PROJECT INFORMATION	
Project Title	Integrated Meadow Restoration and Grazing in Shell Meadow
Brief Description	High in the Sierra Nevada near Sonora Pass, a tributary to the Middle Fork Stanislaus River flows through Shell Meadow—a high-priority restoration site in the Stanislaus National Forest. The multiple benefits that the meadow provides, including important breeding habitat for the sensitive, endemic Yosemite toad, are at risk because of two headcuts eroding up the stream channel. If no action is taken, these headcuts will advance, the channel will incise, and the meadow's hydrology will be severely compromised. The meadow is within an active grazing allotment, but livestock have been excluded from the site due to the headcuts and the presence of sensitive amphibian habitat. The project has three main goals. The first is to protect Shell Meadow and its associated high-quality aquatic and terrestrial habitats. The second is to assist the Forest Service in determining how grazing could be compatible with post-restoration management at the site by gathering the information necessary for a site-specific management plan. The third is to develop a project model that demonstrates both how to take preventative action to protect a meadow before full-scale degradation occurs and how to develop appropriate questions and solutions for integrating grazing with meadow management. Shell Meadow provides an ideal location to address the issues of meadow restoration and grazing. Although many wet meadows in the Sierra are home to sensitive species few have such a wealth of data regarding the relationship between grazing and habitat. A significant three-year study was conducted (Determining the Effects of Livestock Grazing on Yosemite Toads and Their Habitat, Allen-Diaz, McIlroy, Tate, 2010) on the Stanislaus and Sierra National Forests that examined the role livestock grazing in montane meadows may play in the decline of Yosemite toad. In addition, there have been assessments completed on meadows near Shell that can provide critical comparison data to help inform ongoing management of Shell Meadow and similar meadows throughout the Forest. These sites are used for livestock management (grazing and gathering), and half of them have headcuts that threaten to severely degrade their hydrology and damage the Yosemite toad habitat that is present. This project will build on the existing database of information about these meadows to help jumpstart the discussion around how, when, and where to integrate grazing into meadow management. The monitoring effort proposed will build on baseline data and include tracking headcut advancement, forage utilization, and bank stability—all of which are key factors that shape livestock management procedures and are used to determine whether a site can be grazed or not. Absent such data, a discussion about site-specific management, grazing, and restoration can be delayed five to seven years in order to collect and analyze the necessary information. Expected outcomes of the proposed activities include: 1) final restoration designs completed, 2) permits obtained for on-the-ground meadow restoration, 3) sufficient

	data collected to determine whether grazing could be compatible with meadow management after restoration, and 4) appropriate questions raised and addressed regarding how, when, and where grazing could be re-introduced into meadow sites with sensitive habitat. Final deliverables include: monitoring report with data analysis, complete restoration design, permits, request for bids, and draft contract for restoration implementation
Total Requested Amount	62,000.00
Other Fund Proposed	62,000.00
Total Project Cost	124,000.00
Project Category	Pre-Project Due Diligence
Project Area/Size	0000
Project Area Type	Not Applicable
Have you submitted to SNC this fiscal year?	No
Is this application related to other SNC funding?	No

Project Results
Design/permit

Project Purpose	**Project Purpose Percent**
Habitat	
Resource Management	
Working Landscapes	

County
Tuolumne

Sub Region
South Central

PROJECT CONTACT INFORMATION

Name	Ms. Elizabeth Soderstrom,
Title	Authorized Representative
Organization	American Rivers
Primary Address	432 Broad Street, , , Nevada City, CA, 95959
Primary Phone/Fax	530-478-5694 **Ext.**
Primary Email	esoderstrom@amrivers.org

PROJECT LOCATION INFORMATION

Project Location	
Address:	Middle Fork of the Stanislaus River, , , Pinecrest, CA, 95364 United States
Water Agency:	Tuolumne Utilitie District
Latitude:	38.2476
Longitude:	-119.9590
Congressional District:	n/a
Senate:	n/a
Assembly:	n/a
Within City Limits:	No
City Name:	

ADDITIONAL INFORMATION

Grant Application Type

Grant Application Type: **Category Two Pre-Project Activities**
Grant Application Type: **Category Two Pre-Project Activities**

PROJECT OTHER CONTACTS INFORMATION

Other Grant Project Contacts	
Name:	Mr. Luke Hunt,
Project Role:	Day-to-Day Responsibility
Phone:	5304788325
Phone Ext:	
E-mail:	lhunt@amrivers.org

UPLOADS

The following pages contain the following uploads provided by the applicant:

Upload Name
Completed Application Checklist
Table of Contents
Full Application Form
Authorization to Apply or Resolution
Narrative Descriptions
CEQA Documentation
Detailed Budget Form
Restrictions/Agreements
Regulatory Requirements or Permits
Letters of Support
Long Term Management Plan
Project Location Map
Parcel Map Showing County Assessors Parcel Number
Topographic Map

Photos of the Project Site

To preserve the integrity of the uploaded document, headers, footers and page numbers have not been added by the system.

Instructions for use of this form:
1. Scroll down and check the box indicating completion of requested information in the appropriate format.
ÅYou can move among the boxes by using your mouse or the ñTabò key.
2. When you have completed the form, print and sign at the bottom.
Please note: *Adobe® Reader® does not allow you to save your work. It is very important that you print out your form immediately after completing it.*

Appendix B1

Full Application Checklist

Project Name: Integrated Meadow Restoration and Grazing in Shell Meadow EGID#: ____

Applicant: American Rivers

Please mark each box: check if item is included in the application; mark ñN/Aò if not applicable to the project. ñN/Aò identifications must be explained in the application. Please consult with SNC staff prior to submission if you have any questions about the applicability to your project of any items on the checklist. All applications must include a CD including an electronic file of each checklist item, if applicable. The naming convention for each electronic file is listed after each item on the checklist. (Electronic File Name = EFN: ñnaming conventionò file extension choices)

Submission requirements for all Category One and Category Two Grant Applications

1. ☐ Completed Application Checklist *(EFN: Checklist.pdf)*

2. ☐ Table of Contents *(EFN: TOC.doc or .docx)*

3. ☐ Full Application Project Information Form *(EFN: fapi.doc, .docx or .pdf)*

4. ☐ Authorization to Apply or Resolution *(EFN: authorization.doc or .docx)*

5. ☐ Narrative Descriptions - Submit a single document (maximum 10 pages, Arial 12 pt font, 1 inch margins) that includes each of the following narrative descriptions *(EFN: Narrative.doc or .docx)*
   a. ☐ Detailed Project Description
      - ☐ Project Description including Goals/Results, Scope of Work, Location, Purpose, etc.
      - ☐ Project Summary
      - ☐ Environmental Setting
   b. ☐ Workplan and Schedule
   c. ☐ Restrictions, Technical/Environmental Documents and Agreements ï Category One projects only
   d. ☐ Organizational Capacity
   e. ☐ Cooperation and Community Support
   f. ☐ Long Term Management and Sustainability
   g. ☐ Performance Measures
   h. ☐ Budget Narrative

6. Supplemental and Supporting documents
   a. ☐ CEQA/NEPA Compliance Form *(EFN: CEQAform.doc or .docx)*

- ☐ California Environmental Quality Act (CEQA) documentation *(EFN: CEQA.pdf)*
- ☐ National Environmental Policy Act (NEPA) documentation *(EFN: NEPA.pdf)*

b. ■ Detailed Budget Form *(EFN: Budget.xls, .xlsx)*

c. Restrictions, Technical/Environmental Documents and Agreements, as applicable – Category One projects only
- ■ Restrictions / Agreements *(EFN: RestAgree.pdf)*
- ■ Regulatory Requirements / Permits *(EFN: RegPermit.pdf)*

d. Cooperation and Community Support
- ■ Letters of Support *(EFN: LOS.doc, .docx or .pdf)*

e. Long-Term Management and Sustainability
- ■ Long-Term Management Plan *(EFN: LTMP.pdf)*

f. Maps and Photos
- ■ Project Location Map *(EFN: LocMap.pdf)*
- ■ Parcel Map showing County Assessor's Parcel Number(s) *(EFN: ParcelMap.pdf)*
- ■ Topographic Map *(EFN: Topo.pdf)*
- ■ Photos of the Project Site *(10 maximum) (EFN: Photo.jpg, .gif)*

g. Additional submission requirements <u>for Conservation Easement Acquisition applications only</u>
- ☐ Acquisition Schedule *(EFN: acqSched.doc,.docx,.rtf,.pdf)*
- ☐ Willing Seller Letter *(EFN: WillSell.pdf)*
- ☐ Real Estate Appraisal *(EFN: Appraisal.pdf)*
- ☐ Conservation Easement Language *(EFN: CE.pdf)*
- ☐ Third Party Transfer Acknowledgment Letter (if applicable) *(EFN: Transfer.pdf)*

h. Additional submission requirements <u>for Site Improvement/Restoration Project applications only</u>
- ☐ Land Tenure Documents – attach only if documentation was not included with Pre-application *(EFN: Tenure.pdf)*
- ☐ Site Plan *(EFN: SitePlan.pdf)*
- ☐ Leases or Agreements *(EFN: LeaseAgmnt.pdf)*

I certify that the information contained in the Application, including required attachments, is accurate.

Signed *(Authorized Representative)* — Date: 10/22/12

Steve Rothert, Director of American Rivers CA office

Name and Title *(print or type)*

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Appendix B2

Project Information Form

PROJECT NAME *(Limit name to 10 words or less)* **EGID#**_____

Integrated Meadow Restoration and Grazing in Shell Meadow

APPLICANT NAME *(Legal name, address, and zip code)*

American Rivers

432 Broad St.

Nevada City CA 95959

PROJECT DESCRIPTION: Refer to Sec. IV, 5a in the GAP.

Has the project description been updated from the project description submitted with the Pre-Application form? *(Choose One)* ☐ SAME ☒ UPDATED

CONSISTENCY WITH LOCAL GENERAL PLAN

Is this project consistent with the appropriate jurisdiction's (city/county) general plan?

☒ Yes ☐ No *(If not, explain why not.)* The project is consistent with the adopted USFS Forest Plan.

WILLIAMSON ACT STATUS *(for conservation easement acquisition projects only)*

Is the project enrolled in a Williamson Act contract with the local county? ☐ Yes ☒ No

If yes, what is the expiration date of the contract? _____

FUNDING AND BUDGET INFORMATION

SNC Grant Request $ 62,000

☐ Check if SNC is the sole funder of this project

PERSON WITH FISCAL MANAGEMENT RESPONSIBILITY FOR GRANT CONTRACT/INVOICING

	Name and title – type or print	*Phone*	*Email Address*
☒ Mr.	Bill Lee, Chief Operating Officer	202-347-7550	blee@amrivers.org
☐ Ms.			

PERSON WITH DAY-TO-DAY RESPONSIBILITY FOR GRANT *(Only include this information if different from pre-application submittal)*

	Name and title – type or print	*Phone*	*Email Address*
☒ Mr.	Luke Hunt, Project Manager	530-478-5849	lhunt@amrivers.org
☐ Ms.			

COUNTY ADMINISTRATOR OR PLANNING DIRECTOR CONTACT INFORMATION *(At least one entry with **Email address** is **REQUIRED**)*

Name: Jerry Baker *Phone Number:* (209) 533-5633

Email Address: communityresources@tuolumnecounty.ca.gov

Name: *Phone Number:*

Email Address:

NEAREST PUBLIC WATER AGENCY (OR AGENCIES) CONTACT INFORMATION *(At least one entry with Email address is REQUIRED)*

Name: Peter Kampa, Tuolumne Utilities District *Phone Number:* (209) 532-5536

Email Address: info@tuolumneutilities.com

Name: *Phone Number:*

Email Address:

Please identify the appropriate project category below and provide the associated details *(Choose One – should be the same as the category identified in the pre-application)*

☐ Category One Site Improvement
☐ Category One Conservation Easement Acquisition
☒ Category Two Pre-Project Activities

☐ **Site Improvement/Conservation Easement Acquisition**

Project Area: _____

Total Acres: _____

SNC Portion (if different): _____

Total Miles (i.e. river or stream bank):_____

SNC Portion (if different): _____

For Conservation Easement Acquisitions Only

☐ Appraisal Included

☐ Will submit appraisal by_____

Select one primary Site Improvement/Conservation Easement Acquisition deliverable

☐ Stream Restoration/Protection
☐ Management Practices Changes
☐ Natural Resource Protection
☐ Infrastructure Development/Improvement
☐ Conservation Easement

Does the applicant intend to transfer the easement to a third party? ☐ Yes ☐ No

If yes, is the third party organization known? ☐ Yes ☐ No If yes, please attach a letter from this organization documenting their willingness to assume the long term management of the project.

☒ **Pre-Project Activities**

Select one primary Pre-Project deliverable

☒ Permit
☐ CEQA/NEPA
☐ Appraisal
☐ Plan
☐ Condition Assessment
☐ Biological Survey
☐ Environmental Site Assessment

American Rivers
Rivers Connect Us

October 19, 2012

Sierra Nevada Conservancy
11521 Blocker Drive, Suite 205
Auburn, CA 95603

Re: Authorization to submit application for the *Integrated Meadow Restoration and Grazing in Shell Meadow* project

Dear Sir or Madam,

I would like to thank you for giving American Rivers the opportunity to submit a proposal for our work on the *Integrated Meadow Restoration and Grazing in Shell Meadow* project. The Board of Directors of American Rivers supports this project and authorizes the submission of this grant application requesting for funding from the Sierra Nevada Conservancy for this project.

My thanks again.

Sincerely,

Swep Davis
Chair of the Board of Directors

CALIFORNIA REGIONAL OFFICE ● 432 BROAD STREET ● NEVADA CITY, CALIFORNIA 95959
(530) 478-9026 ● www.americanrivers.org

INTEGRATED MEADOW RESTORATION AND GRAZING IN SHELL MEADOW

a. Detailed Project Description

Project Summary

High in the Sierra Nevada near Sonora Pass, a tributary to the Middle Fork Stanislaus River flows through Shell Meadow—a high-priority restoration site in the Stanislaus National Forest. The multiple benefits that the meadow provides, including important breeding habitat for the sensitive, endemic Yosemite toad, are at risk because of two headcuts eroding up the stream channel. If no action is taken, these headcuts will advance, the channel will incise, and the meadow's hydrology will be severely compromised. The meadow is within an active grazing allotment, but livestock have been excluded from the site due to the headcuts and the presence of sensitive amphibian habitat.

The project has three main goals. The first is to protect Shell Meadow and its associated high-quality aquatic and terrestrial habitats. The second is to assist the Forest Service in determining how grazing could be compatible with post-restoration management at the site by gathering the information necessary for a site-specific management plan. The third is to develop a project model that demonstrates both how to take preventative action to protect a meadow before full-scale degradation occurs and how to develop appropriate questions and solutions for integrating grazing with meadow management.

Shell Meadow provides an ideal location to address the issues of meadow restoration and grazing. Although many wet meadows in the Sierra are home to sensitive species few have such a wealth of data regarding the relationship between grazing and habitat. A significant three-year study was conducted (Determining the Effects of Livestock Grazing on Yosemite Toads and Their Habitat, Allen-Diaz, McIlroy, Tate, 2010) on the Stanislaus and Sierra National Forests that examined the role livestock grazing in montane meadows may play in the decline of Yosemite toad. In addition, there have been assessments completed on meadows near Shell that can provide critical comparison data to help inform ongoing management of Shell Meadow and similar meadows throughout the Forest. These sites are used for livestock management (grazing and gathering), and half of them have headcuts that threaten to severely degrade their hydrology and damage the Yosemite toad habitat that is present. This project will build on the existing database of information about these meadows to help jumpstart the discussion around how, when, and where to integrate grazing into meadow management. The monitoring effort proposed will build on baseline data and include tracking headcut advancement, forage utilization, and bank stability—all of which are key factors that shape livestock management procedures and are used to determine whether a site can be grazed or not. Absent such data, a discussion about site-specific management, grazing, and restoration can be delayed five to seven years in order to collect and analyze the necessary information.

Expected outcomes of the proposed activities include: 1) final restoration designs completed, 2) permits obtained for on-the-ground meadow restoration, 3) sufficient data collected to determine whether grazing could be compatible with meadow management after restoration, and 4) appropriate questions raised and addressed regarding how,

when, and where grazing could be re-introduced into meadow sites with sensitive habitat.

Final deliverables include: monitoring report with data analysis, complete restoration design, permits, request for bids, and draft contract for restoration implementation.

Project Goal and Outcomes

Offered by a strong partnership of American Rivers and the Stanislaus National Forest, this project is aimed at maintaining Shell Meadow's hydrologic function and the full range of ecosystem services that this high-priority meadow has the potential to lose if the headcuts continue to advance (including natural water storage, flood attenuation, cooling and filtering of water, aquatic and riparian habitat, and recreational values). The primary objectives are three-fold: 1) prevent active headcuts from eroding through Shell Meadow, 2) protect high-quality aquatic and terrestrial habitat, and 3) collect the information necessary for the Forest Service to develop a site-specific management plan and determine whether grazing could be resumed at this site in future. Below we list the anticipated near-term and long-term outcomes.

Near-Term Outcomes:

- Permitting and design complete so site is shovel-ready.
- Data collected to lay the groundwork for a site-specific management plan and determine whether grazing could be compatible with a restored Shell Meadow.
- Forage utilization and headcut advancement data collected on adjacent meadows to inform management decision-making and prioritization on other meadows that have Yosemite toad habitat, headcuts, and are grazed.

Long-Term Outcomes:

- Increased understanding of how, when, and where meadow restoration and grazing can be managed to increase meadow health and provide forage for livestock.
- Increase in meadow restoration projects that consider grazing as a management tool.
- Increased number of meadows restored, resulting in a suite of ecological benefits, including increased habitat and forage, increased water quality, and economic benefits including jobs and output to the regional economy.
- Project model available that demonstrates preventative restoration action and includes consideration of sensitive habitat, headcut advancement, and grazing

Scope of Work

The project is structured to proceed in a stepwise manner with five phases: 1) Assessment and Conceptual Restoration Designs; 2) NEPA Documentation; 3) Final Restoration Design and Pre-Restoration Monitoring; 4) Permitting; and 5) Implementation, Adaptive Management, and Post-Restoration Monitoring. The Forest Service (USFS) completed Phase 1 in summer 2012, and Phase 2 will be completed in winter of 2012/2013. Funding from the Sierra Nevada Conservancy is critical to implementing Phases 3 and 4 (final restoration design, pre-restoration monitoring, and pre-construction permitting) the final steps before on-the-ground restoration (Phase 5) can begin. Once these five phases are complete and restoration has occurred, the Forest Service can convene an interdisciplinary team to develop a site-specific management plan for Shell Meadow. This project will lay the groundwork for the

management plan and help to streamline the Forest Service process in making a grazing determination.

We are requesting $62,000 from SNC and will provide a match of $62,000 for a total project cost of $124,000. We have applied to the National Fish & Wildlife Foundation and Bella Vista Foundation for match funding and have received award notices. The project team is fully capable of all aspects of project management to ensure successful implementation. American Rivers will take the lead in project management and administration and will assist with monitoring. The Stanislaus National Forest will lead permitting, design and will also assist with monitoring.

b. Environmental Setting

Current Land Uses & Proposed Land Use Changes

Shell Meadow is located on a tributary to Niagara Creek, which flows into the Middle Fork Stanislaus River, on the Stanislaus National Forest. Dense forested stands shield the meadow from view from nearby roads, and recreational use is limited. Shell Meadow is three acres and is part of the Eagle Meadow grazing allotment. Although Shell was previously used by livestock, grazing has been excluded on the site for approximately 10 years for two primary reasons: Yosemite toad, a Forest Service sensitive species and a US Fish and Wildlife Service candidate threatened species, has breeding habitat in the meadow, and the headcuts are currently advancing toward that habitat. Ground disturbance associated with cattle grazing along this unstable section of channel has the potential to speed the advancement of the headcut toward the breeding habitat. Land use changes are not proposed at this time. However, stabilization of the headcuts as well as development of a site-specific meadow management plan by a Forest Service interdisciplinary team addressing the concerns of the Yosemite toad habitat would allow the forest to consider allowing grazing in this meadow in the future.

Consistency with Existing Plans

As the project site is located on land managed by the USFS, it does not fall within the jurisdiction of the city or county and thus is not included in any general plans. The project in line with the adopted Stanislaus National Forest Direction Plan and long-term management will be conducted in accordance with that plan.

Meadows, Sensitive Habitat, and Grazing Management

Mountain meadows are hotspots of biodiversity that support many native, rare, and sensitive species, and provide forage and water for grazing animals. Meadows also provide a distinct habitat in contrast with surrounding areas, and although they make up less than 10 percent of the region, their ecological importance is disproportionate to their size. Meadow habitats are especially beneficial for amphibians such as the Yosemite toad *(Bufo canorus).* Across the Sierra Nevada's National Forest lands, where almost half of native amphibian species are considered at risk, permitted livestock grazing is a notably controversial agricultural activity. Cattle-grazing is thought to degrade the quality of meadow breeding habitat for amphibian species of concern such as the endemic Yosemite toad. However, a 2010 study to determine the effects of livestock grazing on Yosemite toads and their habitat (Allen-Diaz, McIlroy, Tate, 2010) did not find a correlation between cattle use and toad occupancy of meadows. Rather, results strongly indicated that toad presence is driven by meadow hydrology. Yosemite

toad occupancy rates of meadows increased with meadow wetness, with wetter meadows providing superior breeding and rearing habitat.

