect all life stages of the mountain yellow-legged frog and the Yosemite toad through capture, harassment, injury, and death. All three listed amphibian species use a variety of aquatic and upland habitats where they may be stepped on and crushed, harassed, injured, killed or they may be subject to capture and harassment by visitors. Use of trails by humans and stock, and establishment and operation of camp sites, and administrative facilities may result in mountain yellow-legged frog and Yosemite toad being stepped on or harassed. However, public education, re-routing or limiting access to areas

inhabited by the mountain yellow-legged frog and Yosemite toad will minimize these effects. The only known mountain yellow-legged frog death caused by trampling by stock in Sequoia and Kings Canyon National Parks occurred in a meadow in Sixty Lake Basin (Brown *et al.* 2014). Stock access to this area has since been prohibited. Capture and harassment of these listed species by visitors likely will be a relatively random occurrence and is not anticipated to have a significant adverse effect.

Mountain yellow-legged frogs may be injured or killed by trampling and other movements by stock, or entrapment in deep hoof prints. Stock can step on all age classes while accessing water along streambanks, lakeshores, or meadows, or while foraging for riparian vegetation in these habitats which can result in injury or death. Although eggs are most vulnerable to trampling and disturbance, stock are not usually present during winter. Mountain yellow-legged frog tadpoles, subadults, and adults are relatively more mobile than Yosemite toads, and generally occur in habitats with more continuous and deeper water that provides more avenues for escape. Tadpoles will rapidly swim away to deeper water in lakes or stream channels. Adults and subadults will leap from the shoreline and submerge themselves under water to hide under stream banks or on the bottom of the lake or stream. However, all life stages commonly bask on shallow shorelines or on stream and lake banks, and are vulnerable to trampling by stock utilizing these occupied habitats to drink water, cross through habitats (e.g. streams), or forage on emergent or shoreline vegetation.

All life history stages of the mountain yellow-legged frog and the Yosemite toad may be captured and then released immediately or within a short period of time by humans, primarily children playing in streams and meadows, or exploring nature in adjacent habitats. However, the number of individuals captured likely will be low; and the amount injured or killed likely also will be low.

The mountain yellow-legged frog breeds in standing water during early summer immediately following snow melt (Stebbins and McGinnis 2012). This early summer breeding period corresponds to a time when people/stock access is both naturally limited due to lingering snow cover and wet ground conditions, and limited by the National Park Service by meadow opening dates. Thus, potential effects from trampling and/or disturbance of egg masses will be minimized.

Behaviors of the mountain yellow-legged frog that contribute to its exposure to potential effects from interactions with people and stock include periodic movements away from breeding habitat to forage at nearby aquatic habitats (Vredenburg *et al.* 2005). Individuals on shorelines in shallow water zones of meadows, creeks, or lakes, or migrating between waterbodies are at risk of being captured, harassed, injured, or killed. Mountain yellow-legged frogs sometimes congregate in large groups during the day, including tadpoles in warm, shallow water and subadults and adults bask on emergent shoreline vegetation, rocks, and logs (Rachowicz and Vredenburg 2004). After mountain yellow-legged frog eggs hatch during mid-summer, the tadpoles require 2-3 years until they metamorphose into more mobile subadults (Vredenburg *et al.* 2005). The long period of the early life history stages may increase their overall vulnerability to harassment, injury, and death.

However, given the relatively small number of populations near trails and the behaviors that mitigate the potential for adverse effects, the potential for trampling is highly unlikely to result in

adverse effects at the population level. For example, the population in Upper LeConte Canyon has increased substantially over the past 12 years (National Park Service 2013A), even though there is a high-use trail nearby that brings numerous people and stock in close proximity to the species on an annual basis. Individual mountain yellow-legged frog in populations immediately adjacent or close to trails in the upper Funston, Bubbs, South Fork Woods, Dusy, Middle Fork Kings, and Evolution watersheds would be subject to potential harassment during encounters with hikers and stock during the summer months.

Yosemite toads may be injured or killed by trampling and other movements by humans and stock, entrapment in deep hoof prints or other disturbances. Humans and stock can step on adults, subadults, tadpoles, and egg masses while in aquatic and upland habitats, including ponds, streams, and rodent burrows, resulting in injury or death. Eggs and tadpoles are potentially at a higher risk of trampling since these stages have no or low mobility and are often found in very small shallow pools with few escape options. Encounters between Yosemite toads and hikers and/or stock have the potential to cause death or injury. Toads in shallow burrows have occasionally been crushed by livestock (Jennings 1996; Service 2002).