Although the study did not find a correlation between grazing and toad occupancy rates, the presence of Yosemite toad habitat leads to cattle exclusion on a number of USFS meadows, including Shell Meadow. There are currently two USFS Sierra Nevada Forest Plan Amendment Standards (S&G) regarding Yosemite toad habitat that are applicable to Shell Meadow: S&G #53 and #54. S&G #53 requires that livestock be excluded from standing water and saturated soils in wet meadows and associated streams and springs occupied by Yosemite toads or identified as “essential habitat” in the conservation assessment for the Yosemite toad during the breeding and rearing season (through metamorphosis). S&G #54 states that “Exclusion in standard and guideline #53 above may be waived if an interdisciplinary team has developed a site-specific management plan to minimize impacts to the Yosemite toad and its habitat by managing the movement of stock around wet areas.”

In the case of Shell Meadow, once restoration is complete and the headcuts in the meadow are repaired, an interdisciplinary team can be convened under S&G #54 to develop a site-specific management plan. This project will collect necessary data for this management plan and streamline the Forest Service process in making a grazing determination.

Monitoring to Improve Management

Not only will this project advance restoration of Shell Meadow, it will also provide a full picture of the range of management options available to the USFS for grazing on sites with advancing headcuts (like Shell) and generally improve management of similar meadows across the forest. This project includes monitoring on Shell Meadow and nine other meadow sites (Coyote, Bluff, Groundhog, Bloomer Lake, Hammill Canyon, Bull Run, Barn, Toad in the Road, and Wire Corrall). The monitoring on the additional sites will provide critical comparison data to help inform ongoing management of Shell Meadow and similar meadows throughout the Forest. The additional meadow sites were identified through a meadow assessment conducted by the USFS in 2010. These sites are used for livestock management (grazing and gathering), and half of them have headcuts that threaten to severely degrade their hydrology and damage the Yosemite toad habitat that is present. The monitoring effort will include tracking headcut advancement, forage utilization, and bank stability—all of which are key factors that shape livestock management procedures and are used to determine whether the site can be grazed or not.

Consistency with Proposition 84 Goals

This project directly supports the goals of Proposition 84, including contributing to the protection of rivers and streams, their watersheds and associated land and other natural resources. Healthy meadows provide outstanding natural benefits. Meadows store spring floodwaters and release cool flows in late summer, they filter out sediment and pollutants, produce high-quality forage and provide habitat for rare and threatened species. This project will demonstrate and validating restoration practices that will protect water quality, in-stream habitat, and water storage capacity, while retaining the cultural and economic values of a working landscape.

Consistency with SNC Program Goals and Mission
This project clearly aligns with SNC's mission to ensure environmental, economic and social well-being. Environmental benefits will be achieved through meadow restoration, which will maintain water storage capacity, downstream water quality, and productive habitat. Meadow restoration also provides many economic and social benefits, including improvement of water quality that benefits people, fish, and wildlife. The project will help to maintain forest resilience in the face of climate change and protect the carbon stored in Shell Meadow's wet meadow soils. In addition, this project provides substantive benefits across multiple SNC program areas, including: 1) Protect, conserve, and restore the Region's physical and living resources; 2) Protect water quality; and 3) Aid in the preservation of working landscapes.

Contributes to the Economic Viability of Sierra Ranches and Agricultural Lands
Not only is this project directly in line with Proposition 84 goals of watershed protection and restoration of natural resources, it also directly contributes to the Sierra Nevada Conservancy's Ranches and Agricultural Lands focus. Livestock grazing and meadows of the Sierra Nevada have a common history of more than 150 years. Ranching was the first industry in California following the Gold Rush, and ushered in a shift away from mining toward agricultural production. As mining decreased, sheep ranching for wool increased and by 1870, California led the nation in wool production (Ratliff 1985). During this period, grazing of sheep and cattle became the dominant use of meadows, which provided the bulk of the forage for many grazing allotments. In the early 1900s, the Department of Agriculture began to regulate grazing, and from the 1920s to the 1970s, grazing for cattle production generally declined on National Forest land in the Sierra.

Today, revenue from livestock-related agriculture in the Sierra exceeds $90 million per year and the market value of forage exceeds $75 million per year. Ranching remains an important component of the economic picture of rural communities in the Sierra. However, the question of whether to allow or prevent grazing on public meadows is a sensitive topic, with supporters on both sides. Although grazing is much more actively managed now than it was historically, there are many meadows that are severely degraded because of historic over-grazing and impacts from other land uses. Because of this, there is significant tension between environmental groups and those supportive of the ranching community around whether any grazing is compatible with resource management on National Forest and other lands.

Although there has been some research on meadows and grazing in the Sierra to help resolve this issue, including some data suggesting that grazing systems that are well-tailored to a particular meadow can support livestock without causing ecological degradation (SNEP 2006), there have been few attempts to craft win-win conservation strategies that restore both wildlife and livestock to Sierra's working meadows. With this project, we aim to effectively advance the discussion of whether grazing is a sustainable vegetation management practice compatible with restored meadows.

c. Work Plan and Schedule Narrative

Below we describe a detailed work plan that includes specific tasks and subtasks. In addition, we provide information on deliverables for each task, including a schedule of deliverables—details that are critical to ensure that the project will be implemented in a

timely manner. This schedule assumes a May 15, 2013 start date and January 31, 2015 end date. In addition, each task describes the project partners who are responsible for implementing the tasks and the methods that will be used. The project team is fully staffed, has strong working relationships and is ready to proceed once funding is made available. At present, there are no foreseeable factors affecting the project's timeline.

Task 1: Management and Performance Measures

The project team recognizes that project management and administration is a critical aspect of a successful project. Under this task, American Rivers will take the lead in fiscal management, reporting requirements including project performance, finalizing the work plan, developing and managing subgrants, convening project team meetings, developing and disseminating project information, and coordinating with the Sierra Nevada Conservancy.

Subtasks include:

1.1 Convene project team meetings
1.2 Finalize work plan and budget
1.3 Draft and finalize subcontracts/grants
1.4 Finalize and track performance measures
1.5 Manage project budget
1.6 Submit financial and performance reports
1.7 Draft and submit final report
1.8 Outreach and dissemination of project materials and results

Task 1 Deliverables	Responsible Partners	Due Date
Finalized work plan and budget	American Rivers	June 1, 2013
Signed subcontracts/grants with project partners	American Rivers	June 15, 2013
Biannual financial and performance reports	American Rivers with support from partners	December 15, 2013, June 15, 2014
Draft report	American Rivers with support from partners	January 15, 2015
Final report	American Rivers with support from partners	January 31, 2015

Task 2: Pre- and Post-Restoration Monitoring

The purpose of this task is three-fold: 1) to identify the range of data necessary for a USFS inter-disciplinary team to determine whether reintroducing grazing on Shell Meadow would be compatible with post-restoration management on the project site, 2) to gather the necessary data on Shell Meadow along with comparison data on multiple sites, and 3) to analyze and synthesize the collected data. Data will be collected at Shell Meadow and at the nine comparison sites described above (in the Monitoring to Improve Management section). Pre-restoration monitoring equipment has been in place since September 2012 and this task will include installation of additional equipment. Ongoing monitoring on these sites will include calculation of the advancement rate of the headcuts, the distance to Yosemite toad breeding pools, acreage of meadow that

could potentially be lost if the headcuts continue to advance, forage utilization (using exclusion cages) and bank stability.

Subtasks include:
2.1 Develop draft data collection work plan
2.2 Review and revise work plan
2.3 Finalize work plan
2.4 Install monitoring equipment and exclusion cages
2.5 Collect data and conduct surveys
2.6 Analyze data
2.7 Draft and finalize monitoring report
2.8 Disseminate findings

Task 2 Deliverables	Responsible Partners	Due Date
Final data collection work plan	American Rivers and USFS	July 15, 2013
Monitoring data collected	American Rivers and USFS	November 15, 2014
Analyzed data and monitoring report	American Rivers and USFS	January 15, 2015

Task 3: Permitting

The goal of this task is to obtain all permits required for restoration of Shell Meadow. The USFS is in the process of completing NEPA (completion expected in winter 2012/2013). Permits we will seek under this task include a Section 401 Water Quality Certification, a U.S. Army Corps of Engineers 404 Nationwide Permit #27, and a CEQA Categorical Exemption (under Title 14, Chapter 3, Article 19, Section 15333 of the California Code of Regulations, which exempts small habitat restoration projects less than five acres in size).

Subtasks include:
3.1 Draft and submit applications for 401 and 404 permits
3.2 Draft and submit CEQA documentation

Task 3 Deliverables	Responsible Partners	Due Date
Materials/applications required for permits	American Rivers, USFS	February 15, 2014
Completed permits (401 and 404)	American Rivers, USFS	June 30, 2014

Task 4: Final Restoration Design

Under this task, a final restoration design will be developed. This will involve design drawings and plans, a cost-estimate for restoration, contractor requirements, and other elements that will be included in a request for bids that will be announced at the end of the project term. The USFS will lead this task with support from project partners.

Subtasks include:
4.1 Prepare drawings of the preferred restoration design, including written descriptions of the design

4.2 Develop restoration cost-estimate and contractor requirements
4.3 Draft request for bids

Task 4 Deliverables	Responsible Partners	Due Date
Design drawings	USFS	July 15, 2014
Restoration cost-estimate and contractor requirements	USFS	August 15, 2014
Request for bids	USFS	September 1, 2014

d. Restrictions, Technical/Environmental Documents and Agreements

There are no property restrictions or encumbrances that could adversely impact project completion. Shell Meadow is managed by the USFS, who is a partner in this project. A letter of commitment from the USFS providing proof of permission to access land and assist in conducting restoration activities is included. The USFS is currently working to complete NEPA documentation and expects this to be complete by winter 2012/2013. Obtaining additional permits required to implement restoration (401, 404, CEQA) is included as Task 3 in the work plan above.

e. Organizational Capacity

This project is proposed by a strong partnership of American Rivers and the Stanislaus National Forest. American Rivers has a long track record of completing projects on time and within budget. The Stanislaus National Forest has extensive experience managing and implementing projects of the kind proposed.

American Rivers (www.americanrivers.org) is the leading river conservation organization in the United States. Our California staff has been at the forefront of major river restoration and protection efforts including the Sacramento-San Joaquin Bay-Delta Conservation Plan, the historic Klamath River agreement to remove four large dams, and large meadow restoration projects, including past partnerships with the USFS. **Elizabeth Soderstrom, PhD** has significant experience over the last 20 years in managing complex river restoration and management projects, including playing a leadership role in Sierra meadow restoration. She received her B.S and M.S. in biological sciences from Stanford University, and her Ph.D. from UC Berkeley. **Luke Hunt, PhD** has extensive experience in research and monitoring, and received his PhD from Stanford University. Luke is currently managing four meadow restoration projects for American Rivers, one evaluating both restoration and monitoring methods for meadows in the Sierra, and the other a large restoration project at the headwaters of the Mokelumne River. He will serve as project manager.

The Stanislaus National Forest has a long history of meadow restoration, going back to the 1970s. The Forest is committed to restoring high-priority meadows within its district. **Tracy Weddle** has worked on the Stanislaus NF since 2006. Tracy has implemented five meadow restoration projects. She holds a B.S. in environmental studies from U.C. Santa Barbara and M.S. in watershed science from Colorado State University. Tracy will serve as the USFS Project Lead and Hydrologist. **Dawn Coultrap** has worked on the Stanislaus NF since 2012. She is a Range Conservationist and holds a B.S in rangeland resource science and an M.S. in Natural Resources, both from Humboldt State University. She will take the lead on all rangeland utilization monitoring.

f. Cooperation and Community Support

This project was developed through a collaborative process that involved members of the project team—American Rivers and Stanislaus National Forest—as well as discussion and coordination with the ranchers who hold a permit on the grazing allotment where the project site is located. Future phases of the project will include broad outreach and communication regarding meadow restoration movement throughout the Sierra, of which this project is a part. This outreach will be coordinated with partners and other restoration efforts in progress across the Sierra Nevada. We have included a letter of support from the project partner, Stanislaus National Forest.

g. Long-Term Management and Sustainability

American Rivers has been at the forefront of meadow restoration in the Sierra Nevada, and thus has established a plan for funding these activities. Past and current supporters of our meadow restoration work include the National Fish & Wildlife Foundation, Bella Vista Foundation, Swimmer Family Foundation, and the Casey Family Foundation. We intend to develop proposals for restoration implementation of this project and approach these foundations to request support for future project phases. Additionally, a proposal for implementation of restoration on Shell Meadow has been submitted to the Tuolumne-Stanislaus Integrated Regional Water Management Plan (IRWMP) group for possible inclusion in a proposal to the Department of Water Resources.

Long-term management of the project site will be conducted in accordance with the adopted Forest Plan Direction for the Stanislaus National Forest (available for download here http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5154788.pdf and file included on proposal disc).

h. Performance Measures

The following project-specific performance measures will assist us in tracking our progress toward project goals and desired outcomes. Below we provide a list of performance measures we will track, their applicability, and the tracking method we will use.

1. **Number of people reached:** Individuals from all sides of the meadow restoration movement will either be involved in or receive information about the proposed project activities, including the Forest Service, the ranching community, and the environmental/conservation community. We will track the number of people who receive information regarding project details, including data collection outcomes, the effort to advance discussion of grazing on restored meadows, and the effort to assist the Forest Service in developing a site-specific management plan.

2. **Dollar value of resources leveraged for the Sierra Nevada:** The project budget includes funding from the Bella Vista Foundation, National Fish and Wildlife Foundation, and in-kind funding from American Rivers. The current dollar value of resources leveraged for the Sierra Nevada through this project is $70,000. Additionally, implementation of this project will allow us to advance toward restoration of Shell Meadow and further leverage investments in the project. We will track and document all of the project contributions.

3. **Number and type of jobs created:** This project will fund individuals in scientific and professional fields. We will document the number of people employed, length of employment, average number of hours worked per week, and FTE.
4. **Number of new, improved or preserved economic activities:** Grazing on meadow lands is currently limited and is a highly sensitive topic as described above. This project will help to preserve economic activities associated with ranching and grazing of livestock by increasing meadow restoration projects that consider grazing as a management tool and increasing the number of meadows restored, resulting in a suite of benefits, including increased forage, and economic benefits such as jobs and output to the regional economy (achieved through restoration implementation and possible re-introduction of grazing on restored sites). Tracking acreage of meadows with improved forage use, bank stability, and headcut monitoring will provide the basis for reporting on this performance measure.
5. **Number of collaboratively developed plans and assessments:** This project includes collaborative development of three documents: a plan for data collection, a report of results from data collection and analysis, and design plan for restoration of the site. These collaboratively developed documents will not only shape restoration of the site, they will also provide the groundwork for a site-specific management plan that will be created after restoration is complete.
6. **Percent of pre-project and planning efforts resulting in project implementation:** All of the tasks proposed here will assist the project team in advancing toward on-the-ground restoration. Tracking completion of project activities and achievement of deliverables will provide the basis for reporting on this performance measure.

i. Budget

In-Kind Support and Other Sources of Funding. We have been awarded co-funding for this project from the National Fish and Wildlife Foundation ($36,000) and the Bella Vista Foundation ($23,000). In addition, $3,000 of in-kind funding from American Rivers has been pledged for this project. Further, a proposal to obtain funding for the implementation phase of the project is currently under development and will be submitted to the Tuolumne-Stanislaus Integrated Regional Water Management Plan (IRWMP) group this month.

Cost Effectiveness. Compared to other projects, the proposed project is cost effective for several reasons. The project team is experienced in meadow assessment, planning, permitting, restoration and monitoring, so the expertise and most of the equipment necessary to conduct the project is already in-hand or present in the project team. Further, the team is fully staffed and has well-defined working relationships. Although this fact might seem trivial, we have found that the development of working relationships can take time and resources and the cost effectiveness of established project teams should not be underestimated. In addition, this project is highly cost effective as it will provide a model of preventative action and will inform and streamline future determinations and prioritization processes around restoration and grazing throughout the Stanislaus National Forest.

SIERRA NEVADA CONSERVANCY
PROPOSITION 84 - DETAILED BUDGET FORM

Project Name: Integrated Restoration and Grazing on Shell Meadow

Applicant: American Rivers

SECTION ONE				**Project Cost Breakdown**			
DIRECT COSTS	**Units**	**Unit Cost**	**Total Cost**	**Year One (2013)**	**Year Two (2014)**	**Year Three (2015)**	**Total**
American Rivers Personnel (Project management, CEQA, permitting)							
Project Advisor, Soderstrom	40	72.36	2,894.40	$2,026.08	$578.88	$289.44	$2,894.40
Project Director, Rothert	90	59.28	5,335.20	$3,734.64	$1,067.04	$533.52	$5,335.20
Project Manager, Hunt	280	39.45	11,046.00	$7,732.20	$2,209.20	$1,104.60	$11,046.00
Restoration Fellow, (TBD)	180	24.00	4,320.00	$3,024.00	$864.00	$432.00	$4,320.00
Operations Manager, Regan	60	32.67	1,960.20	$1,372.14	$392.04	$196.02	$1,960.20
Stanislaus National Forest Service (Subgrant)							
Lead hydrologist	152	38.13	5,795.00	$5,795.00			$5,795.00
Assistant Hydrologist	16	37.50	600.00	$600.00			$600.00
Contracting Officer Rep	40	30.00	1,200.00	$1,200.00			$1,200.00
Archeologist	8	39.38	315.00	$315.00			$315.00
Aquatic Biologist	8	43.75	350.00	$350.00			$350.00
Botanist	24	37.50	900.00	$900.00			$900.00
Soil Scientist	56	41.25	2,310.00	$2,310.00			$2,310.00
Range Conservationist	192	34.00	6,528.00	$4,569.60	$1,305.60	$652.80	$6,528.00
Exclusion cages	16	37.50	600.00	$600.00			$600.00
Stanislaus NFS, Certification Fee	1	944.00	944.00	$944.00			$944.00
Supplies and Materials 3X Levellogger ($600 ea). 3X housings (~$73 ea)	1	2,019.35	2,019.35	$1,413.54	$605.80		$2,019.35
Permit Fees	1	1,500.00	1,500.00	$1,050.00	$450.00		$1,500.00
Travel (Mileage for American Rivers personnel - 8 trips of approximately 240 miles roundtrip Nevada City to meadow site)	2000	0.555	1,110.00	$777.00	$333.00		$1,110.00
Travel (aproximate per diem for 2 staff for 8 2-day trips)	32	45.00	1,440.00	$1,008.00	$432.00		$1,440.00
DIRECT COSTS SUBTOTAL:	3,197	5,075.66	$51,167.15	$39,721.20	$8,237.56	$3,208.38	$51,167.15

SECTION TWO				**Project Cost Breakdown**			
INDIRECT COSTS	**Units**	**Unit Cost**	**Total Cost**	**Year One**	**Year Two**	**Year Three**	**Total**
Personnel - Performance measure reporting							
Project Manager, Luke	62	39.45	2,445.90	$1,712.13	$244.59	$489.18	$2,445.90
Printing of reports, designs, applications	1	300.00	300.00	$180.00	$30.00	$90.00	$300.00
INDIRECT COSTS SUBTOTAL:	63	339.45	$2,745.90	$1,892.13	$274.59	$579.18	$2,745.90
PROJECT TOTAL:	3,260	5,415.11	$53,913.05	$41,613.33	$8,512.15	$3,787.56	$53,913.05

SECTION THREE				**Project Cost Breakdown**			
Administrative Costs (Costs may n*ot to exceed 15% of total Project Cost*) :	**Units**	**Unit Cost**	**Total Cost**	**Year One**	**Year Two**	**Year Three**	**Total**
Administrative costs (calculated at 15% per Cost Allocation Plan)	1	8,086.96	8,086.96	$5,660.87	$2,426.09		$8,086.96
ADMINISTRATIVE TOTAL:	1	8,086.96	$8,086.96	$5,660.87	$2,426.09	$0.00	$8,086.96
SNC TOTAL GRANT REQUEST:			$62,000.00	$47,274.20	$10,938.24	$3,787.56	$62,000.00

SECTION FOUR				**Years Fund Received**			
OTHER PROJECT CONTRIBUTIONS				**Year One**	**Year Two**	**Year Three**	**Total**
NFWF Economies of Scale Grant			$36,000.00	$36,000.00			$36,000.00
Bella Vista Foundation Grant			$23,000.00	$23,000.00			$23,000.00
American Rivers In-Kind from AmeriCorps member service			$3,000.00		$3,000.00		$3,000.00
Total Other Contributions:	0	$0.00	$62,000.00	$59,000.00	$3,000.00	$0.00	$62,000.00

Contractor Detail

Stanislaus

Lead hydrologist – 5 days = $1525
Contracting Officer Representative (this is a contracting specialist who will help me) – 5 days = $1200
Archaeologist – 1 day to verify if/where there are sites to flag and avoid = $315
Aquatic Biologist – 1 day for input on avoidance of Yosemite Toad = $350
Botanist – 3 days for wetland delineation and verifying locations of any weeds or sensitive plants = $900
Lead Hydrologist – 10 days for design, surveys, and permitting = $3050
Assistant Hydrologist – 2 days to help with laser level surveys = $600
Soil Scientist – 7 days for wetland delineation (field work and write up report) = $2310
401 certification fee = $944
Total = $11194 (round up to $13k)

Lead hydrologist – 5 days + 4 days
Contracting Officer Representative (this is a contracting specialist who will help me)
Archeologist – 1 day to verify if/where there are sites to flag and avoid
Aquatic Biologist – 1 day for input on avoidance of Yosemite Toad + 2
Botanist – 3 days for wetland delineation and verifying locations of any weeds or sensitive plants
Lead Hydrologist – 10 days for design, surveys, and permitting
Assistant Hydrologist – 2 days to help with laser level surveys
Soil Scientist – 7 days for wetland delineation (field work and write up report)
10 days for range conservationist Dawn Coultrap

Personnel Total

Construction of 16 exclusion cages
401 certification fee

Days	$/day	Total				
9	305.00	2,745.00	8	72	38.13	2,745.00
5	240.00	1,200.00	8	40	30.00	1,200.00
1	315.00	315.00	8	8	39.38	315.00
3	350.00	1,050.00	8	24	43.75	1,050.00
3	300.00	900.00	8	24	37.50	900.00
10	305.00	3,050.00	8	80	38.13	3,050.00
2	300.00	600.00	8	16	37.50	600.00
7	330.00	2,310.00	8	56	41.25	2,310.00
10	272.00	2,720.00	8	80	34.00	2,720.00
		14,890.00				
16	37.50	600.00				600.00
		944.00				944.00
		16,434.00				16,434.00

Restrictions, Technical/Environmental Documents and Agreements

This is a Category 2 project, so this element is not applicable; however, we provide some explanatory details below.

There are no property restrictions or encumbrances that could adversely impact project completion. Shell Meadow is managed by the USFS, which is a partner in the project. A letter of commitment providing proof of land tenure and support is included in this proposal.

Obtaining permits and completing environmental documentation is part of our proposed project (see the work plan for details).

Restrictions, Technical/Environmental Documents and Agreements

This is a Category 2 project, so this element is not applicable; however, we provide some explanatory details below.

There are no property restrictions or encumbrances that could adversely impact project completion. Shell Meadow is managed by the USFS, which is a partner in the project. A letter of commitment providing proof of land tenure and support is included in this proposal.

Obtaining permits and completing environmental documentation is part of our proposed project (see the work plan for details).

CEQA/NEPA Compliance

This form is not applicable to this project. Completion of CEQA and NEPA are part of the proposed activities.

USDA United States Department of Agriculture | Forest Service | Stanislaus National Forest | 19777 Greenley Road
Sonora, CA 95370
(209) 532-3671
FAX: (209) 533-1890
TTY/TDD: (209) 533-0765
http://www.fs.usda.gov/stanislaus

File Code: 2520
Date: September 5, 2012

Brandon L. Sanders
Mt. Whitney Area Representative
Sierra Nevada Conservancy
11521 Blocker Drive, Suite 205
Auburn, CA 95603

Dear Mr. Sanders:

I am writing to express support for the *Integrated Meadow Restoration and Grazing in Shell Meadow* project. This project, a partnership between American Rivers and the Stanislaus National Forest, seeks funding to develop an integrated meadow restoration project in Shell Meadow.

Shell Meadow is three-acre meadow located on a tributary to the Middle Fork Stanislaus River. Two headcuts in the intermittent channel are actively migrating upstream and threaten the breeding habitat of Yosemite toad, a Forest Sensitive Species and a United States Fish and Wildlife Service (USFWS) candidate threatened species. The main headcut is approximately 5-feet deep and the side headcut is approximately 3-feet deep. If no action is taken, the headcuts will advance, causing the channel to incise, the water table to drop, loss of floodplain connectivity, loss of Yosemite toad habitat, and conversion of the meadow plant community to dryland species. The meadow is within an active grazing allotment but has been excluded from grazing for approximately 10 years. Stabilization of the headcuts as well as the development of a site specific meadow management plan by an interdisciplinary team addressing concerns of the Yosemite toad habitat would allow the forest to consider allowing grazing in this meadow in the future.

The Stanislaus National Forest supports this project, whose overall aim is to maintain the meadow's hydrologic function. Restoration will also protect aquatic and terrestrial habitat. The project is structured to proceed in a stepwise manner with five phases: 1) Assessment and Conceptual Restoration Designs; 2) NEPA Documentation; 3) Technical Restoration Design; 4) Permitting; and 5) Implementation and Monitoring.

Phase 1 was completed in summer 2012, and Phase 2 will be completed in winter of 2012/2013. Funding from the Sierra Nevada Conservancy is critical to implementing Phases 3 and 4 (technical restoration design and pre-construction permitting), the final steps before on-the-ground restoration can begin.

The Stanislaus National Forest is committed to this collaborative effort to restore and rehabilitate Shell Meadow. We urge the Sierra Nevada Conservancy to support this worthwhile project.

Sincerely,

Susan Skalski

SUSAN SKALSKI
Forest Supervisor

Long-Term Management and Sustainability

Long-term management of the project site will be conducted in accordance with the adopted Forest Plan Direction for the Stanislaus National Forest. The plan is included on the proposal disk, but is not included in the printed version due to its length (more than 200 pages).

The plan is also available for download here:

http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5154788.pdf

United States
Department of
Agriculture

Forest Service

Pacific
Southwest
Region

Stanislaus
National Forest

April 2010

Stanislaus National Forest

Forest Plan Direction

April 2010

Stanislaus National Forest

Forest Plan Direction
April 2010

Alpine, Calaveras, Mariposa and Tuolumne Counties, California

Lead Agency: **USDA Forest Service**
Pacific Southwest Region

Stanislaus National Forest
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Cover Photo:
Fahey Cabin
by Jerry Snyder

Abstract

The Forest Service completed the Stanislaus National Forest Land and Resource Management Plan (Forest Plan) and Environmental Impact Statement (EIS) on October 28, 1991. This document, the Stanislaus National Forest "Forest Plan Direction" presents the current Forest Plan management direction, based on the original Forest Plan as modified through the Forest Plan amendment process.

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Stanislaus National Forest

Forest Plan Direction

April 2010

Introduction

The Forest Service completed the Stanislaus National Forest Land and Resource Management Plan (Forest Plan) and Environmental Impact Statement (EIS) on October 28, 1991 (LMP91). This document, the Stanislaus National Forest "Forest Plan Direction" presents the current Forest Plan management direction, based on the original Forest Plan as modified by the following Forest Plan amendments.

Forest Plan Amendments

1. **Management Areas 4 and 9 (MA49)**: Replacement of SOHA M21 in Rose Creek (Mi-Wok Ranger District) destroyed by fire in September, 1992, with SOHA M07 in Sierra Compartment. [Decision Notice, 10/27/1992] Subsequent 2004 Sierra Nevada Forest Plan Amendment supersedes and replaces this amendment.
2. **California Spotted Owl Interim Guidelines (CASPO)**: Amended the Regional Guide and ten Forest Plans, including the Stanislaus Forest Plan. The Interim Guidelines intended to be a short-term strategy, were in place pending adoption of a longer-term strategy to maintain viability of the owl. [Decision Notice, 1/13/1993] Subsequent 2004 Sierra Nevada Forest Plan Amendment supersedes and replaces this amendment.
3. **Jordan Creek/Bower Cave SIA (JCBC)**: Provides management guidelines for this SIA on Groveland Ranger District. [Decision Notice, 9/30/1993]
4. **Sierra Nevada Logging Museum (SNLM)**: Amends Forest Plan by changing the Management Area designation for the Sierra Nevada Logging Museum site from Scenic Corridor to Developed Recreation. [Decision Notice, 12/17/1993]
5. **Hamm-Hasloe Reforestation (HHR)**: One hundred eighty seven individual areas on Groveland Ranger District were re-allocated to different Management Areas to better reflect the intent of Forest Plan allocations. [Record of Decision, 9/8/1994] Subsequent 2004 Sierra Nevada Forest Plan Amendment supersedes and replaces this amendment.
6. **Bell Meadow RNA (BRNA)**: Amends the land allocations in the Forest Plan from Candidate RNA to Established RNA. Consists of 645 acres of land on Summit Ranger District representing the Aspen Forest target element. [Decision Notice, 11/25/1994]
7. **Grizzly Mountain RNA (GRNA)**: Amends the land allocations in the Forest Plan from Candidate RNA to Established RNA. Consists of 688 acres of land on Groveland Ranger District representing the California black oak target element. [Decision Notice, 11/25/1994]
8. **W.B. Critchfield (Bourland) RNA (CRNA)**: Amends the land allocations in the Forest Plan from Candidate RNA to Established RNA. Consists of 1003 acres of land on Mi-Wok Ranger District representing the red fir forest and montane freshwater marsh target elements. [Decision Notice, 11/25/1994]

9. **Highway 4 Sno-Park (H4SP)**: Amends the Forest Plan for the Spicer Sno-Park site on Calaveras Ranger District. Changes the Management Area from Scenic Corridor to Developed Recreation with Visual Quality Objective of Modification. [Decision Notice, 6/5/1995]
10. **Highland Lakes Management Area (HLMA)**: Amends the Forest Plan by changing a Management Area on Calaveras Ranger District from Proposed Wilderness to Proposed Wild and Scenic Rivers. [Decision Notice, 1/19/1996]
11. **Motor Vehicle Travel Management (MVTM)**: Provides management guidelines for motorized use. [Decision Notice, 2/18/1998]
12. **Emigrant Wilderness Management Direction (EWMD)**: Provides management guidelines for the Emigrant Wilderness. [Record of Decision, 4/8/1998]
13. **Mokelumne Wilderness Management Guidelines (MWMG)**: Provides management guidelines for the Mokelumne Wilderness [Decision Notice, 3/28/2000]
14. **Jawbone Falls SIA (JFSIA)**: Designated as an SIA for cultural resources, this 47 acre area is located on Jawbone Creek between Jawbone Falls and Jawbone Meadow, on the Groveland Ranger District in Section 23 T2N R18E. [Decision Notice, 12/12/2000]
15. **Sierra Nevada Forest Plan Amendment (SNFPA-01)**: Forest Plan Amendment addressing five problem areas on 11 Sierra Nevada National Forests. [Record of Decision, 01/12/2001] Subsequent 2004 Sierra Nevada Forest Plan Amendment supersedes and replaces this amendment.
16. **Sierra Nevada Forest Plan Amendment (SNFPA)**: Forest Plan Amendment[1] addressing five problem areas on 11 Sierra Nevada National Forests. [Record of Decision, 01/21/2004]
17. **Pinecrest Basin Management Direction (PBMD)**: Forest Plan Amendment establishing a boundary, land use zones, and standards and guidelines specific to the Pinecrest Basin. [Decision Notice, 03/29/2004]
18. **Sierra Nevada Forests Management Indicator Species Amendment (SNFMISA)**: Forest Plan Amendment adopting a common list of Management Indicator Species (MIS) and associated monitoring strategies for ten forests in the Sierra Nevada. [Record of Decision, 12/14/2007]
19. **Trumbull Peak Cabin Restoration (TPCR)**: Amends Forest Plan by changing the Management Area designation for the Trumbull Peak Cabin and Lookout from Developed Non-Recreation to Developed Recreation. [Decision Notice, 3/24/2009]
20. **Forestwide Forest Plan Amendment (FFPA)**: Amends Forestwide Standard and Guideline for Restricted Motor Vehicle Management to prohibit motor vehicle travel off NFTS routes and allow parking within one vehicle length off of NFTS routes. [Record of Decision, 11/12/2009]
21. **Western Pond Turtle Forest Plan Amendment (WPTFPA)**: Amends Forestwide Standard and Guideline for Restricted Motor Vehicle Management to allow motor vehicle use on 9 motorized trail segments (1.53 miles) in areas adjacent to waters with known populations of western pond turtle. [Record of Decision, 11/12/2009]
22. **Non-Motorized Forest Plan Amendment (NMFPA)**: Amends Forestwide and Wild and Scenic River Standard and Guidelines for ROS Semi-Primitive Non-Motorized, Closed Motor Vehicle Travel Management and Restricted Motor Vehicle Travel Management to allow continued highway legal vehicle use on existing NFTS roads 4N80Y and 5N02R. [Record of Decision, 11/12/2009]

[1] SNFPA direction does not apply within the Stanislaus-Tuolumne Experimental Forest (SNFPA ROD, p. 15; USDA Forest Service 2004)

Management Direction

Management direction for the Stanislaus National Forest is included in the Forest Goals, Management Goals and Strategies, Forest Objectives, Management Practices, Forestwide Standards and Guidelines, and specific Management Area or Land Allocation direction. Along with laws, regulations, and National and Regional policies (as stated in the Forest Service Manual) these provide the long-range direction for managing the Stanislaus National Forest. Forest personnel use this direction to achieve the objectives of the Plan. The direction also services to inform the public and cooperating agencies about future programs and activities.

Management direction is defined in the National Forest Management Act as "a statement of multiple use and other goals and objectives, the management prescriptions and their associated standards and guidelines for attaining them." Management direction is supplemented by maps included with this document. A Forest data base, which includes a computerized data storage and retrieval system and maps, is also available for project planning.

This Plan provides guidance for developing annual and multi-year implementation programs. The Forest Plan allocates resources through a comprehensive integration of all resources. Program leaders will have adequate guidance for developing annual budgets needed to achieve the goals and objectives of the Plan.

It is impossible to predict or to document every situation that could occur on this Forest in the next 50 years. If situations occur that are not covered here, they can be handled in the following ways:

- The Forest Plan can be amended, if the situation is significant enough to warrant it.
- Less significant situations will be documented in a decision document that explains why it is necessary to do something not covered in this Plan. See 36 CFR 219 and FSM 1920 for further direction.

The outputs and activities shown in Table 1 are those desired under the Forest Plan. Although the Plan covers a 10-15 year time span, Forest Service funding is approved by Congress on an annual basis. The Forest will implement those portions of the Plan that are funded. Management direction, including the Forestwide Standards and Guidelines, will be applied regardless of the level of activity in each program. The management direction components contained within this chapter are summarized below.

Forest Goals

Forest goals set the standards for the future condition of the Forest. Objectives and subsequent levels of direction are aimed at accomplishing these goals. The Forest goals tie closely to planning issues described in Chapter II and comply with applicable laws and regulations.

Management Goals and Strategies

Broad management goals and strategies address the five problem areas: old forest ecosystems and associated species; aquatic, riparian, and meadow ecosystems and associated species; fire and fuels management; noxious weeds; and lower westside hardwood ecosystems.

Forest Objectives

Objectives are planned, measurable results that respond to the general goals of the Forest Plan. Objectives form the basis for future planning that will define the precise steps to be taken to achieve identified goals. Specific objectives for the five decade planning cycle are displayed in Tables 1 and 2.

Management Practices

Practices are management actions that achieve the goals and objectives of the Plan. They describe the actions or treatments that occur for each resource.

Forestwide Standards and Guidelines

These provide specific direction for implementing the management practices throughout the Forest. They apply in all Management Areas unless additional, more specific direction for a particular resource is provided in the individual Management Area direction. Some of the standards refer to resource element maps to further delineate land areas to which they apply. The Forest's Standards and Guidelines supplement those of Region 5 (see Regional Guide for the Pacific Southwest Region, August 1984).

Management Area Direction

The Forest has been divided into 12 Management Areas based on their predominant management emphasis. Management Area boundaries were created from issues, concerns and opportunities developed during the planning process and from existing administrative boundaries. Management Areas are shown on Map 1, Appendix I. Each Management Area has a management emphasis statement, a description of the physical area, and a management prescription, which describes specific practices, general direction, and Standards and Guidelines applicable to that Management Area. The Management Practices are keyed to the definitions contained in the "Management Practices" section of this chapter. The General Direction and Standards and Guidelines provide the specific direction for implementing the given practice within each Management Area. All Forestwide Standards and Guidelines also apply within each Management Area, unless more specific direction for a particular resource is given.

Land Allocation Direction

The Forest is divided into a number of land allocations. Each land allocation has a set of standards and guidelines that determine how management is to proceed within the allocation. The allocations and standards and guidelines form a comprehensive strategy for addressing the purpose and need for the Sierra Nevada Forest Plan Amendment. Certain land allocations overlap with one another to varying degrees. Management direction for higher priority allocations pre-empts management direction for lower priority allocations. Generally, land allocations with more restrictive management direction pre-empt those with less restrictive direction.

Forest Goals

A. Social Environment

Community Stability

Manage the Forest in an economically efficient and cost-effective manner while responding to economic and social needs of the public and local communities.

Urban Interface

Private property holder and permittee needs will be taken into consideration in all planning and management activities occurring adjacent to private lands. Effort will be made to communicate information about proposed Forest Service projects, during the initial stages of project development in order to be responsive to public issues and concerns. Regular communication will be maintained with local County Planning Departments to insure long-term coordination and understanding.

B. Economic Environment

Economic

Manage the Forest in an economically efficient and cost-effective manner while responding to economic and social needs of the public and local communities.

C. Resource Environment

Air Quality

Maintain air quality that complies with all applicable regulations. Carry out forest management activities in a manner consistent and compatible with the attainment of State and Federal air quality objectives.

Cultural Resources

Inventory, evaluate, enhance and manage cultural resources to prevent loss of, or damage to cultural values; to integrate significant resources into multiple use management; to gain scientific knowledge and management data about them; and to interpret for public benefit and appreciation.

Diversity

Maintain or increase diversity of plants and animals, with a balance of vegetation types currently represented on the Forest which best provide for meeting the resource goals and objectives of the Forest Plan.

Fire and Fuels

Provide a cost-effective fire management program to protect Forest resources, life and property, from the effects of wildfire. Maintain natural and activity fuels at levels commensurate with minimizing resource losses from wildfire. In Wilderness, fire is allowed to play as nearly as possible its natural ecological role.

Fish and Wildlife

Provide habitat for viable populations of all native and desired non-native wildlife, fish and plants. Maintain and improve habitat for Threatened and Endangered species and give special attention to sensitive species to see that they do not become Federally listed as Threatened or Endangered.

Forest Pests

Provide an integrated pest management program to prevent or control insect and disease attacks on forest and range resources.

Geology and Minerals

Encourage mineral exploration and development in compliance with applicable laws, regulations and orders. In areas identified as susceptible to slope instability, analyze risks of management activities so as to avoid initiation or acceleration of slope movement and to protect human safety and Forest resources. Prevent degradation of groundwater quality and develop groundwater sources to meet domestic livestock and wildlife needs.

Lands

Implement land adjustments that improve ownership patterns, to increase public benefit and the efficiency of National Forest management. Acquire rights-of-way needed to manage the resources. Consider special uses of the National Forest where public needs cannot be met on private lands and where such uses conform to management direction for the area.

Range

Manage livestock to utilize available forage while avoiding adverse impacts on soil, vegetation, water quality, wildlife, fisheries and riparian zones.

Recreation

Provide a wide range of recreation opportunities directed at various experience levels to meet current and projected demand, including campgrounds, hiking trails, picnic areas, OHV trails, etc. Develop recreation management plans for existing and potential areas of concentrated public use. These plans shall address such aspects as: planned mixes of summer and winter activities for public and private sector responsibility, development scales, site locations, number of units and PAOTs (people at one time), family and group facilities, existing or potential on-site problems, facilities needed to serve dispersed activities, lake or reservoir surface activity management, as well as implementation and/or expansion phasing. Develop and implement programs to inform Forest users about recreation opportunities. Interpret Forest management activities and the forest environment for visitors. Provide a variety of off-highway vehicle (OHV) recreational opportunities in a manner consistent with protection of wildlife and other resources, and with non-motorized recreation.

Riparian

Manage riparian areas to protect or improve riparian area-dependent resources while allowing for management of other compatible uses.

Sensitive Plants

Manage sensitive plants to ensure continued population viability and prevent them from becoming federally listed as Threatened or Endangered.

Soils

Maintain and, where feasible, improve soil productivity.

Special Areas

Preserve the integrity of the botanic, cultural, geologic, scenic, and recreation features for which the areas were established.

Timber

Manage the timber resource to provide commercial sawtimber, public fuelwood, and miscellaneous wood products, while considering environmental factors and other resource values.

Transportation and Facilities

Provide facilities, including transportation system and administrative sites, needed to efficiently and safely manage the National Forest.

Visual Resources

Meet adopted Visual Quality Objectives (VQOs) on all projects. Maintain high visual quality in areas of concentrated public use and in areas seen from major travel routes. Allow management activities in certain areas to dominate the surrounding characteristic landscape, but they shall borrow from natural forms and appear as natural occurrences when viewed from background distances. Consider private land concerns during the evaluation of proposed management activities adjacent to privately developed subdivisions and recreation areas. Particular attention will be given to visual quality in the foreground view areas of these private developments as well as any other values relating to their attendant use and enjoyment of the National Forest.

Water

Maintain or improve water quality and watershed condition to meet applicable state and federal requirements. Realize feasible increases in the quantity of water yield and delays in the timing of runoff by including water yield modification as an objective in the design and manipulation of commercial and non-commercial vegetation.

Wild And Scenic Rivers

Manage Wild and Scenic Rivers and their immediate environments to preserve their free flowing condition and to protect their outstandingly remarkable values. Provide opportunities for public recreation and other resources based on the classification of each river segment.

Wilderness

Manage Wilderness to preserve its character and values and to allow recreational, scenic, scientific, educational, conservation and historic uses consistent with these objectives.

a. Within the Emigrant Wilderness[1]:
    1. Maintain and perpetuate the enduring resource of wilderness as one of the multiple uses of National Forest System land.
    2. Maintain wilderness in such a manner that ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces.
    3. Minimize the impact of those kinds of uses and activities generally prohibited by the Wilderness Act, but specifically excepted by the Act or subsequent legislation.
    4. Protect and perpetuate wilderness character and public values including, but not limited to, opportunities for scientific study, education, solitude, physical and mental challenge and stimulation, inspiration, and primitive recreation experiences.
    5. Gather information and carry out research in a manner compatible with preserving the wilderness environment to increase understanding of wilderness ecology, wilderness uses, management opportunities, and visitor behavior.