Adult and subadult Yosemite toads are vulnerable to the direct effects of humans and stock because they are poor hoppers with low mobility, have an immobilization response to threats, and thus cannot quickly move out of the way. Recent metamorphs are extremely small (< 1 inch) with very limited escape abilities. The risk of trampling of large numbers of metamorphs is highest if humans and stock are present during the metamorphosis period when the amphibians are concentrated in breeding areas; subadults disperse into meadows and uplands. Outside of the breeding period, adults and subadults generally are found in upland habitats or in meadows. The risk of coming in contact with stock for all life stages is highest in meadows or near the perimeter of meadows. In the Bull Creek Watershed on the Sierra National Forest, Liang (2010) monitored several adults who utilized rodent burrows within 75 feet of a meadow throughout the summer. During a 2-yearlong study at Tioga Pass Meadow, Morton and Pereyra (2010) found 58 percent of 654 adult and subadult toads in the meadow bottoms rather than in upland areas, although adult males comprised the largest component of this group. Females predominately were found in uplands away from meadows. The impacts from grazing on individuals in upland habitats currently are unknown. When disturbed while basking at the edge of rodent burrows, Yosemite toad adults and subadults tend to retreat a short distance into the burrow and come back up to the surface in a short amount of time, potentially increasing their risk of being stepped on by nearby stock. Trampling of rodent burrows used for seasonal or overwintering refuge potentially may crush or injure individuals or permanently trap them underground resulting in their death.

2. <u>Indirect Effects from Humans and Stock</u>

Humans and stock can adversely affect the mountain yellow-legged frog and Yosemite toad through indirect effects to their aquatic and upland habitats. The effects include soil compaction, erosion, altering hydrology, pollution of surface and ground water, reduction or elimination of vegetation used as cover or as a food source by prey, and collapse of rodent burrows used as amphibian habitat. Grazing in Yosemite toad habitat would continue in limited locations in Kings Canyon National Park, such as in the upper and lower Blue Canyon area. Seven populations of mountain yellow-legged frogs are located near trails (upper Funston, Bubbs, South Fork Woods, Dusy, Middle Fork Kings, and Evolution watersheds). The Stock

Use and Meadow Monitoring Strategy and implementation of visitor use restrictions if habitat degradation is detected, as described in the Conservation Measures of the Project Description in this biological opinion, will minimize but not eliminate these adverse effects.

Unattended campfires could result in wildfires that kill or injure the mountain yellow-legged frog and Yosemite toad, or damage or destroy their habitats. Human food and other unsecured trash at campsites or other areas may attract increased numbers of ravens, and other predators of the mountain yellow-legged frog and the Yosemite toad. However, education and campground patrols will minimize these adverse effects.

There are several studies that examined the effects of recreational pack stock grazing on alpine meadow habitat (Olson-Rutz *et al.* 1996a, 1996b, Cole *et al.* 2004). Olson-Rutz *et al.* (1996a, 1996b) found that decreased cover and increased bare soil were correlated with grazing intensity and duration. Pack stock camps in the Bob Marshall Wilderness of Montana exhibited large areas of bare ground, increased soil compaction, and slower rates of water infiltration (Cole and Fichtler 1983). A study which evaluated the impacts of a range of pack stock utilization rates on three upper montane and subalpine meadow vegetation types in Yosemite National Park described the relationship between utilization rates and impacts to meadow attributes (Cole *et al.* 2004). The authors fit linear models for the relationships between utilization and productivity, basal vegetation cover, and relative graminoid cover, with variation by vegetation type and number of years of grazing. In dry *Carex filifolia* vegetation, statistically significant relationships for productivity and basal vegetation cover were reported. In mesic *Calamagrostis muiriana* vegetation, statistically significant relationships for productivity, basal vegetation cover, and relative graminoid cover were reported; the relationship with bare ground was statistically significant, but had poor predictive ability. In mesic to hydric *Deschampsia cespitosa* vegetation, only the relationship for productivity was statistically significant. Low intensity grazing may have no detectable impact on species composition and bare ground in Sierra Nevada meadows (Hopkinson et al. 2012, Lee 2013). As grazing intensity increases, bare ground and productivity impacts may develop before changes to species composition (McClaran 2000, Cole et al. 2004). Interannual variation in snowpack may also interact with grazing intensity to determine impacts (Lee 2013). Grazing impacts occur within a growing season but may persist after grazing ends (Olson-Rutz 1996b, Cole *et al.* 2004). The utilization standards which would be used to determine maximum grazing levels range from 25 percent to 45 percent. Based on the work of Cole et al. 2004, these utilization rates would, on average, result in changes to the most heavily grazed portions of meadows relative to comparable ungrazed vegetation. In upper montane and subalpine meadows, maximum utilization rates would be set to limit decreases in productivity, basal vegetation cover, and relative graminoid cover to 18percent or less.