[1] Emigrant Wilderness Management Direction, Forest Plan Amendment, USDA Forest Service 1998

Forest Objectives

Table 1 Average Annual Outputs By Decade

Resource Elements	Base 1980 RPA Year Goals			Decades (Beginning with 1990 - 1999)				
	1987	1990	2040	1	2	3	4	5
Recreation								
Developed Public (M RVD)	561	1,820	2,630	914	1,209	2,357	1,519	1,643
Developed Private (MRVD)	767			1,283	1,487	1,576	1,587	1,587
Dispersed (MRVD)*	604	2,200	2,680	1,180	1,376	1,546	1,713	1,779
Wilderness (MRVD)	127			439	439	439	439	439
Trails (miles)								
Construction				9.1	3.1	3.2	3.1	3.3
Reconstruction				22.5	1.2	.1	.1	.1
Maintenance				33.2	36.3	39.5	42.6	45.9
Visual Quality Index	65.35**			63.80	62.30	60.80	60.20	59.97
*Includes Wildlife and Fish User Days. **Base Year 1980 Existing Visual Condition.								
Fish and Wildlife								
T&E Species								
Bald eagle (pairs)	0			4	4	4	4	4
Peregrine falcon (pairs)	0			2	2	2	2	2
Lahontan cutthroat trout	7.2			7.2	7.2	7.2	7.2	7.2
Other than T&E (habitat capability in animal numbers)								
Deer (M)		23.6	29.5	25.6	27.6	27.2	25.9	25.8
Cavity nesting bird (% 1982)		100%		90%	85%.	80%	80%	80%
Resident Fish (M pounds)	525*	636.6		528.2	531.4	534.6	537.7	540.8
Fisher (areas)	25			22	19	19	19	19
Marten (areas)	88			86	84	84	84	84
Direct Habitat Improvement (M)								
Deer				1.257	1.257	1.257	1.257	1.257
All Other Wildlife				2.515	2.515	2.515	2.515	2.515
Resident Fish				.655	.655	.655	.655	.655
Induced Habitat Improvement (M)								
Deer				5.264	12.088	10.616	6.174	5.847
All Other Wildlife				10.528	24.176	21.232	12.348	11.694
Resident Fish				0	0	0	0	0
Total Inc. Background (M)								
Deer	77.9*			84.4	91.2	89.8	85.3	85.3
All Other Wildlife	156			168.8	182.5	182.5	182.5	182.5
Resident Fish	210*			210.7	211.3	212.0	212.6	213.3
Direct Habitat Improvement (acres)								
Deer	240			300	300	300	300	300
All Other Wildlife	15			50	50	50	50	50
Resident Fish	3			3	3	3	3	3

Resource Elements	Base 1980 RPA Year Goals			Decades (Beginning with 1990 - 1999)				
	1987	1990	2040	1	2	3	4	5
Range								
Grazing (M AUM)	24.1	21.6	22.8	22.7	22.0	22.2	22.5	23.5
Timber								
Long-Term Sustained Yield (MMBF)								
Long-Term Sustained Yield (MMCF)								
Timber Sale Proposed (MMBF)								
Timber Sale Proposed (MMCF)								
Allowable Sale Quantity (MMBF)	116.4	146.0	165.2					
Allowable Sale Quantity (MMCF)	18.1	22.7	25.7					
Reforestation (M Acres)	0.5	4.2	4.9	8.8	3.3	3.1	2.7	2.8
Timber Stand Improvement (M Acres)	1.8	3.0	3.1	9.8	6.8	4.7	3.9	3.1
Wood Products Other Than Sawtimber								
Fuelwood (M Cords)	34.2			15.0	15.0	15.0	15.0	15.0
Biomass (MM Tons)				0.2	0.2	0.4	0.4	0.4
Water								
Quantity (MM acre feet)	1.97	2.2	2.2	2.00	1.98	1.98	1.98	1.98
Increased Quantity (M acres)		Feet)		12.3	11.0	10.5	9.8	9.7
Watershed Imp. (acres)		270	310	280	285	305	295	290
Lands and Minerals								
Notices of Intent	20	20	20	20	20	20	20	20
Operating Plans	40	40	40	40	40	40	40	40
Land Acquisition (M acres)		0	0	1.5	1.5	1.5	1.5	1.5
Soils								
Improvement (Acres)	115	150	150	115	115	115	115	115
Transportation								
Roads (miles)								
Construction	10			23.8	14.0	8.7	5.8	11.3
Reconstruction	20			21.9	26.2	29.2	33.6	36.6
Road Maintenance	2,640			2,640	2,878	3,018	3,105	3.163
Facilities								
Dam and Reservoirs								
State/Local	6			6	6	6	6	6
Private	6			6	6	6	6	6
Administrative Sites								
Forest Service	13			13	16	16	16	16
Leased	3			3	0	0	0	0
Total Budget (MM$) (all figures in '87 dollars)	18.8	25.1	27.4	23.7	19.8	18.4	18.3	18.6

Table 2 Motor Vehicle Travel Management Objectives[1]

Motor Vehicle Travel Management Objectives	Ranger Districts				Forest Totals
	Mi-Wok	Calaveras	Summit	Groveland	
Motor Vehicle (acres)					
1. Closed Motor Vehicle (10-G-1)	23,975	100,000	190,000	44,140	358,115
2. Restricted Motor Vehicle (10-G-2)	145,350	152,640	79,350	162,545	539,885
Total	**169,325**	**252,640**	**269,350**	**206,685**	**898,000**
Off-Highway Vehicle (miles)					
Motorcycle (MC)	100.0	45.0	0.0	0.0	145.0
All-Terrain Vehicle (ATV)	125.0	45.0	10.0	45.0	225.0
Off-Highway Vehicle (OHV)	360.0	400.0	135.0	253.0	1,148.0
4 Wheel Drive (4WD)	40.0	40.0	21.0	50.0	151.0
Total	**625.0**	**530.0**	**166.0**	**348.0**	**1,669.0**
California Backcountry Discovery Trail					
CBDT Segments (miles)	82.8	58.6	3.0	77.0	221.4
Over-Snow Vehicle (acres)					
Available OSV	145,350	152,640	79,350	162,545	539,885
Over-Snow Vehicle (miles)					
Groomed	0.0	40.0	30.0	0.0	70.0
Un-groomed Marked	25.0	50.0	50.0	0.0	125.0
Un-groomed Un-marked	275.0	240.0	116.0	40.0	671.0
Total	**300.0**	**330.0**	**196.0**	**40.0**	**866.0**
Wheeled Over-Snow (miles)					
Wheeled Over-Snow (WOS)	5.0	9.0	26.0	0.0	40.0

[1] Motor Vehicle Travel Management, Forest Plan Amendment, USDA Forest Service 1998

Management Goals and Strategies[1]

Broad management goals and strategies address the five problem areas: old forest ecosystems and associated species; aquatic, riparian, and meadow ecosystems and associated species; fire and fuels management; noxious weeds; and lower westside hardwood ecosystems.

Old Forest Ecosystems and Associated Species

Goals

The broad goals of the old forest and associated species conservation strategy are to:

- protect, increase, and perpetuate desired conditions of old forest ecosystems and conserve species associated with these ecosystems while meeting people's needs for commodities and outdoor recreation activities;
- increase the frequency of large trees, increase structural diversity of vegetation, and improve the continuity and distribution of old forests across the landscape; and
- restore forest species composition and structure following large scale, stand-replacing disturbance events.

Strategy

The old forest ecosystem strategy has the following key elements:

- a network of land allocations, including California spotted owl and northern goshawk protected activity centers (PACs), California spotted owl home range core areas, forest carnivore den sites, and the southern Sierra fisher conservation area, with management direction specifically aimed at sustaining viable populations of at-risk species associated with old forest ecosystems well-distributed across Sierra Nevada national forests;
- a network of old forest emphasis areas managed to maintain or develop old forest habitat in areas containing the best remaining large blocks or landscape concentrations of old forest and areas that provide old forest functions (such as connectivity of habitat over a range of elevations to allow migration of wide-ranging old-forest-associated species);
- direction for restoring ecosystems across all land allocations following large-scale catastrophic disturbance events; and
- a proactive approach for improving forest health with management objectives to reduce susceptibility of forest stands to insect and drought-related tree mortality by managing stand density levels.

Aquatic, Riparian, and Meadow Ecosystems and Associated Species

Goals

The strategy for aquatic management provides broad goals (listed below), which are endpoints toward which management moves watershed processes and functions, habitats, attributes, and populations. The goals provide a comprehensive framework for establishing desired conditions at larger scales, including river basin, watershed, and landscape scales. Moving ecosystem conditions toward these goals will restore and maintain the physical, chemical and biological integrity of the region's waters as mandated by the Clean Water Act, and will support the Forest Service's mission to

[1] Sierra Nevada Forest Plan Amendment, USDA Forest Service 2004. SNFPA direction does not apply within the Stanislaus-Tuolumne Experimental Forest (SNFPA ROD, p. 15)

provide habitat for riparian - and aquatic-dependent species under the National Forest Management Act, Organic Act, Safe Drinking Water Act, Endangered Species Act, and Electric Consumers Protection Act. The following goals are part of the Aquatic Management Strategy:

- **Water Quality**: Maintain and restore water quality to meet goals of the Clean Water Act and Safe Drinking Water Act, providing water that is fishable, swimmable, and suitable for drinking after normal treatment.
- **Species Viability**: Maintain and restore habitat to support viable populations of native and desired non-native plant, invertebrate and vertebrate riparian-dependent species. Prevent new introductions of invasive species. Where invasive species are adversely affecting the viability of native species, work cooperatively with appropriate State and Federal wildlife agencies to reduce impacts to native populations.
- **Plant and Animal Community Diversity**: Maintain and restore the species composition and structural diversity of plant and animal communities in riparian areas, wetlands, and meadows to provide desired habitats and ecological functions.
- **Special Habitats**: Maintain and restore the distribution and health of biotic communities in special aquatic habitats (such as springs, seeps, vernal pools, fens, bogs, and marshes) to perpetuate their unique functions and biological diversity.
- **Watershed Connectivity**: Maintain and restore spatial and temporal connectivity for aquatic and riparian species within and between watersheds to provide physically, chemically and biologically unobstructed movement for their survival, migration and reproduction.
- **Floodplains and Water Tables**: Maintain and restore the connections of floodplains, channels, and water tables to distribute flood flows and sustain diverse habitats.
- **Watershed Condition**: Maintain and restore soils with favorable infiltration characteristics and diverse vegetative cover to absorb and filter precipitation and to sustain favorable conditions of stream flows.
- **Streamflow Patterns and Sediment Regimes**: Maintain and restore in-stream flows sufficient to sustain desired conditions of riparian, aquatic, wetland, and meadow habitats and keep sediment regimes as close as possible to those with which aquatic and riparian biota evolved.
- **Stream Banks and Shorelines**: Maintain and restore the physical structure and condition of stream banks and shorelines to minimize erosion and sustain desired habitat diversity.

Strategy

The aquatic, riparian, and meadow ecosystem strategy has the following key elements:

- a description of desired conditions for aquatic, riparian, and meadow habitats developed from the AMS goals;
- a set of land allocations, specifically riparian conservation areas and critical aquatic refuges, that delineate aquatic, riparian, and meadow habitats, which are to be managed consistent with the following riparian conservation objectives (RCOs) and associated standards and guidelines;
- a long-term strategy for anadromous fish-producing watersheds for the Lassen National Forest, as presented in Appendix I of the Sierra Nevada Forest Plan Amendment Final Environmental Impact Statement;
- an adaptive management program that includes monitoring and research activities specifically aimed at assessing effects of management activities on the willow flycatcher and Yosemite toad; and,

- the use of landscape analysis as a tool for assessing existing uses and identifying restoration and enhancement projects.

Riparian Conservation Objective 1: Ensure that identified beneficial uses for the water body are adequately protected. Identify the specific beneficial uses for the project area, water quality goals from the Regional Basin Plan, and the manner in which the standards and guidelines will protect the beneficial uses. (RCO 1 is linked to the following AMS goals: 1 Water Quality; 2 Species Viability; 7 Watershed Condition).

Riparian Conservation Objective 2: Maintain or restore: (1) the geomorphic and biological characteristics of special aquatic features, including lakes, meadows, bogs, fens, wetlands, vernal pools, springs; (2) streams, including in stream flows; and (3) hydrologic connectivity both within and between watersheds to provide for the habitat needs of aquatic-dependent species. (RCO 2 is linked to the following AMS Goals: 2 Species Viability; 3 Plant and Animal Community Diversity; 4 Special Habitats; 5 Watershed Connectivity; 6 Floodplains and Water Tables; 8 Streamflow Patterns and Sediment Regimes; 9 Streambanks and Shorelines).

Riparian Conservation Objective 3: Ensure a renewable supply of large down logs that: (1) can reach the stream channel and (2) provide suitable habitat within and adjacent to the RCA. (RCO 3 is linked to the following AMS goals: 2 Species Viability; 3 Plant and Animal Community Diversity).

Riparian Conservation Objective 4: Ensure that management activities, including fuels reduction actions, within RCAs and CARs enhance or maintain physical and biological characteristics associated with aquatic- and riparian-dependent species. (RCO 4 is linked to the following AMS Goals: 2 Species Viability, 7 Watershed Condition).

Riparian Conservation Objective 5: Preserve, restore, or enhance special aquatic features, such as meadows, lakes, ponds, bogs, fens, and wetlands, to provide the ecological conditions and processes needed to recover or enhance the viability of species that rely on these areas. (RCO 5 is linked to the following AMS goals: 1 Water Quality, 2 Species Viability, 3 Plant and Animal Community Diversity, 4 Special Habitats; 7 Watershed Condition; 9 Stream Banks and Shorelines).

Riparian Conservation Objective 6: Identify and implement restoration actions to maintain, restore or enhance water quality and maintain, restore, or enhance habitat for riparian and aquatic species. (RCO 6 is linked to all AMS goals)

Fire and Fuels Management

Goals

Goals for fire and fuels management include reducing threats to communities and wildlife habitat from large, severe wildfires and re-introducing fire into fire-adapted ecosystems. Broad-scale goals include:

- treating fuels in a manner that significantly reduces wildland fire intensity and rate of spread, thereby contributing to more effective fire suppression and fewer acres burned;
- treating hazardous fuels in a cost-efficient manner to maximize program effectiveness; and
- actively restoring fire-adapted ecosystems by making demonstrated progress in moving acres out of unnaturally dense conditions (in other words, moving acres from condition class 2 or 3 to condition class 1).

This includes managing hazardous fuels in and around communities combined with strategic placement of fuels treatments across broad landscapes to modify wildland fire behavior. Goals for fuels treatments include:

- strategically placing treatment areas across landscapes to interrupt potential fire spread,
- removing sufficient material in treatment areas to cause a fire to burn at lower intensities and slower rates of spread compared to untreated areas, and
- considering cost-efficiency in designing treatments to maximize the number of acres that can be treated under a limited budget.

Strategy

The fire and fuels management strategy is integrated with the strategy for conserving old forest ecosystems. In wildland urban intermix (WUI) defense zones, management activities are focused on protecting life and property. Outside of WUI defense zones, strategic placement of area treatments occurs across all land allocations. Desired conditions, management intents, management objectives, and standards and guidelines guide managers in placing and designing effective area treatments while incorporating needs for retaining key habitat elements for sensitive species.

The landscape-scale fire modification strategy is based on the premise that disconnected fuel treatment areas overlapping across the general direction of fire spread are theoretically effective in changing fire spread. Research conducted by Dr. Mark Finney (1999) suggests that fire spread rates can be reduced, even outside of treated areas, if a fire is forced to flank areas where fuels have been reduced or otherwise modified. Hence, the treated areas would function as “speed bumps,” slowing the spread and reducing the intensity of oncoming fires and thereby reducing damage to both treated and untreated areas and the impacts of large, uncharacteristically severe wildfires. Maintenance treatments are important to minimize grass and shrub colonization that could increase fire spread rates again.

Dr. Finney’s research findings indicate that, given an effective treatment area shape and pattern, only a fraction of the landscape needs to be treated and maintained to produce the desired modifications in wildfire behavior over the entire landscape. This hypothesis underpins the fire and fuels strategy. As such, it explicitly recognizes two criteria that must be met for the strategy to be effective: the pattern of area treatments across the landscape must interrupt fire spread, and treatment prescriptions must be designed to significantly modify fire behavior within the treated area. Strategic placement of area treatments, ranging in size from 50 to over 1,000 acres (generally averaging between 100 to 300 acres), across landscapes will interrupt fire spread and thereby reduce the size and severity of wildfires.

Outside the HFQLG Pilot Project Area, 50 percent of initial fuels treatments will be located in the WUI. This percentage applies at the bioregional scale until all treatments in the WUI have been completed.

Direction for locating area treatments is included in the standards and guidelines. Treatment patterns are to be developed using a collaborative, multi-stakeholder approach. Resource considerations factored into the strategic placement of fuels treatments include objectives for locating treatments to overlap areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Treatment areas are located to avoid PACs to the greatest extent possible.

Site-specific fuels treatment prescriptions are designed to modify fire intensity and spread in treated areas. Managers consider topographic position; slope steepness; predominant wind direction; and the amount and arrangement of surface, ladder, and crown fuels in developing fuels treatment prescriptions for each treatment area. Fuels treatments are intended to reduce surface, ladder, and crown fuels. Crown fuels are modified to reduce the potential for spread of crown fire.

Fuels objectives have first priority in developing treatment area prescriptions. However, prescriptions for treatment areas may also address identified needs for increasing stand resistance to mortality

from insects and disease. Thinning densely stocked stands may be used to reduce competition and improve tree vigor thereby reducing levels of insect- and disease-caused mortality.

Revenues from the sale of commercial forest products may be obtained from some fuels treatments. This increases the likelihood of accomplishing the projected acres of treatment, an essential first step in achieving the desired reductions in acres burned. Where consistent with desired conditions, area treatments are designed to be economically efficient and meet multiple objectives.

Lightning-caused fires may be used to reduce fuel loads or to provide other resource benefits, such as conserving populations of fire-dependent species. Before wildland fires can be used, national forest managers must prepare a fire management plan that describes how prescribed fires and naturally caused wildland fires will achieve resource management objectives.

Lower Westside Hardwood Ecosystems

Vegetation communities dominated by California black oak, canyon live oak (tree form), Pacific madrone, or tanoak, are collectively referred to as montane hardwood forests. Ecosystems dominated by blue oak, valley oak, interior live oak (tree form), or Oregon white oak are referred to as blue oak woodlands. Collectively, these are referred to as hardwood ecosystems.

Goals for lower westside hardwood forest ecosystems include establishing and maintaining:

- a diversity of structural and seral conditions in landscapes in proportions that are ecologically sustainable at the watershed scale;
- sufficient regeneration and recruitment of young hardwood trees over time to replace mortality of older trees; and
- sufficient quality and quantity of hardwood ecosystems to provide important habitat elements for wildlife and native plant species.

A set of forestwide standards and guidelines for managing lower Westside hardwood forest ecosystems is in concert with the above goals.

Noxious Weed Management

Goals for noxious weed management are to manage weeds using an integrated weed management approach according to the priority set forth in FSM 2081.2:

- **Priority 1**: Prevent the introduction of new invaders.
- **Priority 2**: Conduct early treatment of new infestations.
- **Priority 3**: Contain and control established infestations.

Provisions for implementing these goals are embodied in the noxious weeds management standards and guidelines.

Management Practices

Forest practices are management actions that achieve the goals and objectives of the Plan. Certain practices are applicable Forestwide, while others apply only within particular Management Areas. The following section describes all practices that have been developed for the Forest. Those that apply Forestwide are denoted by asterisks. Those that apply only within specific Management Areas are referenced within the individual Management Area sections of this chapter. In both cases, the practice describes the actions or treatments that will occur for each element, while the Standards and Guidelines provide the specific management direction. The practices are grouped by resource element as follows.

1. Air Quality

A. Air Resource Inventory and Monitoring*

This practice involves identification and monitoring of air pollution sensitive receptors on the Forest. Emphasis is on Class I airsheds (Wilderness enacted prior to 1977) but Forestwide receptors are included. In Class I airsheds, air quality related values (AQRVs) are to be identified, inventoried and monitored to determine condition and trend. An AQRV is any value that may be impacted by air pollution, such as forest vegetation, water and visibility. In Class II airsheds (post-1977 Wilderness and all other Forest lands), the AQRVs may be monitored as well as air pollutants from Forest management activities (recreational, smoke emissions, vehicles, etc.).

B. Prevention of Significant Deterioration (PSD) Permit Application Review*

This practice includes participation in the review process for all PSD permit applications which may impact air quality on the Forest. PSD is a permitting process under the Clean Air Act which regulates emissions from major stationary sources of air pollution. If such a source is proposed on or within an impactable distance of the Forest, review is mandatory. This process is applicable in Class I areas where only minimal increments of emissions are allowed.

C. Smoke Management - Prescribed Fire*

This practice is established for managing smoke from prescribed fire so emissions meet applicable state and/or federal standards. Prescribed fire includes but is not limited to burning of timber residue, improving wildlife habitat and range type conversion. Prescribed fires are managed by rules of the local Air Pollution Control District (APCD) and recently by the 1990 CAA amendments, which require the application of Best Available Control Measures (BACMs) to reduce particulate emissions. BACMs are a combination of practices intended to reduce emissions to the lowest practicable amount. BACMs are accomplished by diluting or dispersing emissions, or by preventing potential emission sources whenever possible. Examples of BACMs include: 1) Reduction of pollutants by; limiting the mass of material burned; burning under moist fuel conditions when broadcast burning; shorten the smoldering combustion period; and increase combustion efficiency by encourage the flaming stage of fire when burning piles. 2) Dilution of pollutant concentrations over time by; reducing the rate of release of emissions per unit area; burning during optimum met conditions; and coordinate daily and seasonally with older burning permittees in the area to prevent standard exceedences.

2. Cultural Resources

A. Cultural Resource Inventory and Evaluation*

This includes cultural resource survey to identify and record all locatable sites on Forest land and land affected by Forest-permitted projects. It also includes ways to assess the significance of or impacts on cultural resources, including test excavations and historical

studies. Cultural resources include historical districts, sites, buildings, structures, objects or areas that may have historical, cultural, or archaeological value.

B. Cultural Resource Protection*
This includes physical protection, public contact, signing, patrolling, law enforcement actions, stabilization, restoration of damage to cultural properties, mitigative excavation (data recovery), or other activities associated with protection of cultural resources.

C. Cultural Resource Enhancement and Interpretation*
This includes projects undertaken to benefit cultural resources or enhance cultural sites/ properties, vis-à-vis direct and indirect interpretation, restoration/rehabilitation of structures, interpretive brochures, audio-visual presentations, research activities, publications, etc.

3. Diversity

A. Biological Diversity Management*
This practice involves the management, inventory and monitoring of wildlife and vegetation diversity throughout the Forest to ensure meeting Regional thresholds and the objectives of the Land Management Plan for all resources.

4. Fire and Fuels

A. Fire Management*
Fire Management includes preparing for, administering and managing fire protection activities on wildlands within the National Forest Boundary. The practice of Fire Management includes but is not limited to the following types of activities: taking actions to reduce the number of human-caused fires (Fire Prevention), taking action to detect forest fires (Fire Detection)., planning and implementing strategies prior to Wildfire Suppression (Fire Pre-attack), Implementation of a Wilderness Fire Program (Prescribed Natural Fire), and suppression of wildfires (Fire Suppression). The objective of Fire Management activities is to respond to each wildfire ignition in a timely manner with appropriate forces at a minimum cost consistent with Land and Resource Management direction.

B. Fuels Management*
Fuels Management includes research, inventory, planning, and implementation of the treatment of slash residue fuels created by past or current management activities (Activity Fuels), and or the treatment of naturally occurring fuels (Natural Fuels). The practice of Fuels Management includes but is not limited to the following types of activities: for example, burning (Prescribed Fire), re-arrangement, removal, type conversion, and fuel break construction. The objective of Fuels Management is to prepare timber harvest areas for natural or artificial regeneration, to improve range and wildlife habitat, to develop and maintain fuel profiles that contribute to the most cost efficient Fire Protection program consistent with Land and Resource Management direction.

5. Fish and Wildlife

A. Fish and Wildlife Habitat Administration*
Wildlife, fish, or plant management includes habitat improvements and/or maintenance. Objectives may be met through wildlife projects or implemented by other resource projects or activities that are designed and implemented based on input from a wildlife or fisheries biologist, or botanist. Treatment can be considered an improvement if the net effect of the project or activity results in meeting a specified objective for wildlife, fish, or sensitive plants. Treatment can be considered maintenance when such work, based upon a biologist's input, improves or maintains existing habitat conditions or minimizes habitat losses. Much of the coordination will be accomplished through interactions with project planners from functional areas such as timber sales, fuels management, range improvement, access road location, and recreational facility design. All activities are designed to meet Regional Standards and

Guidelines, planning direction and legal mandates for fish, wildlife and sensitive plants through the use of inventories, studies, surveys and monitoring.

B. Fisheries Habitat Improvement and Maintenance - Structural, Streams and Lakes*
Activities designed to enhance cold-water (trout) fisheries through structural treatments and maintenance. Structural improvements include: watershed stabilization through streamside fencing, cover improvements; in stream habitat structures, fish ways and fish screens, construction of migration barriers, removal or relocation of roads, stabilization of shorelines and stream banks, control of water level fluctuation, and construction of water bars and culverts to retard or direct water runoff . Structures to control water levels of lakes are included.

C. Fisheries Habitat Improvement and Maintenance - Nonstructural, Streams and Lakes*
Activities designed to enhance cold-water (trout) fisheries through nonstructural treatments and maintenance. Nonstructural improvements include: improving quality of spawning gravels, removal of stream barriers, control of fish or aquatic plant populations, control of human access and fishing pressure, and enhancement of riparian vegetation. Fertilization to improve lake productivity is included.

D. Early Successional Stage Habitat
Superseded by Sierra Nevada Forest Plan Amendment, USDA Forest Service 2004.

E. Late Successional Stage Habitat Management
Includes activities that maintain old-growth forest habitat in a condition suitable for featured species. Activities may include: silvicultural treatment to maintain desired canopy closure or structure, prescribed burning, maintenance or enhancement of snags and down logs, control of human access, closure or location of roads, and informational and educational signing. Depending on requirements of featured species, uneven-age or all-age conditions may be maintained. Featured species may include bald eagle, pileated woodpecker, tree squirrels, goshawk, spotted owl, fisher, pine marten, and others.

F. Nonstructural Habitat Improvement and Maintenance
Superseded by Sierra Nevada Forest Plan Amendment, USDA Forest Service 2004.

G. Snag and Down Log Management
Activities designed to meet or exceed Regional or Forest Standards and Guidelines for snags and down logs.

H. Snag and Down Log Management - Intensive Level
Activities designed to provide more intensive levels of snag and down log management to improve the habitat capability of featured species. Activities may include inventory and survey, designation of cull trees as future snags and logs, girdling or killing cull trees to provide snags, topping cull trees to provide flat-topped snags where suitable, informational and educational signing, and control of human access and woodcutting activities. Featured species may include bald eagle, pileated woodpecker, tree squirrels, spotted owl, fisher, marten, western bluebird, ensatina salamander, great gray owl, and others.

I. Hardwoods Management
Activities designed to meet or exceed minimum Forest standards and guidelines for hardwoods management.

J. Hardwoods Management - Intensive Level
Activities designed to provide intensive levels of hardwoods management to improve the habitat capability of featured wildlife species. Activities may include: silvicultural treatment to enhance growth of or regenerate hardwood stands; prescribed burning; seeding, planting, and fertilizing where appropriate; informational and educational signing; and control of human access and woodcutting activities. Featured species may include western gray squirrel, mule deer, turkey, band tailed pigeon, and other small game and non-game species.

K. Structural Habitat Improvement and Maintenance
Activities designed to improve the habitat capability of wildlife species through structural improvements not covered in stream, lake, or wetlands habitat improvement. These activities include nest structures, den developments, water developments (small watering structures to provide drinking water for wildlife), wildlife cover developments, and management fencing. Featured species may include peregrine falcon, mule deer, great gray owl, mountain quail, and other game and non-game species.

L. Recovery Species Administrative Management*
Activities designed to protect or improve habitat for Endangered, Threatened, Rare, and Sensitive species through administrative measures. Activities may include: coordination with appropriate agencies; inventories and surveys; and restriction of human access to critical or essential habitat through road closures, special area designation, and timing of timber harvest and other management activities. Species affected may include peregrine falcon, bald eagle, Lahontan cutthroat trout, wolverine, red fox, fisher, marten, goshawk, great gray owl, spotted owl, and willow flycatcher.

6. Forest Pests

A. Insect and Disease Management*
Surveillance, detection, planning and research activities related to insect and disease management. Also includes evaluation, prevention and suppression activities needed to protect resources at levels commensurate with resource management goals and objectives.

7. Geology and Minerals

A. Locatable Minerals*
Administration of surface resources in conjunction with the development of locatable mineral resources, including lode, placer, tunnel and mill site claims filed in conjunction with the 1872 mining law. The review and approval of Notices of Intent and Plans of Operation in accordance with federal regulations found in 36 CFR 228, Subpart A including applicable reclamation and rehabilitation of mineral related surface disturbance is included in this practice.

B. Leasable Minerals*
This practice includes evaluation of and recommendations for lease stipulations on National Forest land. Oil and Gas and Mineral leases are issued by the Bureau of Land Management after receiving applications from proponents seeking to prospect and develop oil and gas, geothermal or coal resources on the National Forest. Authorization to prospect and develop mineral resources on acquired lands is granted by the Forest Service through issuance of a Prospecting Permit.

C. Saleable Mineral Materials
This practice includes authorization, by permit or sale, for removal of common varieties of sand, gravel, stone, pumice, clay and other non-locatable mineral material resources. The authority and direction related to disposal of common variety mineral materials on National Forest land is found in 36 CFR 228, Subpart C. This direction will be followed in the disposal and sale of mineral materials.

8. Lands

A. Landownership Adjustment*
Acquisition and disposal of lands to improve the ownership pattern of the Forest through exchange, purchase, donation, sale, interchange or transfer. This practice involves the inventory and disposal of scattered and uneconomical parcels of National Forest land which no longer have National Forest character, and the inventory and acquisition of private lands to improve the management and administration of the National Forest. Processing and

administration of landownership adjustment cases, maintenance of status records and recordation of deeds and related title documents are included in this practice.

B. Acquisition of Easements*
Acquisition of easements for improved access by the public and the Forest Service to National Forest lands which are necessary to attain management objectives. Acquisition of scenic easements and rights-of-way for National Forest purposes involving all linear uses are included in this practice. This practice involves administration of cost-share agreement areas associated with extensive intermingled landownership of several landowners and the Forest Service.

C. Special-Use Management -- Non-Recreation*
Processing of applications and administration of all special-use authorizations of a non-recreational nature. Such uses may include water lines, electronic sites, power lines and telephone lines within established corridors or to individual sites, road uses and special-events.

D. Right-of-Way Grants for Roads, Trails and Utilities*
Processing of applications and administration of right-of-way permits, easements and licenses. This practice involves administration of cost-share agreement areas associated with extensive intermingled landownership of several landowners and the Forest Service throughout the Forest.

E. Federal Energy Regulatory Commission (FERC) Consultation*
Consultation, analysis and authorizations associated with the study and development of hydro-electric projects on National Forest land. This practice includes consultation, study, liaison, permitting and development of plans associated with existing and proposed new projects. Development of mitigation measures and enhancement of resources associated with existing and proposed projects are included in this practice.

F. Property Boundary Location and Marking*
Location, marking, posting and maintenance of land-lines associated with National Forest boundaries. This practice includes the maintenance of land title and survey records associated with property boundaries and corners throughout the Forest.

9. Range

A. Allotment Management
Activities and cooperation to develop and implement allotment management plans. Three levels are specified:

1. **Intensive**: Intensive management of existing grazing allotments with the intent to increase forage production and utilization of forage allocated to livestock. All available technology for range and livestock management will be considered. Cooperate with range permittees, monitor range use, and maintain existing range improvements (replacement of range improvements will be made on a 20 year schedule or as needed). Development of structural and nonstructural range improvements and implementation of complex grazing systems will be emphasized. Preparation of range allotment plans or other plans involving the management of the range resource will be based on a 10 year schedule. Existing range agreements with other agencies or landowners will be maintained or amended to conform with this plan, as needed.
2. **Extensive**: Extensive management of existing grazing allotments with the intent of fully using forage allocated to livestock. Management systems and techniques, including fencing and water developments, are applied as needed to obtain relatively uniform livestock distribution and plant use, and to maintain plant vigor. No attempt is made to maximize livestock forage production by cultural practices such as seeding. Generally it involves season-long grazing. Cooperate with range permittees, monitor range use, and maintain existing range

improvements (replacement of range improvements will be made on a 20 year schedule or as needed). No development of nonstructural improvements will occur, however, the prudent development of structural improvements will occur for protection and enhancement of forage production. Preparation of range allotment management plans or other plans involving the management of the range resource will be on a 10 year schedule. Existing range agreements with other agencies or landowners will be maintained or amended to conform with this plan, as needed.

3. **Maintenance**: Maintenance of existing range permits where livestock use is within the apparent capacity. Improvements are minimal and construction is done only to the extent needed to attain livestock control and maintain the range resource in the presence of grazing. No attempt is made to achieve livestock distribution. Cooperate with range permittees, monitor range use, and maintain existing range improvements. Preparation or revision of range allotment plans or other plans involving management of the range resource is based on a 10 year schedule or longer as needed. Existing range agreements with other agencies or landowners will be maintained.

B. Range Improvements - Nonstructural (Permanent and Transitory Range Types)
Prescribed fire and mechanical practices used to achieve the goals of the allotment management plan. Nonstructural improvements such as seeding, use of chemicals and fertilization are included.

C. Range Improvements - Structural (Permanent and Transitory Range Types)
New structural improvements designed to achieve AMP goals. Cost of construction will be proportioned between the Forest Service, permittee, and any other interested parties.

D. Grazing Permit Administration
Activities undertaken to administer allotment grazing permits, including: billing, allotment inspections, livestock counts, permit renewals, etc.

E. Range Studies
Studies and other activities to inventory, catalog, and evaluate data on range vegetation and soil condition, forage production, livestock utilization levels, etc.

10. Recreation

A. Recreation Inventory and Planning*
Includes: Recreation Information Management (RIM) inventory reports and sampling; recreation inventory and planning; off highway vehicle (OHV) use inventory and planning; and formally classified areas (except Wilderness) inventory and planning, including RNAs, Wild and Scenic Rivers, and Primitive and scenic areas. Includes Wild and Scenic River inventories, preparation and review of Wild and Scenic River Management Plans for new and existing Wild and Scenic Rivers; environmental reports as well as Congressional or administrative studies and nominations for candidate Wild and Scenic Rivers. National Park Service, State, and private coordination for non-National Forest lands impacted by nominations.

B. Recreation Opportunity Spectrum (ROS)*
ROS is a management concept that applies Forest-wide. Every acre of National Forest land treated by this Forest Plan fits into one of the ROS classes listed below.

1. **Primitive**: Areas managed to meet the ROS objective of Primitive, characterized by essentially unmodified natural environment of fairly large size. Interaction between users is very low and evidence of other area users is minimal. The area is managed to be essentially free from evidence of management restrictions and controls. Mechanized use is not permitted except where Forest Service approval authorizes entry.
2. **Semi-primitive Non-motorized**: Areas managed to meet the ROS objective of Semi-primitive Non-motorized, characterized by a predominantly natural or natural-appearing

environment of moderate to large size. Interaction between users is low, but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but they are subtle. Motorized vehicle use is not normally permitted. Outside of Wilderness, temporary vehicle use may be authorized based on special needs, but only for the duration of the project, and where roads are then obliterated. Examples of special needs are insect salvage, vehicle and equipment access supported by an escaped fire situation analysis, and placement or removal of facilities under Special Use Permit.

3. **Semi-primitive Motorized**: Areas managed to meet the ROS objective of Semi-primitive motorized, characterized by a natural appearing environment of moderate to large size. Interaction between users is low to moderate and there is often evidence of other users. On-site controls and restrictions may be evident and motorized use is normally allowed.
4. **Roaded Natural**: Areas managed to meet the ROS objective of Roaded Natural, characterized by predominantly natural-appearing environments with moderate evidence of the sights and sounds of man. Such evidence usually harmonizes with the natural environment. Interaction between users may be low to moderate, but with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Conventional motorized use is provided for in construction standards and design of facilities.
5. **Rural**: Areas managed to meet the ROS objective of Rural, characterized by substantially modified natural environment. Resource modification and utilization practices are done primarily to enhance specific recreation activities and to maintain vegetative cover and soil. Sights and sounds of man are readily evident, and the interaction between users is often moderate to high. A considerable number of facilities are designed for use by a large number of people. Facilities are often provided for special activities. Facilities for intensified motorized use and parking are available.

C. Developed Recreation and Interpretive Services Site Construction or Rehabilitation
Feasibility studies and plans, preconstruction, contract administration, and construction and rehabilitation of inventoried sites.

D. Developed Recreation Site Management, Public Sector
Administration, operation, and maintenance of developed sites in the public sector.

E. Developed Recreation Site Management, Private Sector
Administration of recreation-related permitted use of National Forest lands on developed recreation sites. Includes developed downhill skiing, resorts, and pack stations.

F. Dispersed Recreation Management
Management of areas for dispersed recreation that are not designated Wilderness or listed as developed sites in the RIM system. Includes administration, operation, and maintenance. Activities will make provision for protecting other resources by limiting facilities and discouraging concentrated use in sensitive areas such as meadows, old-growth timber, and identified Threatened and Endangered or sensitive species habitat. Includes administration of dispersed area Special Use Permits.

G. Motor Vehicle Travel Management*[1]
Motor Vehicle Travel Management applies Forestwide. Every acre of National Forest treated by this Forest Plan fits into either the Closed or Restricted categories as shown below (No Open use is included). The basic Motor Vehicle Travel Management categories are Closed Motor Vehicle (10-G-1) and Restricted Motor Vehicle (10-G-2).

[1] Motor Vehicle Travel Management, Forest Plan Amendment, USDA Forest Service 1998

1. **Closed Motor Vehicle Travel Management**: Applies to areas that are closed to motorized use. These areas do not provide opportunities for motorized use, but for comparison purposes, they are tracked as the Closed Motor Vehicle (10-G-1) category.
2. **Restricted Motor Vehicle Travel Management**: Applies to areas that are available for motorized use. These areas provide several different opportunities for motorized use, depending on the vehicle type and season of use. For comparison purposes, they are tracked as the Restricted Motor Vehicle (10-G-2) category.

H. Mountain Bicycle Management*

This practice applies to all types of non-motorized mechanical transport except wheelchairs used for handicapped access. Mountain bicycle management applies Forestwide. Every acre of National Forest treated by this Forest Plan fits into one of the categories shown below. (No open use is included)

1. **Restricted Mountain Bicycle Management**: Mountain bicycle use restricted to existing roads and trails, subject to seasonal closures. Roads and trails are considered open to mountain bicycle use unless signed closed.
2. **Closed Mountain Bicycle Management**: No mountain bicycle use allowed.

I. Trail Management*

Trails are open to intended use. Managing trails for their intended use may involve restrictions on other uses. An example of trails managed with some type of restriction on use would be those within designated Wilderness which are closed to mechanized use by law. Other restrictions would include seasonal limitations on trail bikes and/or equestrian traffic to protect resources. Trail management direction is given by the establishment of maintenance levels.

J. Trail Construction and Reconstruction*

Trails will be constructed or reconstructed to a standard necessary to carry foot traffic, equestrian traffic, mountain bicycles and OHVs, singly or in combination.

K. Trail Construction and Reconstruction - Special Purpose*

Trails will be constructed or reconstructed to a standard necessary to carry traffic or specific special uses. Examples of special uses include trails for the handicapped, botanical education trails, cross country ski trails, and snowmobile trails.

L. Interpretive Services- Planning*

Preparation and review of interpretive service plans. Includes interpretive plans, and proposals for interpretive service projects not classified as construction or reconstruction of facilities.

M. Interpretive Services Management*

Administration, operation, and maintenance of Interpretive Services.

N. Interpretive Facilities not on Interpretive Services Sites

Installation or construction of interpretive facilities not located on formal Interpretive Services sites. Planned work and costs should approximate needs shown on current Recreation Information Management (RIM) Facility Condition Inventory.

11. Riparian

A. Riparian and Meadow Habitat Management*

Activities designed to improve the habitat capability of riparian and meadow-associated wildlife species through management of vegetation. Activities may include: silvicultural treatment; thinning and pruning; regeneration of aspen stands; prescribed burning; planting, seeding, and fertilizing where appropriate; control of livestock and human access; and informational and educational signing. Compatible practices involving structural improvements to the stream channel may be necessary. Featured species may include mule

deer, great gray owl, pine marten, resident trout, yellow warbler, willow flycatcher, and other small game and non-game species.

12. Sensitive Plants

A. Sensitive Plants Interim and Recover Management*

Activities designed to protect and restore populations of Endangered, Threatened, and Sensitive plants. Interim phase consists of input to planning and project coordination, formal and informal consultation, synecological studies, collection control, population monitoring, and botanical investigations. Recovery phase consists of: species management guides, habitat management and improvement, land exchanges and acquisition, artificial propagation or reintroductions, and population evaluation and monitoring.

13. Soils

A. Soil Support Services*

The objectives of the soil resource management program are met through the application of the following major activities:

1. **Soil Resource Inventories (SRI)**: includes soil maps, description of soil characteristics, and interpretations for management. They provide the basis for displaying the capabilities and limitations of the soil resource. SRIs at some level of intensity have been completed on all NFS lands in Region 5 according to National Cooperative Soil Survey standards. These SRIs are suited for forest land and resource management planning, but can be used for project planning with field verification. Detailed SRI'S are being done on an as needed basis for project planning on most forests. SRI'S are currently being done in the context of Coordinated Resource Inventories (CRI) in order to better define ecological map units.
2. **Soil Management Services**: includes the development, transfer, and application of knowledge about soil characteristics and responses to management for planning specific timber, engineering, range, wildlife, fire and watershed management activities. Support is primarily in the form of ID team participation in project and forest land and resource management planning.
3. **Soil Quality Monitoring**: provides the documentation of how the Forest Service maintains or improves long-term soil productivity, soil hydrologic function and soil environmental health. Soil quality standards have been selected in the region to serve as a guide to help detect significant soil quality changes, evaluate the need to adjust practices and to rehabilitate deteriorated soil conditions.
4. **Soil Resource Data Management and Analysis**: includes the use of soil data bases and programs to store, retrieve, analyze and provide pertinent data for GIS and corporate data base systems. Forest Service soil data systems are coordinated with other agencies involved in the National Cooperative Soil Survey.
5. **Soil Investigations and Studies**: provide the basis for the development of technical soil information and relative to soil management and classification. Investigations include administrative studies conducted by the Region or in cooperation with PSW and universities. Past studies included various aspects of soil compaction effects in forest ecosystems, soil characteristics related to compaction and erosion, and fertilization response. Currently, Region 5 and PSW are conducting a long-term soil productivity study which is part of a national framework of similar studies in other regions. This study will help to refine and validate the region's soil quality standards.
6. **Cooperative Soil Programs**: includes participation with other agencies in California to coordinate soil resource related activities and to help solve soil resource problems. Recent accomplishments include an interagency erosion hazard rating system and OHV soil loss guide.