In addition, a recent study in Sequoia and Kings Canyon National Park, Klinger *et al.* (in prep.) found little evidence that packstock grazing had consistent effects on species composition or plant community structure in meadows. Variation in species composition was driven primarily by random variation among meadows and environmental variables, rather than the influence of grazing, and structure did not vary in a direction that would be expected if grazing were having negative impacts. There were no consistent patterns of lower plant cover, more bare ground, or lower diversity in areas grazed by packstock.

Stock or human biological waste could directly impair water quality for the three listed amphibians through bacterial contamination or increasing nutrient levels (EPA 1991; Derlet *et al.*

2006, 2008, 2010 in USFS 2012). Reduction in water quality may compromise their immune function by inducing stress thus making larvae more susceptible to pathogens (USFS 2012). Increased nutrient loading may result in delayed metamorphosis or reduced size at metamorphosis of amphibians (Gerlanc and Kaufman 2005 in USFS 2014). A delay in metamorphosis could make the tadpoles more vulnerable to mortality from mid-season desiccation, snowfall or freezing. A reduced size at metamorphosis could affect the fitness of individuals following metamorphosis and prior to overwintering (USFS 2014).

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Introduced trout are predators of the mountain yellow-legged frog, exclude them from deep alpine lake habitats, increase the isolation of remaining populations, and affect the associated aquatic communities (Bradford 1989; Bradford *et al.* 1993; Finlay and Vredenburg 2007; Knapp and Matthews 2000a, 2000b; Knapp *et al.* 2007; Bahls 1992). In 2010, the California Department of Fish and Wildlife (2011) completed the Hatchery and Stocking Program Environmental Impact Report/Environmental Impact Statement (EIR), which included mitigation measures to reduce or eliminate impacts of hatchery operations and fish stocking on native species, including the mountain yellow-legged frog. A requirement of the EIR is all fish stocking funded by the Federal government that is conducted by the California Department of Fish and Wildlife must be evaluated using the Pre-stocking Evaluation Protocol. Because of stocking changes made in 2000, the EIR did not result in reductions by the State of California to benefit the mountain yellow-legged frog. In addition, the California Department of Fish and Wildlife may implement a Pre-stocking Evaluation Protocol when they have the authority to issue private stocking programs.

Chytrid fungus is an on-going threat to the three listed amphibians. This fungus may have arrived in the Sierra Nevada in the 1960s or 1970s (California Department of Fish and Wildlife 2011; Vredenburg *et al.* 2010) and is now present in most aquatic habitats in this bioregion. At present, few effective measures against chytrid exist, but the development of such interventions is the subject of intensive research (California Department of Fish and Wildlife 2011).

The average temperature in the United States has risen by approximately 1.5° Fahrenheit since 1895; more than 80 percent of this increase has occurred since 1980 (Adger *et al* 2007; Schiermeier 2012; Tollefson and Monarstersky 2012; Allen *et al.* 2013; Kadir *et al.* 2013; U.S. Global Research Program 2013; Hurteau *et al.* 2014; Melillo *et al.* 2014; Wright *et al.* 2013;). There is an international scientific consensus that most of the warming observed is the result of human activities (Adger *et al.* 2007; U.S. Global Change Research Program 2013; Merillo *et al.* 2014), and that it is due to increasing concentrations of greenhouse gases, including carbon dioxide, methane, and nitrous oxide, in the global atmosphere from burning fossil fuels and other human activities (Monastersky 2013; Adger *et al.* 2007). The temperatures in the United States will continue to rise, with the next few decades projected to see another 2°F to 4°F of warming in most areas. The amount of warming by the end of this Century is projected to closely correspond to the cumulative global emissions of greenhouse gases up to that time, ranging from 3°F to 10°F depending upon the level of emissions after the year 2050 (U.S. Global Change Research Program 2013). There are multiple mechanisms by which

global warming may push already imperiled species closer to or over the edge of extinction. Global warming increases the frequency of extreme weather events, such as heat waves, droughts, and storms (California Climate Action Team 2006; U.S. Global Change Research Program 2013). As global temperatures continues to rise, habitats are moving northward and upward in elevation, others will be eliminated, but in the near future, range contractions or extinctions of some species are more likely than simple northward or upslope shifts and this may be especially pronounced for Sierra amphibians owing to habitat fragmentation and the relative lower dispersal ability of these species. Since climate change threatens to disrupt annual weather patterns, it will result in a loss of habitats, food, or increased numbers of predators, parasites, and diseases.