7. **Soil Resource Management Training**: provided to Forest Service and non-Forest Service land managers to further understanding of the soil resource and its capabilities and limitations for management.

B. **Soil Resource Improvement (Planning, Treatment, and Maintenance)***
This practice includes planning, implementation and maintenance of projects which maintain or improve soil productivity. Soil resource improvement is commonly accomplished through watershed, timber stand, wildlife or rangeland improvement projects. These include soil fertilization, reduction of compaction, soil reshaping or replacement (such as placement of windrows in existing plantations), emergency burn rehabilitation plans, special erosion control, and soil stabilization projects. This practice is applicable to all areas having an identified need for maintenance or improvement of soil productivity. Generally, these soil improvement projects are related to a Watershed Improvement Needs Inventory or KV soil, improvement or restoration work within a timber sale area.

C. **Soil Hydrologic Functions/Soil Environmental Health***
This practice includes the design and implementation of projects which maintain or improve soil hydrologic function and soil environmental health.

14. Special Areas

A. **Research Natural Area (RNA) Investigations**
Investigations necessary for the identification and recommendation as Research Natural Areas for areas that meet the selection criteria for Research Natural Area designation.

B. **Research Natural Area (RNA) Management**
Management of designated and recommended RNA's to protect their undisturbed ecosystems for future research. Observation of the specific plant associations for which they were nominated.

C. **Special Interest Area (SIA) Investigations**
Investigations necessary for identification and recommendation as Special Interest Areas that possess geological, paleontological, botanical, scenic, zoological, archaeological, historical, and other features that warrant protection through Special Interest Area classification.

D. **Special Interest Area (SIA) Management**
Management of designated and recommended SIAs.

E. **Cave Resources Inventory and Evaluation***
This includes activities to conduct an inventory of caves and to evaluate the significance of caves in accordance with the Cave Resources Protection Act of 1988.

F. **Cave Resources Planning and Management***
This includes work necessary to meet the planning and management requirements of the Cave Resources Protection Act of 1988.

15. Timber

A. **Timber Program Administration**
This practice includes. all administrative activities to protect, utilize, improve, inventory, and evaluate the timber resource. Examples are: timber inventories, stand examinations and prescriptions, timber sale preparation and administration, reforestation and timber stand improvement project preparation and administration, management of the tree improvement program, and preparation of and compliance with of environmental documents. This practice includes measures to protect other resource values.

B. **Clearcutting Method**
Superseded by Sierra Nevada Forest Plan Amendment, USDA Forest Service 2004.

C. Shelterwood Cutting Method - Seed Step
Superseded by Sierra Nevada Forest Plan Amendment, USDA Forest Service 2004.

D. Shelterwood Cutting Method - Overstory Removal
Superseded by Sierra Nevada Forest Plan Amendment, USDA Forest Service 2004.

E. Intermediate Cutting - Sanitation and Salvage
Removal of trees in areas where the objective is to develop even-aged stands. Harvesting is planned to maintain or improve growth and capture mortality until the stand is regenerated. This is accomplished by removing trees that have died or are likely to die before the next entry. This practice includes liberation, sanitation, and salvage cutting as described in Practice of Silviculture, Seventh Edition, by Smith. There are no minimum or maximum size treatment areas. This cutting method applies to all stands where the opportunities for liberation, sanitation, and salvage exist and where average stem diameter exceeds 11 inches.

F. Intermediate Cutting Method - Commercial Thinning
Removal of trees in stands of less than rotation age to periodically reduce the stocking level to a point where the stand will grow back to 90% of normal stocking as indicated in-yield tables within a specified time period. There are no minimum or maximum treatment area size. This cutting method applies to stands on all forest types which carry stocking in excess of desired amounts.

G. Single Tree and Group Selection Cutting Method
Superseded by Sierra Nevada Forest Plan Amendment, USDA Forest Service 2004.

H. Special Cutting-SMZ
Superseded by Sierra Nevada Forest Plan Amendment, USDA Forest Service 2004.

I. Special Cutting - Other
A method designed to maintain or improve specific resource objectives of Management Areas. No timber yields are planned. Special cutting applies to all forest types.

J. Reforestation
All activities necessary to reestablish desirable tree species by artificial methods on deforested areas. Minimum standards for reestablishment are contained in the Regional Standards. Activities included in this practice are: preparation of the seed bed or planting site; planting seedlings or direct seeding; saving natural regeneration; animal, insect, and disease control when necessary; and examinations, evaluation, certification, and monitoring of stands to achieve the reestablishment objectives.

K. Release and Weeding
This practice includes activities necessary to reduce the effect of competing vegetation, animals, insects, and disease on the growth and development of desired tree species.

L. Precommercial Thinning
Removal of surplus trees in areas with excess stocking by cutting, mowing, or herbicide injection to favor potential crop tree growth and development. Excess trees thinned do not have a commercial value because of tree size, species comparison, or access to available markets. Included in this practice are cleanings and precommercial thinning and animal, insect, and disease control as necessary.

M. Fuelwood and Miscellaneous Forest Products
All activities necessary to prepare, sell, administer, and utilize fuelwood as an energy source by individuals for personal use and as material for commercial operations. Sawlogs are not included in this practice. Also includes all activities necessary to prepare, sell, administer, and utilize other miscellaneous forest products such as Christmas trees, posts, rails, decorative greenery, cones, burls, and shingle bolts.

16. Transportation and Facilities

A. Road Construction and Reconstruction*
Construction and reconstruction of Forest roads. This activity includes long-term and temporary roads.

B. Transportation Management, Roads Subject to Highway Safety Act
Management of traffic for safe and efficient unrestricted public use. This includes passenger cars and permitted commercial use. Public use with passenger cars is accepted or encouraged.

C. Transportation Management, Roads Excluded from the Highway Safety Act
Management of traffic to provide for safety and protect resource values on roads not open to unrestricted traffic, and roads not maintained for travel by passenger car.

D. Transportation Management, Roads - Obliteration*
Obliteration of roads not needed for continuing Forest management, in order to protect resources and restore resource production.

E. FA&O Facilities Construction and Reconstruction
Planning, design, inspection and construction of capital improvements supporting fire, administrative, and other (FA&0) multi-functional activities.

F. FA&O Facility Operation and Maintenance
Operation and maintenance of structures and other facilities to serve fire protection, administration and other management needs.

17. Visual Resources

A. Visual Resource Inventory and Planning*
Developing and administering plans for visual resource projects. Includes plans prepared for resource improvement, special studies, demonstration areas, and other activities. Also covers the development or participation in project environmental analyses and rehabilitation program plans.

Visual Quality Inventory
Determination of inherent visual quality (variety classes) and sensitivity levels for the purpose of developing basic data and interpretations; includes the development of inventory Visual Quality levels.

Visual Absorption Capacity
Inventory of visual absorption capacity for the purpose of developing basic data and interpretation.

Existing Visual Condition
Inventory of existing visual condition of the landscape for the purpose of developing basic data and interpretation. Provides a base from which to measure change.

B. Visual Quality Objectives (VQOs)*
VQOs are desired ratings outlined under the Forest Service system of Visual Resource Management. Every acre of National Forest land treated in this Forest Plan fits into one of the classes shown below (No Maximum Modification is included).

1. **Preservation**: Areas managed to meet the VQO of Preservation. Allows ecological changes only. Management activities, except for very low visual impact facilities, are prohibited.
2. **Retention**: Areas managed to meet the VQO of Retention. Provides for management activities which are not readily visually evident. Activities may only repeat form, line, color, and texture which are frequently found in the characteristic landscape. Changes in the qualities of size, amount, intensity, direction, and pattern should not be evident.

3. **Partial Retention**: Areas managed to meet the VQO of Partial Retention. Management activities remain visually subordinate to the characteristic landscape. Activities may repeat form, line, color, or texture common to the characteristic landscape, and may also introduce form, line, color, or texture which are found infrequently or not at all in the characteristic landscape.
4. **Modification**: Areas managed to meet the VQO of Modification. Management activities may visually dominate the original characteristic landscape. However, activities of vegetative and land form alteration must borrow from naturally established form, line, color, or texture so completely and at such a scale that its visual characteristics are those of natural occurrences within the surrounding area or character type.

C. Visual Resource Improvement*
Activities carried out on visual rehabilitation to restore facilities, lands, and resources to the visual quality objectives adopted in approved management plans.

18. Water

A. Water Quality Management*
This practice includes measures to protect and enhance water quality Forestwide.It is accomplished through the implementation of water quality Best Management Practices (BMPs) as well as by compliance with other applicable federal and state water quality standards. The BMPs are a water quality, management system which contain nearly 100 individual practices designed to minimize or prevent water pollution generated by non-point sources (see FSH 2509.22, Chapter 40). BMPs are applicable to all Forest management activities including timber harvest, road construction, mining, recreation, vegetation manipulation, fire management, watershed management and grazing.

B. Water Quantity Management*
This practice involves managing for water yield improvement, reviewing hydropower projects and managing water rights. Water yield increases are supported where economically feasible and environmentally acceptable. Activities could include weather modification and vegetative manipulation to increase water yield or alter runoff timing. Review of hydropower projects includes assessing and mitigating impacts of such proposals. Water rights involves the management of the beneficial uses of water on the Forest through legal statutes relating to the appropriation of water for such uses as domestic, in-stream, recreation, power and irrigation.

C. Streamside Management Zones
Superseded by Sierra Nevada Forest Plan Amendment, USDA Forest Service 2004.

D. Watershed Maintenance and Improvement*
This practice includes measures to maintain watersheds in good condition and to improve degraded lands. This is accomplished by maintaining a water resource inventory of all applicable Forest watersheds so that condition is understood and need for improvement can be identified. Watershed improvement needs (WIN) projects are implemented to improve watershed condition where necessary. Such projects include stream channel stabilization, meadow rehabilitation and revegetation of degraded sites. Watershed condition surveys are scheduled periodically and are undertaken in response to disasters such as flood, fire, earthquake and avalanche.

19. Wild And Scenic Rivers

A. Wild and Scenic River Inventory and Planning
Wild and Scenic River inventories, preparation and review of Wild and Scenic River management plans for designated Wild and Scenic Rivers. Includes environmental reports as

well as Congressional or administrative studies and nominations for candidate Wild and Scenic Rivers: Includes coordination for non-National Forest lands impacted by nominations.

B. Wild and Scenic River Management
Management of the Wild and Scenic River resource and its use to establish standards and management objectives developed in approved Wild and Scenic River management plans. Includes administration, operation and maintenance within designated Wild, Scenic, or Recreational rivers.

C. Proposed Wild and Scenic River Management
Management of proposed Wild and Scenic River segments: to protect the free flowing condition of the river; to preserve and enhance their outstandingly remarkable values; and to maintain conditions at the highest possible Wild, Scenic or Recreational classification for which the segment is eligible. Includes administration, operation and maintenance within 1/4 mile on each side of the high water elevation.

D. Alternate Management
Management of river segments that are eligible but not proposed for Wild and Scenic River status. Identified Wild and Scenic values are protected through Alternate Management such as Wilderness, Near Natural, SIAs, and RNAs. See Appendix E (EIS) Wild and Scenic River Study.

20. Wilderness

A. Wilderness Inventory and Planning
Wilderness inventories and studies for designated, proposed and candidate areas. Also includes preparation and review of Wilderness management plans for designated Wilderness. Includes environmental reports and Congressional recommendations for candidate areas.

B. Wilderness Management
Management of the Wilderness resource and its use to establish standards and management objectives developed in approved Wilderness management plans. Includes administration, operation, and maintenance.

1. **Emigrant Wilderness Opportunity Classes**: every acre of the Emigrant Wilderness fits into one of the four Opportunity Classes described in Table 3[1]. Opportunity Classes represent land areas with a common management emphasis and similar resource concerns. Each Opportunity Class represents an opportunity for Wilderness purposes that is generated by a particular combination of social, resource and management conditions. The term “unnoticeable does not convey an expectation that these areas would be unused, but that the impacts from use would be barely noticeable to the average user (observer).
2. **Mokelumne Wilderness Opportunity Classes**: every acre of the Mokelumne Wilderness fits into one of the four Opportunity Classes described in Table 4[2]. Opportunity Classes represent land areas with a common management emphasis and similar resource concerns. Each Opportunity Class represents an opportunity for Wilderness purposes that is generated by a particular combination of social, resource and management conditions.

C. Proposed Wilderness Management
Management of the proposed Wilderness resource and its use to protect and enhance Wilderness characteristics. Includes administration, operation and maintenance.

[1] Emigrant Wilderness Management Direction, Forest Plan Amendment, USDA Forest Service 1998
[2] Mokelumne Wilderness Management Guidelines, Forest Plan Amendment, USDA Forest Service 2000

Table 3 Emigrant Wilderness Opportunity Class Desired Condition Objectives

	Opportunity Class IV	Opportunity Class III	Opportunity Class II	Opportunity Class I
Natural Environment	Ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces (see FSM 2320.2). Localized human uses may have limited effects in some areas.	Ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces (see FSM 2320.2). Localized human uses may have limited effects in few areas.	Ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces (see FSM 2320.2). Localized human uses may have limited effects in very few areas.	Ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces (see FSM 2320.2). No noticeable effects from human uses.
Aquatic	Human influences on aquatic life and hydrologic processes are minimal.		Human influences on aquatic life and hydrologic processes are unnoticeable in most areas.	Human influences on aquatic life and hydrologic processes are unnoticeable.
Riparian and Terrestrial	Human influences on soils, vegetation and woody debris accumulation are minimal. Wildlife use patterns may show seasonal, temporary alterations due to human influences but are not permanently altered.		Human influences on soils, vegetation and woody debris accumulation are unnoticeable in most areas. Wildlife use patterns may show brief, temporary alterations due to human influences but are not permanently altered.	Human influences on soils, vegetation and woody debris accumulation are unnoticeable. Wildlife use patterns show no noticeable alterations due to human influences.
Atmospheric	Class 1 airshed standards of the Clean Air Act are met, air quality related values are protected and no significant deterioration is allowed.			
Human Environment	The imprint of human influences is substantially unnoticeable. The opportunity for solitude is low to outstanding.	The imprint of human influences is substantially unnoticeable. The opportunity for solitude is moderate to outstanding.	The imprint of human influences is unnoticeable in most areas. The opportunity for solitude is high to outstanding.	The imprint of human influences is unnoticeable. The opportunity for solitude is outstanding.
Recreation	The opportunity for a primitive, unconfined recreation experience is low to outstanding.	The opportunity for a primitive, unconfined recreation experience is moderate to outstanding.	The opportunity for a primitive, unconfined recreation experience is high to outstanding.	The opportunity for a primitive, unconfined recreation experience is outstanding.
Challenge	The opportunity to utilize a high degree of skill and self reliance, while experiencing risk and challenge is low to outstanding.		The opportunity to utilize a high degree of skill and self reliance, while experiencing risk and challenge is moderate to outstanding.	The opportunity to utilize a high degree of skill and self reliance, while experiencing risk and challenge is outstanding.
Trails	Trails may be common, consisting of non-system historic ways, and primary and secondary system trails.		Trails are few, consisting of non-system historic ways, and secondary system trails.	Trails are rare to non-existent, consisting of historic ways.
Facilities, Structures and Signing	Facilities, structures and signing may be utilized for resource protection, administration or Wilderness purposes.			Facilities, structures and signing may be utilized for resource protection when other less obtrusive measures have been exhausted.
Cultural Resources	Prehistoric sites may be evaluated but not disturbed (outside the evaluation). Contemporary Native American sites are not impacted by non-native activities. Management of Historic structures will be consistent with opportunity class objectives.			
Resource Interpretation	Off-site information is readily available for the enjoyment and education of visitors. Prehistoric and cultural sites are not interpreted.		An element of discovery is maintained for the enjoyment of visitors. Prehistoric and cultural sites are not interpreted.	
Management Objectives	Administrative activities are the minimum necessary to ensure compliance with Class IV objectives. Education is conducted on site as well as off site. Scientific uses and monitoring must be Wilderness dependent and consistent with Class IV objectives.	Administrative activities are the minimum necessary to ensure compliance with Class III objectives. Education is conducted on site as well as off site. Scientific uses and monitoring must be Wilderness dependent and consistent with Class III objectives.	Administrative activities are the minimum necessary to ensure compliance with Class II objectives. Education is conducted off site. Scientific uses and monitoring must be Wilderness dependent and consistent with Class II objectives.	Administrative activities are the minimum necessary to ensure compliance with Class I objectives. Education is conducted off site. Scientific uses and monitoring must be Wilderness dependent and consistent with Class I objectives.

Table 4 Mokelumne Wilderness Opportunity Class Desired Condition Objectives

	Opportunity Class 1	Opportunity Class 2	Opportunity Class 3	Opportunity Class 4
Resource Conditions	Ecosystems unaffected by human manipulation and influences, plants and animals develop and respond to natural forces. (FSM 2320.02)			
	Characterized by natural environment predominantly unmodified by human activity and influences.	Characterized by natural environment primarily unmodified by human activity and influences.		
Air	Class 1 air quality standards are met. AQRVs are protected while allowing ecological processes (fire) to function.			
Watershed	Watershed conditions are primarily a result of ecological processes and not human caused impacts and influences.			
Soils	Soil conditions are primarily a result of ecological processes and not human caused impacts and influences.			
	Soil displacement and erosion from human activity is not measurably different from naturally occurring areas. Human caused compaction does not prevent natural plant establishment and growth.	Soil displacement and erosion from human activity is not measurably different from naturally occurring areas. Minor localized compaction and disturbance of duff may occur in camping areas.	Soil disturbance and erosion resulting from human activities occurs at a rate similar to natural processes. Localized compaction and disturbance of duff may occur in camping and stock use areas.	
Riparian	Condition of riparian areas is the result of natural ecological processes and not human caused impacts and influences.			
Vegetation	Natural ecological processes, not human caused impacts and influences, determine the composition and distribution of plant communities.			
	Vegetation loss at campsites and travel routes is minor, temporary, recovers annually and is not apparent to most visitors.	Minor localized loss of vegetation may occur; most impacts recover annually and are apparent to few visitors.	Localized moderate loss of vegetation may occur in camping areas and where stock are held.	
Fish and Wildlife	Natural ecological processes, rather than human actions and influences, determine the presence, abundance, distribution and behavior of wildlife species.			
	Visitor use may rarely, and only temporarily, displaces wildlife.	Temporary displacement of wildlife may occur with no cumulative negative effect on population viability.		Displacement of wildlife may occur adjacent to trail systems and near camping areas during high use season.
Campsites	Prevent new campsites from becoming established. Where available encourage visitors to use established acceptable campsites. In low use areas encourage visitors to disperse use to prevent new site formation.			
	Very few campsites are evident.	There are few established campsites, and campsite density is low.	Established campsites are present. Campsite density is low to moderate.	Where camping is allowed, there is a moderate density of established campsites. The number of sites accommodates use within acceptable limits to prevent formation of new sites.
Trails	No new trails will be developed inside the wilderness except as a resource protection measure.			
	No system trails, travel is cross-country or by unmaintained route.	Few system trails and few user created trails.	A moderate system of developed trails.	A well developed system of trails.

Forestwide Standards and Guidelines

The Forestwide Standards and Guidelines provide management direction which applies to all Forest lands. These Standards and Guidelines are necessary to implement the Forest Plan in conformance with Regional Management direction and legal requirements (such as Clean Water Act, Clean Air Act, National Historic Preservation Act, National Forest Management Act, Endangered Species Act, and other legislation and regulations such as 36 CFR 219.13). They will be used at the project level as an integral part of interdisciplinary planning for all projects and activities. The Standards and Guidelines are grouped alphabetically by resource1.

Air Quality

Practices	General Direction	Standards and Guidelines
Air Resource Inventory and Monitoring (1-A)	Monitor air quality to determine effects on forest resources from upwind sources and forest management activities. Emphasis will be placed on monitoring air quality related values (AQRVs) in Class I airsheds. This includes measuring condition and trend of sensitive air pollution receptors such as lakes and streams, visibility and such vegetation as ponderosa and Jeffrey pines and certain lichens. The objective of monitoring is to maintain or improve air quality to meet Federal and State Clean Air Act regulations. Class I airsheds cover Wilderness lands enacted prior to 1977. Class II airsheds cover all other forest lands, including Wilderness enacted since 1977 with the exception of new acres added to existing Class I areas. These new acres are also Class I.	1. Class I airsheds - Identify, inventory and monitor air quality related values (AQRVs). This includes visibility, water quality and certain trees and lichens. 2. Class II airsheds - Identify, monitor and regulate any pollutants resulting from forest management activities. This includes road dust and wood smoke and vehicle emissions from areas of concentrated use.
Smoke Management (1-B)	Prescribed fire shall be conducted so that smoke emissions are the lowest achievable, Best Available Control Measures (BACMs) will be applied to ensure emission reductions.	1. Class I airsheds - prescribed fire shall meet particular visibility and other standards of the Federal and State. Clean Air Acts. 2. Class II airsheds - prescribed fire shall meet standards for Class II areas. Smoke emissions which drift into Class 1 airsheds shall not exceed standards for these areas.
Review of PSD (Prevention of Significant Deterioration) Applications (1-C)	Review all PSD permit applications which may result in an adverse impact on Class I areas. Note: PSD is a part of the Federal Clean Air Act designed to regulate emissions from new major stationary sources of pollution.	Respond with a thorough analysis in a timely manner to all PSD applications. Advise the Environmental Protection Agency (EPA) and the California Air Resources (CARB) of analysis results.