For the Sierra Nevada ecoregion, climate models predict that mean annual temperatures will increase by 3.2 to 4.3 °F by 2070, including warmer winters with earlier spring snowmelt and higher summer temperatures (Point Reyes Bird Observatory 2011). Additionally, mean annual rainfall is projected during this time period to decrease from the current average by some 3.6–13.3 inches (Point Reyes Bird Observatory 2011). However, projections have high uncertainty and one study predicts the opposite effect (Point Reyes Bird Observatory 2011). Snowpack is, by all projections, going to decrease dramatically following the temperature rise and increase in precipitation falling as rain (Point Reyes Bird Observatory 2011). Higher winter streamflows, earlier runoff, and reduced spring and summer streamflows are projected, with increasing severity in the Sierra Nevada (Point Reyes Bird Observatory 2011). Snow-dominated elevations from 6,560–9,190 feet will be the most sensitive to temperature increases (Point Reyes Bird Observatory 2011). Meadows fed by snowmelt may dry out or be more ephemeral during the non-winter months (Point Reyes Bird Observatory 2011).

The Yosemite toad has a short active season and it requires very shallow ephemeral water for reproduction (Kagarise Sherman and Morton 1984). The amount of water in the breeding ponds is dependent on the amount and timing of the spring snowpack. As snow melts in the spring, meadow breeding areas flood and pools fill with water, and then dry out during the course of the summer. Rapid desiccation of breeding sites can lead to low or no recruitment of the Yosemite toad (Kagarise Sherman 1980). Reductions in snowpack may result in less available surface water, fewer pools for Yosemite toad reproduction and development of early life history stages (Adger *et al.* 2007; McMenamin *et al.* 2008). Low snowpack also may contribute to increased conifer encroachment of meadow habitat (Service 2014). Rising temperatures and early snowmelt may influence the Yosemite toad's behavior, the timing of reproduction and other phenological events, the duration of tadpole development, and resulting effects on survivorship (Blaustein *et al.* 2010; Walls *et al.* 2013).

The Sierra Nevada yellow-legged frog and the Northern Distinct Population Segment of the mountain yellow-legged frog have short active seasons, overwinter in aquatic habitats for about nine months each year, and require perennial water for reproduction (Bradford 1983, Lacan *et al.* 2008; Pope and Matthews 2001; Zweifel 1955). Reduced snow pack and increased evapotranspiration may result in desiccation of breeding areas, which in turn, may reduce their breeding success (Lacan *et al.* 2008). Rising temperatures and early snowmelt may influence the timing of mountain yellow-legged frog reproduction; reduce the time available for tadpole development, and adversely affecting survivorship (Blaustein *et al.* 2010; Walls *et al.* 2013).

Global Climate Change is highly likely to adversely influence ground water transport, reduced persistence of surface water that leads to lower water levels available for eggs, tadpoles, breeding, and other life history stages of the Sierra Nevada yellow-legged frog, Northern Distinct Population

Segment of the mountain yellow-legged frog, and the Yosemite toad. Therefore, ongoing Global Climate Change is highly likely to imperil these three listed species and the resources, including the aquatic areas, necessary for their survival.

Conclusion

After reviewing the current status of the Northern Distinct Population Segment of the mountain yellow-legged frog, Sierra Nevada yellow-legged frog, and the Yosemite toad, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's conclusion that the project, as proposed, is not likely to jeopardize the continued existence of these listed species. The Service reached this conclusion because of the implementation of the conservation measures described in the Project Description of this biological opinion by the National Park Service.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as actions that create the likelihood of injury to a listed species to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the National Park Service so that they become binding conditions of any grant or permit issued by the National Park Service as appropriate, in order for the exemption in section 7(o)(2) to apply. The National Park Service has a continuing duty to regulate the activity covered by this Incidental Take Statement. If the National Park Service: (1) fails to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document; and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the National Park Service must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Amount or Extent of Take

The Service, therefore, anticipates incidental take will result from the proposed The Service anticipates that incidental take of the Northern Distinct Population Segment of the mountain yellow-legged frog, Sierra Nevada yellow-legged frog, and the Yosemite toad will be difficult to detect because individuals may be difficult to locate due to their cryptic appearance and behavior;

subadults and adults may be located a distance from the streams, ponds, and lakes where they breed and develop; and the finding of an injured or dead individual is unlikely because of their relatively small body size. The conservation measures described above in the Project Description will substantially reduce, but do not eliminate, the potential for incidental taking of these three amphibians. Adverse effects to these animals also may be difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, or additional environmental disturbances. Upon implementation of reasonable and prudent measure, take of the Northern Distinct Population Segment of the mountain yellow-legged frog and the Sierra Nevada yellow-legged frog in the form of capture, harm, and harassment of all eggs, tadpoles, subadults, and/or adults inhabiting or utilizing 808,078 acres of wilderness at Sequoia and Kings Canyon National Parks for the duration of the project, or the injury, or death of three (3) egg masses, three (3) tadpoles, and three (3) subadults/adults for the duration of the project, will become exempt from the prohibitions described under section 9 of the Act. Upon implementation of reasonable and prudent measure, take of the Yosemite toad in the form of capture, harm, and harassment of all eggs, tadpoles, subadults, and/or adults inhabiting or utilizing 808,078 acres of wilderness at Sequoia and Kings Canyon National Parks for the duration of the project, or the injury, or death of three (3) egg masses, three (3) tadpoles, and three (3) subadults/adults for the duration of the project, will become exempt from the prohibitions described under section 9 of the Act. Therefore, reinitiation will be triggered if the amount of incidental take is exceeded by the National Park Service.

Effect of the Take

The Service has determined that the level of anticipated take is not likely to result in jeopardy to the Northern Distinct Population Segment of the mountain yellow-legged frog, Sierra Nevada yellow-legged frog, and the Yosemite toad.

Reasonable and Prudent Measure

1. The National Park Service shall minimize adverse effects to the Northern Distinct Population Segment of the mountain yellow-legged frog, Sierra Nevada yellow-legged frog, and the Yosemite toad by implementing the conservation measures included in this biological opinion and as modified by the following terms and conditions.

Term and Condition

To be exempt from the prohibitions of section 9 of the Act, the National Park Service must comply with the following terms and conditions, which implements the reasonable and prudent measure described above. These terms and conditions are non-discretionary.

1. Camping by humans, and grazing and pasturing by stock shall be carefully managed, and in some areas prohibited, in meadows and other aquatic areas where the Northern Distinct Population Segment of the mountain yellow-legged frog, Sierra Nevada yellow-legged frog, and the Yosemite toad are breeding.

2. National Park Service staff and visitors shall be educated about how to avoid impacting the mountain yellow-legged frog, Sierra Nevada yellow-legged frog, and the Yosemite toad and encouraged to exercise caution when they encounter the animal.

3. The National Park Service shall provide the Service with a copy of the annual Stock Use and Meadow Monitoring field reports within ten (10) working days of completion.

4. The National Park Service shall provide the Service with a copy of any scientific or management report completed on the three listed amphibians and activities included in the Wilderness Stewardship Management Plan within ten (10) working days of issuance.

The reasonable and prudent measure, with its implementing terms and conditions, is designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take described for each species in the Amount or Extent of Take section is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The National Park Service must provide an explanation of the causes of the taking as soon as possible and review with the Service the need for possible modification of the reasonable and prudent measure.

Reporting Requirements

The Service must be notified as soon as possible if large numbers of the Northern Distinct Population Segment of the mountain yellow-legged frog, Sierra Nevada yellow-legged frog, and/or the Yosemite toad are found injured, sick or dead (e.g., due to illness, chemicals, or other factors), foul play is suspected, or unauthorized take of any listed species is observed or suspected. For such incidents, notification should be made by a National Park Service biologist, National Park Service law enforcement ranger, or other qualified National Park Service personnel. We recognize that the activities in this project will occur in the back country a substantial distance from roads, telephones, and cellphone service for long periods of time, so the notification should be made as soon as practicable. The report of the incident should include the date(s), location(s), habitat description, photographs, maps, preserved specimens (if possible), and any other pertinent information. The Service contact is the Chief of the Endangered Species Division (Forest/Foothill) at the Sacramento Fish and Wildlife Office at (916) 414-6600.

Conservation Recommendations

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and databases. The Service has the following recommendations:

1. The National Park Service should continue their efforts to eliminate non-native trout from within the ranges of the Northern Distinct Population Segment of the mountain yellow-legged frog, Sierra Nevada yellow-legged frog, and the Yosemite toad.