Cultural Resources

Practices	General Direction	Standards and Guidelines
Cultural Resource Inventory and Evaluation (2-A)	Complete a cultural resource inventory prior to any land disposal action or any Forest or Forest- permitted or assisted action, activity or program that has the potential of altering prehistoric or historic cultural values to identify all potentially eligible cultural properties which may be affected (36 CFR 219.24).	Field survey coverage intensity shall be determined according to the Secretary of Interior's Standards and Guidelines on Archaeology and Historic Preservation and California Office of Historic Preservation Archaeological Survey Guidelines. Follow site recording methods established by the California Office of Historic Preservation Archaeological Site Record Handbook. Follow the standards for inventory reports in the Secretary of the Interior's Standards and Guidelines on Archaeology and Historic Preservation.

[1] Practices column indicates the source of the direction if other than the original 1991 Forest Plan (see Forest Plan Amendments)

Practices	General Direction	Standards and Guidelines
		Perform controlled sample surveys in designated Wilderness. Consult with members of the potentially affected local Native American community to identify specific locations and issues.
	Assess the scientific, historic and ethnic significance for each cultural property before determining further treatment (36 CFR 219.24).	Use appropriate Programmatic Agreements and Treatment Plans whenever possible. Apply the National Register of Historic Places criteria in 36 CFR 60 and regulations in 36 CFR 63 to determine the eligibility of a cultural property to the National Register. Use FSM 2361, FSM 1680, and Advisory Council on Historic Preservation's "Treatment of Archaeological Properties: A Handbook", and the traditional values of local Miwok, Washoe and Piute Indian communities as guidelines for evaluating significance.
	Evaluate the effect of Forest undertakings on the resource.	Apply the Criteria of Effect in 36 CFR 800, and follow FSM 2361 for determining the effect of an undertaking.
Cultural Resource Protection (2-B)	All identified cultural resources are to be protected until they are evaluated. The integrity and significant values of eligible properties and National Historic Landmarks are to be protected. When necessary, mitigative excavation or data recovery may be accomplished.	Use the guidelines in FSM 2361 and FSM 1680 for developing and implementing protective measures. Comply with 36 CFR 800 regulations and follow the guidelines in 36 CFR 66, FSM 2361, and the 13 principles in the "Treatment of Archaeological Properties" Handbook (ACHP). Conduct compliance inspections on all special use permits containing cultural resource stipulations or conditions. Protect documents, photographs and other information relevant to the administrative, social and contextual history of the Forest for research and public use. Utilize law enforcement patrols to help prevent site vandalism and conduct law enforcement investigations when cultural resources are impacted using ARPA, 36 CFR 261.9, and other applicable laws and regulations.
Cultural Resource Enhancement and Interpretation (2-C)	Plan interpretation, research and restoration projects for the benefit of the public and of cultural resources. Treatments of cultural properties, including maintenance of historic properties, should be appropriate to their assessed values (as documented in the Statement of Significance in the Request for Determination of Eligibility and National Register nomination form), the state of knowledge and methods of cultural resource disciplines, and the public interest. The significant values of National Register and eligible historic structures shall be conserved by physical protection and maintenance or recording to professional standards if physical preservation is not possible.	Work with Interpretive Services to develop high quality brochures, publications and/or audio-visual presentations. Work with cooperators to develop high quality interpretive, stabilization, and/or restoration projects. Comply with 36 CFR 800 regulations and follow the guidelines in 36 CFR 66, FSM 2361 and the 13 principles in the "Treatment of Archaeological Properties" Handbook (ACHP). Issue permits under the Archaeological Resources Protection Act of 1979 (P.L. 96-95) for non-Federal archaeological research projects on the Forest. Encourage non-Federal research projects on the Forest. Encourage the Sierra Miwok, Washoe, and Mono Lake Paiute to contribute to the Forest's cultural resource management activities, to enhance public understanding of their traditional and contemporary cultures.

Diversity

Practices	General Direction	Standards and Guidelines
Biological Diversity Management (3-A)	Provide for diversity of wildlife and plant communities to meet the overall objectives of the land management plan.	**Tree species**: Reforestation and thinning projects will attempt to maintain the species composition of the major forest types existing where the projects occur.

Fire and Fuels

Practices	General Direction	Standards and Guidelines
Fire and Fuels Management (4-A and 4-B) **SNFPA**[1]	Strategically place area fuels treatments across the landscape to interrupt fire spread and achieve conditions that: (1) reduce the size and severity of wildfire and (2) result in stand densities necessary for healthy forests during drought conditions. Complete a landscape-level design of area treatment patterns prior to project-level analysis. Develop treatment patterns using a collaborative, multi-stakeholder approach. Determine the size, location, and orientation of area fuels treatments at a landscape-scale, using information about fire history, existing vegetation and fuels condition, prevailing wind direction, topography, suppression resources, attack times, and accessibility to design an effective treatment pattern. The spatial pattern of the treatments is designed to reduce rate of fire spread and fire intensity at the head of the fire. Strategic placement of fuels treatments should also consider objectives for locating treatment areas to overlap with areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Avoid PACs to the greatest extent possible when locating area treatments. Incorporate areas that already contribute to wildfire behavior modification, including timber sales, burned areas, bodies of water, and barren ground, into the landscape treatment area pattern. Identify gaps in the landscape pattern where fire could spread at some undesired rate or direction and use treatments (including maintenance treatments and new fuels treatments) to fill identified gaps. Vegetation within treatment areas should be modified to meet desired surface ladder, and crown fuel conditions as well as stand densities necessary for healthy forests during drought conditions. Site specific prescriptions should be designed to reduce fire intensity, rate of fire spread, crown fire potential, mortality in dominant and co-dominant trees, and tree density. Managers should consider such variables as the topographic location of the treatment area, slope steepness, predominant wind direction, and the amount and arrangement of surface, ladder, and crown fuels in developing fuels treatment prescriptions. Where young plantations (generally Pacific Southwest Region size classes 0x, 1x, 2x) are included within area treatments, apply the necessary silvicultural and fuels reduction treatments to: (1) accelerate the development of key habitat and old forest characteristics, (2) increase stand heterogeneity, (3) promote hardwoods, and (4) reduce risk of loss to wildland fire. In size class 2x plantations, treatments should be designed to reduce fire intensity, rate of fire spread and tree mortality. Design a sequence of fuel reduction projects to achieve the standards below. Plantations (0x-2x) ▪ 3 inches and smaller surface fuel load: less than 5 tons per acre, ▪ less than 0.5 foot fuel bed depth, ▪ stocking levels that provide well-spaced tree crowns (for example, approximately 200 trees per acre in 4 inch dbh trees), ▪ less than 50% surface area with live fuels (brush), and ▪ tree mortality less than 50% of the existing stocking under 90th percentile fire weather conditions (2x type) Design mechanical treatments in brush and shrub patches to remove the material necessary to achieve the following outcomes from wildland fire under 90th percentile fire weather conditions: (1) wildland fires would burn with an average flame length of 4 feet or less and (2) fire line production rates would be doubled. Treatments should be effective for more than 5 to 10 years. Design a sequence of fuel reduction treatments in conifer forest types (including 3x plantation types) to achieve the following standards within the treatment area: ▪ an average of 4-foot flame length under 90th percentile fire weather conditions. ▪ surface and ladder fuels removed as needed to meet design criteria of less than 20 percent mortality in dominant and co-dominant trees under 90th percentile weather and fire behavior conditions. ▪ tree crowns thinned to meet design criteria of less than 20%probability of initiation of crown fire under 90th percentile weather conditions.	
Activity Fuels (4-B)	All management activities which generate woody residues will have an approved fuel treatment project plan. This plan will describe the methods of treatment to be used, the estimated total cost of treatment, method of funding, responsible parties to complete treatment, and necessary measures to maintain the acceptable fuel profile. The scope of the plan should encompass the overall area affected by the activity and not be limited to each individual unit. The fuel treatments identified will meet the minimum level of treatment as described in the standards and guidelines. The fuel bed will be expressed in terms of Resistance to Control (chains/person-hour handling	

[1] SNFPA direction does not apply within the Stanislaus-Tuolumne Experimental Forest (SNFPA ROD, p. 15; USDA Forest Service 2004)

Practices	General Direction	Standards and Guidelines
	construction rate) and Fire Intensity Levels (FIL) Treat Fuel According to Following Priorities: 1. All current and proposed management activities expected to generate woody re residues.	
Mechanical Thinning Treatments (4-B) **SNFPA**[1]	For all mechanical thinning treatments[2], design projects to retain all live conifers 30 inches dbh or larger. Exceptions are allowed to meet needs for equipment operability. For mechanical thinning treatments in mature forest habitat (CWHR types 4M, 4D, 5M, 5D, and 6) outside WUI defense zones: ▪ Design projects to retain at least 40 percent of the existing basal area. The retained basal area should generally be comprised of the largest trees. ▪ Where available, design projects to retain 5 percent or more of the total treatment area in lower layers composed of trees 6 to 24 inches dbh within the treatment unit. ▪ Design projects to avoid reducing pre-existing canopy cover by more than 30 percent within the treatment unit. Percent is measured in absolute terms (for example, canopy cover at 80 percent should not be reduced below 50 percent.) ▪ Within treatment units, at a minimum, the intent is to provide for an effective fuels treatment. Where existing vegetative conditions are at or near 40 percent canopy cover, projects are to be designed remove the material necessary to meet fire and fuels objectives. ▪ **Within California spotted owl Home Range Core Areas**: Where existing vegetative conditions permit, design projects to retain at least 50 percent canopy cover averaged within the treatment unit. Exceptions are allowed in limited situations where additional trees must be removed to adequately reduce ladder fuels, provide sufficient spacing for equipment operations, or minimize re-entry. Where 50 percent canopy cover retention cannot be met for reasons described above, retain at least 40 percent canopy cover averaged within the treatment unit. ▪ **Outside of California spotted owl Home Range Core Areas**: Where existing vegetative conditions permit, design projects to retain at least 50 percent canopy cover within the treatment unit. Exceptions are allowed where project objectives require additional canopy modification (such as the need to adequately reduce ladder fuels, provide for safe and efficient equipment operations, minimize re-entry, design cost efficient treatments, and/or significantly reduce stand density.) Where canopy cover must be reduced below 50 percent, retain at least 40 percent canopy cover averaged within the treatment unit. ▪ **Within California spotted owl PACs**: where treatment is necessary, remove only material needed to meet project fuels objectives. Focus on removal of surface and ladder fuels.	
Salvage (4-B) **SNFPA**[1]	Determine the need for ecosystem restoration projects following large, catastrophic disturbance events (wildfire, drought, insect and disease infestation, windstorm, and other unforeseen events). Objectives for restoration projects may include limiting fuel loads over the long term, restoring habitat, and recovering economic value from dead and dying trees. In accomplishing restoration goals, long-term objectives are balanced with the objective of reducing hazardous fuel loads in the short-term. Salvage harvest of dead and dying trees may be conducted to recover the economic value of this material and to support objectives for reducing hazardous fuels, improving forest health, re-introducing fire, and/or re-establishing forested conditions. ▪ Design projects to reduce potential soil erosion and the loss of soil productivity caused by loss of vegetation and ground cover. Examples are activities that would: (1) provide for adequate soil cover in the short term; (2) accelerate the dispersal of coarse woody debris; (3) reduce the potential impacts of the fire on water quality; and (4) carefully plan restoration/salvage activities to minimize additional short-term effects. ▪ Design projects to protect and maintain critical wildlife habitat. Examples are activities that would: (1) avoid areas where forest vegetation is still largely intact; (2) provide for sufficient quantities of large snags; (3) maintain existing large woody material as needed; (4) provide for additional large woody material and ground cover as needed; (5) accelerate development of mature forest habitat through reforestation and other cultural means; and (6) provide for a mix of seral stages over time. ▪ Design projects to manage the development of fuel profiles over time. Examples are activities that would: (1) remove sufficient standing and activity generated material to balance short-term and long-term surface fuel loading; and (2) protect remnant old forest structure (surviving large trees, snags, and large logs) from high severity re-burns or other severe disturbance events in the future. ▪ Design projects to recover the value of timber killed or severely injured by the disturbance. Examples are activities that would: (1) conduct timber salvage harvest in a timely manner to minimize value	

[1] SNFPA direction does not apply within the Stanislaus-Tuolumne Experimental Forest (SNFPA ROD, p. 15; USDA Forest Service 2004)
[2] Apply only to mechanical thinning harvests specifically designed to meet objectives for treating fuels and/or controlling stand densities.

Practices	General Direction	Standards and Guidelines
	loss; (2) minimize harvest costs within site-specific resource constraints; and (3) remove material that local managers determine is not needed for long-term resource recovery needs. In post fire restoration projects for large catastrophic fires (contiguous blocks of moderate to high fire lethality of 1,000 acres or more), generally do not conduct salvage harvest in at least 10 percent of the total area affected by fire. Use the best available information for identifying dead and dying trees for salvage purposes as developed by the Pacific Southwest Region Forest Health Protection Staff. Outside of WUI defense zones, salvage harvests are prohibited in PACs and known den sites unless a biological evaluation determines that the areas proposed for harvest are rendered unsuitable for the purpose they were intended by a catastrophic stand-replacing event. Consider ecological benefits of retaining small patches of mortality in old forest emphasis areas.	
Fire Prevention (4-A)	Fire prevention emphasis will be placed on those areas where greatest potential for loss to life, property and high value natural resources occur.	All California Public Resource Codes (PRCs) applicable to fire management activities and the Code of Federal Regulations (CFR) relating to fire prevention, detection, and pre-suppression will be enforced. Fire Prevention personnel will establish and participate in Cooperative Education Programs at schools, fairs, and other organized activities within their administrative zone of influence. This will be accomplished in conjunction with the California Department of Forestry and Fire Protection and county fire cooperative education efforts. Emphasize good fire prevention practices in Forest Service generated public information material, news releases, and public service announcements. All contractors working on National Forest land during fire season will be required to submit a fire plan for the people and equipment under their authority. The fire plan will also contain specific fire prevention requirements as determined by the Forest Service.
Fire Suppression (4-A)	Initial suppression action on wildfires will provide for the most reasonable probability of minimizing fire suppression costs and resource damage consistent with probable fire behavior, potential resource loss, environmental impacts, safety and smoke management considerations. In Fire Management Zones (See Map 6, Appendix I) where control is the only strategy that will be employed for initial suppression it is more cost effective to control fires at the smallest possible size. When fires escape the initial response, the selected alternative from the Escaped Fire Situation Analysis (EFSA) will determine future strategies. In Fire Management Zones where Control, Confine, or Contain suppression strategies exist, the maximum fire size objective as defined in the following Standards and Guidelines will be used to determine the appropriate suppression response. Once a fire is determined to have the potential to exceed, or exceeds, the maximum fire size objective, an EFSA will be prepared to determine the appropriate suppression strategy	Maintain a suppression capability within each Fire Management Zone (FMZ) which will control 97% of all wildfires within the Maximum Fire Size Objective (MFSO) at each Fire Intensity Level (FIL) by utilization of the appropriate fire suppression strategies as indicated in Table 5. Fire Suppression Tactics indicated in Table 6 will require appropriate line office approval for use in the Resource Management Areas indicated. When there is a reasonable choice, equipment used for constructing firelines will be restricted from operating on soils with erosion hazard rating of 9 or greater or on slopes steeper than 40 percent. (FSH 5109.17, FSM 5130)

<table>
<tr><th>Practices</th><th>General Direction</th><th>Standards and Guidelines</th></tr>
<tr><td></td><td>and control objectives.
Wildfires will not be used to accomplish resource management objectives.</td><td></td></tr>
<tr><td>Fire Suppression (4-A)</td><td colspan="2">Table 5 Maximum Fire Size Objectives
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<tr><th>Management Areas</th><th>FMZ[1]</th><th>FIL[2]</th><th>MFSO[3]</th><th>Strategy</th></tr>
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<tr><td>4-6</td><td>20</td><td>Control Contain Confine</td></tr>
<tr><td>Wilderness</td><td>4</td><td>1-6</td><td>100</td><td>Control Contain Confine</td></tr>
<tr><td>WDLF; SIA; SC; GF</td><td>5</td><td>1-6</td><td>10</td><td>Control</td></tr>
<tr><td>WDLF; EXP; SC; GF</td><td>6</td><td>1-6</td><td>10</td><td>Control</td></tr>
</table>
[1] Fire Management Zone [2] Fire Intensity Level [3] Maximum Fire Size Objective (acre)</td></tr>
<tr><td>Fire Suppression (4-A)</td><td colspan="2">Table 6 Fire Suppression Tactics
<table>
<tr><td>A. Aerial applied retardant colored
B. Aerial applied retardant clear
C. Helicopter use
D. Smokejumpers or cargo
E. Use of portable pumps
F. Use of chainsaws</td><td colspan="2">G. Snag Felling
H. Use of Motorized Vehicles
I. Hand constructed fireline
J. Helispot construction
K. Back firing
L. Dozer constructed fireline or trails</td></tr>
<tr><td>Management Areas</td><td>Fire Suppression Tactics Needing Approval
A B C D E F G H I J K L</td><td>Approving Official</td></tr>
<tr><td>Wilderness</td><td></td><td></td></tr>
<tr><td>Recommended Wilderness</td><td>H L</td><td>Forest Supervisor</td></tr>
<tr><td>Wilderness</td><td>C E F H J K</td><td>Forest Supervisor</td></tr>
<tr><td>Wilderness</td><td>L</td><td>Regional Forester</td></tr>
<tr><td>Wild And Scenic River</td><td></td><td></td></tr>
<tr><td>Recreational River</td><td>None</td><td></td></tr>
<tr><td>Scenic River</td><td>J L</td><td>Forest Supervisor</td></tr>
<tr><td>Wild River</td><td>H J L</td><td>Forest Supervisor</td></tr>
<tr><td>Near Natural</td><td>None</td><td></td></tr>
<tr><td>Wildlife</td><td>None</td><td></td></tr>
<tr><td>Special Interest Areas</td><td>J L</td><td>Forest Supervisor</td></tr>
<tr><td>Research Natural</td><td>J L</td><td>Forest Supervisor</td></tr>
<tr><td>Experimental Forest</td><td>None</td><td></td></tr>
<tr><td>Scenic Corridor</td><td>None</td><td></td></tr>
<tr><td>General Forest (GF91)[1]</td><td>None</td><td></td></tr>
<tr><td>Developed Recreation</td><td>None</td><td></td></tr>
<tr><td>Winter Sports</td><td>None</td><td></td></tr>
<tr><td>Developed Non-Recreation</td><td>None</td><td></td></tr>
</table>
[1] General Forest (GF91) differentiates the 1991 General Forest management area from the 2004 General Forest land allocation.</td></tr>
<tr><td>Fuel Break Construction and Maintenance (4-B)</td><td>Use fuel breaks to break up large expanses of continuous fuels, provide for firefighter access and safety, increase suppression opportunities, and provide pre-existing control points for prescribed fires.
Priority setting for establishing Fuel</td><td>Locations and Minimum Widths
1. Utilize strategic topographic features in the establishment of fuel breaks. The order of priority for locating such features and minimum widths are as follows:
Prominent ridge tops. Minimum widths shall be 250 feet
Flat areas or valleys where ground is level or nearly</td></tr>
</table>

Practices	General Direction	Standards and Guidelines
	Break Construction and Maintenance projects will consider the following factors: 1. Forest Service administrative sites or other Forest Service areas with high investment in buildings and facilities. 2. Areas that have high resource, economic, scenic, or historic value that cannot be replaced. 3. Protection of high value forest resource areas from high risk ignitions areas.	level. Minimum widths shall be 300 feet. Canyon bottoms or ravines are least desirable as fuelbreak areas. Minimum width shall be 350 feet. 2. Utilize existing and proposed road systems to provide access to and within the fuelbreak system. 3. Where necessary, agreements with private landowners will be executed to include private lands. Construction and Maintenance 1. Continuous vegetation under 12 feet tall should be broken up into naturally appearing clumps or islands of varied size and shape. Separation between clumps or islands should not provide horizontal fuel continuity across the fuel break or be positioned so that they act as a fire ladder into existing overstory. Finally, vegetation removal should be guided by the need for free movement of fire equipment throughout the fuel break. 2. All slash, snags, or other debris will be disposed of by piling, burning, chipping, or removal. 3. Fuelbreak design is to be guided by the Visual Quality Objectives for the area. It should include tying breaks into other natural or artificial openings. The overall appearance should fit into the natural land form. 4. Develop water sources where possible within the fuel break area. 5. Develop helispots, where possible, in close proximity to water sources. 6. Coordinate fuel breaks to minimize conflicts with off-highway vehicle use and management.
Plantation Design and Fire Protection Planning (4-B)	Fuel treatment and protection planning are incorporated into reforestation project plans for the establishment of plantations. The fuel treatment planning will comply with the standards set in the Activity Fuel Standards and Guidelines while still maintaining the productivity of the site. Minimum levels of protection planning are established in the following Standards and Guidelines.	Areas of continuous even-age plantation without fire defense system should not exceed the following acres: 1. Slope 0-30% - 100 acres 2. Slope 31-50% - 75 acres 3. Slope 51%+ - 50 acres The fire defense system should be designed to provide all of the following characteristics: 1. Provide a break in fuel continuity in both the horizontal and vertical plane. 2. Maintain a fuel profile that will permit suppression forces to meet the Maximum Fire Objective for the area by utilizing a combination of fuel treatments. 3. Provide for safe and efficient ingress and egress for suppression forces.
Prescribed Fire and Prescribed Natural Fire (4-A)	Prescribed fire will be considered as a management tool for all projects where it is shown to be cost effective and has the ability to meet resource management objectives.	Where necessary, agreements with private landowners are executed to include private lands.
	Planned ignitions and unplanned ignitions (lightning) within Wilderness will be used only when the following Standards and Guidelines are met.	Decision criteria and implementation guidelines are developed and approved as a part of the Forest Fire Management Action Plan.
Private Land Within and Adjacent to National Forest (4-A)	The Stanislaus National Forest will offer leadership among state, local and private entities for lands adjacent to, and intermingled with, the National Forest to enhance the efficiency and effectiveness of fire management activities. This will be accomplished	Prevention: Assist in the development of fire ordinances at both the state and county levels. Cooperate with California Department Forestry and Fire Protection (CDF) and local fire districts to develop good understanding of fire ordinances and State and Federal fire laws in the community. Participate with CDF and local private land owners in fuels