2. The National Park Service should assist the Service in implementing the Conservation Strategy, and when completed, the final recovery plan for the Northern Distinct Population Segment of the mountain yellow-legged frog, Sierra Nevada yellow-legged frog, and the Yosemite toad.

For the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, we request notification of the implementation of any of the conservation recommendations.

REINITIATION – CLOSING NOTICE

This concludes formal consultation on the Wilderness Stewardship Plan in Sequoia and Kings Canyon National Parks for the endangered Northern Distinct Population Segment of the mountain yellow-legged frog, endangered Sierra Nevada Yellow-legged Frog, and Yosemite toad. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions about this biological opinion, please contact Chris Nagano, Chief Endangered Species Forest/Foothill Division at the letterhead address, email (Chris_Nagano@fws.gov), or at telephone (916) 414-6600.

cc:
Don Neubacher, Yosemite National Park, National Park Service, Yosemite, California
Diane Craig, U.S. Forest Service, Vallejo, California
Diana McFarland, U. S. Forest Service, Vallejo, California
Laura Patterson, California Department of Fish and Wildlife, Sacramento, California
Sarah Boogay, California Department of Fish and Wildlife, Fresno, California

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Appendix S

Consultation with The California State Historic Preservation Office

ON THE PREVIOUS PAGE
Vidette Meadow
NPS Photo

APPENDIX S:

CONSULTATION WITH THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICE

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STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

March 6, 2015 In reply refer to: NPS_2014_1211_001

Woody Smeck
Superintendent
Sequoia and Kings Canyon National Parks
47050 Generals Highway
Three Rivers, CA 93271

Re: Wilderness Stewardship Plan, Sequoia and Kings Canyon National Parks

Dear Mr. Smeck:

Thank you for your December 3, 2014, letter initiating consultation with regard to the proposed undertaking at Sequoia and Kings Canyon National Parks. The National Park Service (NPS) is consulting with the State Historic Preservation Officer (SHPO) in order to comply with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f), as amended, and its implementing regulation at 36 CFR Part 800. Several enclosures were also submitted, as was a draft Wilderness Stewardship Plan and Draft Environmental Impact Statement, dated June 2014. Subsequent correspondence between NPS and SHPO staff has resulted in modified versions of the enclosures related to the Section 106 consultation for the plan.

The proposed undertaking, as described, is the creation and implementation of a plan to manage visitor use and administrative activities within wilderness areas in the Parks, which encompass approximately 97% of the Parks' total areas. The primary actions associated with the plan with the potential to affect historic properties is the implementation of a Trails Management Plan, management of visitor use and access to wilderness areas, and management of existing front- and back-country facilities such as ranger stations and camp areas.

NPS has identified an Area of Potential Effect (APE) that includes the entire area of both Sequoia and Kings Canyon National Parks. NPS has surveyed approximately 7 % of the area in the Parks, and intends to conduct ongoing identification and evaluation efforts as funding becomes available and as the Wilderness Stewardship Plan is implemented. NPS has identified a single resource that may be eligible for listing in the National Register of Historic Places (NRHP), the Bearpaw Meadow Ranger Station, and a determination of eligibility will be submitted to the SHPO for this property.

The Wilderness Stewardship Plan will create a program for managing wilderness areas that will be implemented over a number of years. Because incomplete identification efforts prevent a full assessment of adverse effects, NPS proposes to consult with the SHPO, Advisory Council on Historic Preservation, Native American Tribes, and other interested parties to develop a Programmatic Agreement to conclude the Section 106 consultation for the Plan.

After reviewing the information submitted, the SHPO offers the following comments:

- The SHPO concurs that developing and implementing the Wilderness Stewardship Plan constitutes an undertaking.
- The APE appears to be sufficient to take both direct and indirect effects into account.
- The SHPO agrees that a Programmatic Agreement is an appropriate method to take effects of the undertaking into account and complete the Section 106 process.

The SHPO looks forward to continuing consultation on the Programmatic Agreement. Thank you for seeking SHPO comments and considering historic properties as part of your project planning. If you have any questions or concerns, please contact Mark Beason, Project Review Unit Historian, at (916) 445-4047 or mark.beason@parks.ca.gov.

Sincerely,

Carol Roland-Nawi, Ph.D.

Carol Roland-Nawi, Ph.D.
State Historic Preservation Officer

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 wise use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historic 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. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting 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.

(2015)

United States Department of the Interior · National Park Service