Practices	General Direction	Standards and Guidelines
	through a combined analysis process to maximize the efficiency of all concerned and maintain an adequate level of fire protection.	activities management such as Vegetative Management Program (VMP). Provide assistance to local residential areas, mountain communities, and organizational camps in the development of fuel breaks and other fire defense systems.
Roadside Fuel Modification (4-B)	To create a roadside fuel profile which will: 1. Limit the spread and intensity of roadside ignitions until initial attack units arrive. 2. Provide firefighter access to other fire defense systems. 3. Provide a line of defense for control of wildfire.	Maintain roadside fuel bed to the Activity Fuels Standards and Guidelines on all roads that have been identified for fire defense purposes. Treatment area widths for both sides of road as measured (slope distance) from road edge are as follows: 1. Slope 0-30% - 50 feet 2. Slope 30-50% - 75 feet 3. Slope 51+% - 100%

Fish and Wildlife

Practices	General Direction	Standards and Guidelines
Fish and Wildlife Habitat Administration (5-A)	Provide habitat for diverse and viable populations of all native and desired non-native wildlife and fish and all native plants. Maintain and improve habitat for Federally listed Threatened and Endangered species and give special attention to sensitive species to see that they do not become Threatened or Endangered. Cooperate with State and Federal agencies in meeting mutual goals.	Management practices will allow for medium to high quality habitat for management indicator species, where potential allows, according to current habitat capability models for these species. Ensure that habitat needs of sensitive species are considered and that habitat needs of Federally listed Threatened and Endangered species are met. Cooperate with the California Department of Fish and Game, U.S. Fish and Wildlife Service and other concerned agencies in the preparation and implementation of Federal and State Endangered Species recovery plans, the California Fish and Wildlife Management Plan (Sikes Act) and other species habitat plans.
Willow Flycatcher (5-A) **SNFPA**[1]	**Site Occupancy Definitions** The following definitions apply the standards and guidelines for willow flycatcher conservation. **Occupied Willow Flycatcher Site**: a site where willow flycatcher(s) have been observed sometime during the breeding season since 1982. For a site to be designated as an occupied site, it must meet the following criteria: ▪ Observation date(s) between 1982 and 2000: 1. Willow flycatcher observed between 15 June and 1 August; OR 2. Willow flycatcher observed between June 1 - June 14 or August 2 –August 15, unless the willow flycatcher was: ▫ Absent during surveys conducted between June 15 and July 15 in the same year ▫ Absent during June 15 –July 15 surveys in multiple subsequent years; or ▫ Detected at a site that is clearly outside of known habitat requirements. • For inclusion as an occupied willow flycatcher site, willow flycatcher(s) must be identified by the Fitz-bew song or in-hand examination. Museum skins that are identified as willow flycatchers may also be used if the collection date falls within the range of dates listed above. • Nests and egg sets in museum collections infer site occupancy, regardless of collection month and day. • All sites where willow flycatchers were identified using these criteria are included in the dataset, unless the site is known to have undergone an extreme site conversion rendering it incapable of supporting willow flycatchers currently and in the future (e.g., wetland conversions or inundation by reservoir). ▪ Observation date(s) in 2001 or later: • Willow flycatcher site occupancy will be determined based upon the criteria defined in the standardized protocol.	

[1] SNFPA direction does not apply within the Stanislaus-Tuolumne Experimental Forest (SNFPA ROD, p. 15; USDA Forest Service 2004)

Practices	General Direction	Standards and Guidelines
	Historically Occupied Willow Flycatcher Site: a site where occupancy is only known from pre-1982 or one that has been surveyed for at least six years over a 10-year period and consistently found to contain no willow flycatchers during the breeding season. For a site to be designated as historically occupied, it must meet the following criteria: ▪ Sighting meets the criteria of an occupied willow flycatcher site but the most recent date of detection is prior to 1982 OR ▪ Surveys across a minimum of six separate years during a 10-year period must have been performed (alternatively, surveys may be conducted annually for six years within a six- to 10-year period). • Surveys conducted since June 2000 must be in compliance with the current standardized willow flycatcher survey protocol guidelines. • If a historically occupied site is determined as occupied, the site is upgraded to occupied status until or unless the site meets the definition of historically occupied again. **Conditionally Occupied Willow Flycatcher Site**: a site documented in the willow flycatcher database at the time of the Record of Decision that does not meet the criteria for an occupied site or a historically occupied site. For these sites, either the month and date of detection are not known or the month and date occur outside of the breeding season as defined in the survey protocol. There are five sites in the existing database where survey documentation necessary to determine if the observation meets the criteria for an occupied site is missing or incomplete. These sites are assigned to a temporary category of conditionally occupied until either they receive one survey cycle or the missing information is discovered and documented, at which time they will either be found to be occupied or they will be dropped from the database. Once these sites are resolved, this category is no longer used. **For occupied and historically occupied willow flycatcher sites**: Initiate a 4-year cycle for willow flycatcher surveys. Conduct surveys to established protocols in all sites the first year. Second year surveys will be conducted in those sites where willow flycatchers were not found. Surveys will not be conducted in the third and fourth years. The survey cycle will then be repeated. **For conditionally occupied sites**: Surveys will be conducted in the first year. If willow flycatchers are found, these sites will be managed as occupied sites. If not found, these sites will be surveyed in the second year. If birds are not found in the second year, these sites will be dropped from the willow flycatcher site database. In meadows with **occupied willow flycatcher sites**, allow only late-season grazing (after August 15) in the entire meadow. This standard and guideline may be waived if an interdisciplinary team has developed a site-specific meadow management strategy. This strategy is to be developed and implemented in partnership with the affected grazing permittee. The strategy objectives must focus on protecting the nest site and associated habitat during the breeding season and the long-term sustainability of suitable habitat at breeding sites. It may use a mix of management tools, including grazing systems, structural improvements, and other exclusion by management techniques to protect willow flycatcher habitat. In willow flycatcher sites receiving late-season grazing, monitor utilization annually using regional range analysis and planning guide. Monitor willow flycatcher habitat every 3 years using the following criteria: rooting depth cores for meadow condition, point intercepts for shrub foliar density, and strip transects for shrub recruitment and cover. Meadow condition assessments will be included in a GIS meadow coverage. If habitat conditions are not supporting the willow flycatcher or trend downward, modify or suspend grazing. For **historically occupied willow flycatcher sites**, assess willow flycatcher habitat suitability within the meadow. If habitat is degraded, develop restoration objectives and take appropriate actions (such as physical restoration of hydrological components, limiting or re-directing grazing activity, and so forth) to move the meadow toward desired conditions. Evaluate site condition of **historically occupied willow flycatcher sites**. Those sites that no longer contain standing water on June 1 and a deciduous shrub component and cannot be reasonably restored may be removed from the willow flycatcher site database. As part of the project planning process, survey **emphasis habitat** within 5 miles of occupied willow flycatcher sites to determine willow flycatcher occupancy. Emphasis habitat is defined as meadows larger than 15 acres that have standing water on June 1 and a deciduous shrub component. Use established protocols to conduct these surveys. If these surveys determine willow flycatcher occupancy, add these to the database of occupied willow flycatcher sites and include them in the 4-year survey cycle of willow flycatcher sites described above. Evaluate proposals for new concentrated stock areas (for example, livestock handling and management facilities, pack stations, equestrian stations, and corrals) located within 5 miles of occupied willow flycatcher sites.	

Practices	General Direction	Standards and Guidelines
Yosemite Toad (5-A) **SNFPA**[1]	Exclude livestock from standing water and saturated soils in wet meadows and associated streams and springs occupied by Yosemite toads or identified as "essential habitat" in the conservation assessment for the Yosemite toad during the breeding and rearing season (through metamorphosis). Wet meadow habitat for Yosemite toads is defined as relatively open meadows with low to moderate amounts of woody vegetation that have standing water on June 1 or for more than 2 weeks following snow melt. Specific breeding and rearing season dates will be determined locally. If physical exclusion of livestock is impractical, then exclude grazing from the entire meadow. This standard does not apply to pack and saddle stock. Exclusions in this standard and guideline may be waived if an interdisciplinary team has developed a site-specific management plan to minimize impacts to the Yosemite toad and its habitat by managing the movement of stock around wet areas. Such plans are to include a requirement for systematically monitoring a sample of occupied Yosemite toad sites within the meadow to: (1) assess habitat conditions and (2) assess Yosemite toad occupancy and population dynamics. Every 3 years from the date of the plan, evaluate monitoring data. Modify or suspend grazing if Yosemite toad conservation is not being accomplished. Plans must be approved by the authorized officer and incorporated into all allotment plans and/or special use permits governing use within the occupied habitat. Complete one survey cycle in suitable habitat for the Yosemite toad within this species' historic range to determine presence of Yosemite toads.	
Management Indicator Species (5-A) **SNFMISA**		

Habitat or Ecosystem Component	Management Indicator Species	Scientific Name	Monitoring Strategy (at the Sierra scale)
Riverine and Lacustrine	aquatic macroinvertebrates	n/a	Index of Biological Integrity and Habitat
Shrubland (west-slope chaparral types)	fox sparrow	*Passerella iliaca*	Distribution Population and Habitat
Oak-associated Hardwood and Hardwood/Conifer	mule deer	*Odocoileus hemionus*	
Riparian	yellow warbler	*Dendroica petechia*	
Wet Meadow	Pacific tree frog	*Pseudacris regilla*	
Early Seral Coniferous	mountain quail	*Oreortyx pictus*	
Mid Seral Coniferous	mountain quail	*Oreortyx pictus*	
Late Seral Open Canopy Coniferous	blue grouse	*Dendragapus obscurus*	
Late Seral Closed Canopy Coniferous	California spotted owl	*Strix occidentalis occidentalis*	
	American marten	*Martes americana*	
	northern flying squirrel	*Glaucomys sabrinus*	
Snags in Green Forest	hairy woodpecker	*Picoides villosus*	
Snags in Burned Forest	black-backed woodpecker	*Picoides arcticus*	

Stream and Lake Fisheries – Structural Improvements and Maintenance (5-B)	Provide medium to high quality habitat for resident trout species (rainbow, brown, and brook trout) according to the habitat capability models for these species.	Provide for fish passage on streams where fish migrate, in accordance with FSM 2606.32, Region 5 Supplement 38.

[1] SNFPA direction does not apply within the Stanislaus-Tuolumne Experimental Forest (SNFPA ROD, p. 15; USDA Forest Service 2004)

Practices	General Direction	Standards and Guidelines
Stream and Lake Fisheries – Non-Structural Improvements and Maintenance (5-C)	Provide medium to high quality habitat for resident trout species (rainbow, brown, and brook trout) according to the habitat capability models for these species.	Maintain high water quality values in accordance with the Standards and Guidelines for watershed. Retain streamside vegetation so that at least 60% of the stream surface is shaded from 11 AM to 4 PM from June 1 to September 30 to maintain water temperatures at less than 65 degrees for those perennial streams which do not normally exceed this temperature.
Habitat Connectivity for Old Forest Associated Species (5-E) **SNFPA**[1]	Minimize old forest habitat fragmentation. Assess potential impacts of fragmentation on old forest associated species (particularly fisher and marten) in biological evaluations. Assess the potential impact of projects on the connectivity of habitat for old forest associated species. Consider retaining forested linkages (with canopy cover greater than 40 percent) that are interconnected via riparian areas and ridgetop saddles during project-level analysis. If fishers are detected outside the southern Sierra fisher conservation area, evaluate habitat conditions and implement appropriate mitigation measures to retain suitable habitat within the estimated home range. Institute project-level surveys over the appropriate area, as determined by an interdisciplinary team. Identify areas for acquisition, exchange, or conservation easements to enhance connectivity of habitat for old forest associated species.	
Bald Eagle (5-E)	Meet the Forest's share of the bald eagle recovery plan goal of three active breeding sites.	For each bald eagle territory identified on the Bald Eagle Habitat Map (Map 2, Appendix I) provide 300 acres of bald eagle target nesting stands. These stands should be 150 years or older, multi-storied, having 20-40% canopy closure with an average of 10 suitable nest trees per acre where possible. Preferred species are ponderosa pine, sugar pine, and Douglas fir which are 100 to 200 feet high and dominant in the overstory. Manage for 3 to 4 hard snags per acre with the largest sizes equal to the largest trees available. Provide a ¼ mile buffer between target nest stands and developed recreation facilities. When nesting bald eagles are found, implement suitable restrictions on nearby activities based on the Regional habitat management guidelines and the habitat capability model for the species. Protect all historic and active nests, as required by the Bald Eagle Protection Act and the Migratory Bird Treaty Act.
California Spotted Owl Surveys (5-E) **SNFPA**[1]	Conduct surveys in compliance with the Pacific Southwest Region's survey protocols during the planning process when proposed vegetation treatments are likely to reduce habitat quality in suitable California spotted owl habitat with unknown occupancy. Designate California spotted owl protected activity centers (PACs) where appropriate based on survey results.	
Great Gray Owl Surveys (5-E) **SNFPA**[1]	Conduct additional surveys to established protocols to follow up reliable sightings of great gray owls.	
Northern Goshawk Surveys (5-E) **SNFPA**[1]	Conduct surveys in compliance with the Pacific Southwest Region's survey protocols during the planning process when vegetation treatments are likely to reduce habitat quality are proposed in suitable northern goshawk nesting habitat that is not within an existing California spotted owl or northern goshawk PAC. Suitable northern goshawk nesting habitat is defined based on the survey protocol.	
Tree Species Composition (5-E) **SNFPA**[1]	Promote shade intolerant pines (sugar and Ponderosa) and hardwoods.	

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Practices	General Direction	Standards and Guidelines
Wolverine and Sierra Nevada Red Fox Detections (5-E) **SNFPA**[1]	Detection of a wolverine or Sierra Nevada red fox will be validated by a forest carnivore specialist. When verified sightings occur, conduct an analysis to determine if activities within 5 miles of the detection have a potential to affect the species. If necessary, apply a limited operating period from January 1 to June 30 to avoid adverse impacts to potential breeding. Evaluate activities for a 2-year period for detections not associated with a den site.	
Snags and Down Woody Material (5-G) **SNFPA**[1]	Determine down woody material retention levels on an individual project basis, based on desired conditions. Emphasize retention of wood in the largest size classes and in decay classes 1, 2, and 3. Consider the effects of follow-up prescribed fire in achieving desired down woody material retention levels. Determine snag retention levels on an individual project basis for vegetation treatments. Design projects to implement and sustain a generally continuous supply of snags and live decadent trees suitable for cavity nesting wildlife across a landscape. Retain some mid- and large diameter live trees that are currently in decline, have substantial wood defect, or that have desirable characteristics (teakettle branches, large diameter broken top, large cavities in the bole) to serve as future replacement snags and to provide nesting structure. When determining snag retention levels and locations, consider land allocation, desired condition, landscape position, potential prescribed burning and fire suppression line locations, and site conditions (such as riparian areas and ridge tops), avoiding uniformity across large areas. General guidelines for large-snag retention are as follows: ▪ westside mixed conifer and ponderosa pine types - four of the largest snags per acre ▪ red fir forest type - six of the largest snags per acre ▪ eastside pine and eastside mixed conifer forest types - three of the largest snags per acre ▪ westside hardwood ecosystems - four of the largest snags (hardwood or conifer) per acre ▪ where standing live hardwood trees lack dead branches - six of the largest snags per acre (where they exist to supplement wildlife needs for dead material). Use snags larger than 15 inches dbh to meet this guideline. Snags should be clumped and distributed irregularly across the treatment units. Consider leaving fewer snags strategically located in treatment areas within the WUI. When some snags are expected to be lost due to hazard removal or the effects of prescribed fire, consider these potential losses during project planning to achieve desired snag retention levels.	
Hardwood Management (5-I) **SNFPA**[1]	Where possible, create openings around existing California black oak and canyon live oak to stimulate natural regeneration. Manage hardwood ecosystems for a diversity of hardwood tree size classes within a stand such that seedlings, saplings, and pole-sized trees are sufficiently abundant to replace large trees that die. Retain the mix of mast-producing species where they exist within a stand. Retain all blue oak and valley oak trees except: (1) stand restoration strategies call for tree removal; (2) trees are lost to fire; or (3) where tree removal is needed for public health and safety. When planning prescribed fire or mechanical treatments in hardwood ecosystems: (1) consider the risk of noxious weed spread and (2) minimize impacts to hardwood ecosystem structure and biodiversity. During mechanical vegetation treatments, prescribed fire, and salvage operations, retain all large hardwoods on the westside except where: (1) large trees pose an immediate threat to human life or property or (2) losses of large trees are incurred due to prescribed or wildland fire. Large montane hardwoods are trees with a dbh of 12 inches or greater. Large blue oak woodland hardwoods are trees with a dbh of 8 inches or greater. Allow removal of larger hardwood trees (up to 20 inches dbh) if research supports the need to remove larger trees to maintain and enhance the hardwood stand. Prior to commercial and noncommercial hardwood and fuelwood removal in hardwood ecosystems, pre-mark or pre-cut hardwood trees to ensure that stand goals are met. Retain a diverse distribution of stand cover classes. During or prior to landscape analysis, spatially determine distributions of existing and potential natural hardwood ecosystems (Forest Service Handbook (FSH) 2090.11). Assume pre-1850 disturbance levels for potential natural community distribution. Work with province ecologists or other qualified personnel to map and/or model hardwood ecosystems at a landscape scale (approximately 30,000 to 50,000 acres). Include the following steps in the analysis: (1) compare distributions of potential natural hardwood	

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Practices	General Direction	Standards and Guidelines
	ecosystems with existing hardwood ecosystems; (2) identify locations where existing hardwood ecosystems are outside the natural range of variability for potential natural hardwood ecosystem distribution; and (3) identify hardwood restoration and enhancement projects. Include hardwoods in stand examinations. Encourage hardwoods in plantations. Promote hardwoods after stand-replacing events. Retain buffers around existing hardwood trees by not planting conifers within 20 feet of the edge of hardwood tree crowns.	
Recovery Species Management (5-L)	Management activities will comply with the Endangered Species Act.	Maintain information on the status and known locations of all species which are candidates or proposed for Federal listing as Threatened or Endangered. Conduct a Biological Evaluation for any project which may affect a species proposed for Federal listing. Modify or mitigate projects where necessary to avoid adverse impacts to habitats for species which are candidates or proposed for Federal listing.
Lahontan Cutthroat Trout (5-L)	Provide high quality habitat for Lahontan Cutthroat Trout according to the habitat capability model in order to maintain viable populations in the streams where it occurs.	Follow the management guidelines of the Forest Lahontan Cutthroat Trout Habitat Management Plan (1985) and the State of California's recovery plan (1986). Meet the Standards and Guidelines for resident trout. Maintain high water quality values and maintain or restore the integrity of riparian habitat in accordance with the Standards and Guidelines given under Watershed.
Peregrine Falcon (5-L)	Meet the Forest's share of the peregrine falcon recovery plan goals of two active breeding territories by providing superior nesting habitat at two nest sites.	For each peregrine falcon territory, avoid high levels of human activity near suitable nesting sites. When active nesting is found, restrict logging, road building and other disturbing activities within ½ mile of the nest site between March 1 and July 31. Manage territories to enhance habitat for common prey species such as band-tailed pigeons, woodpeckers, jays and robins. Utilize opportunities to fund peregrine reestablishment through hacking or cross-fostering until the species is delisted. Protect all historic and active nests, as required by the Migratory Bird Treaty Act.

Forest Pests

Practices	General Direction	Standards and Guidelines
Pest Management (6-A)	Insure optimal pest management with respect to environmental concerns, biological effectiveness, and economic efficiency while achieving resource management objectives (FSM 2140).	An integrated pest management (IPM) approach will be followed during the planning and implementation of all activities that influence the vegetation. Under this IPM approach, a full range of pest management alternatives, including cultural, biological, mechanical and chemical methods, will be considered and analyzed on a site-specific, project-level basis. The treatment method(s) will be selected through environmental analysis which will consider the environmental effects, treatment efficacy and cost effectiveness of each alternative. Monitoring and enforcement plans to implement specific measures will be determined during this site and project specific process. Pest detection, surveillance, evaluation, prevention, suppression and post-action evaluation are integral components of the integrated pest management approach (36 CFR 219.27(a) (3)).

Geology and Minerals

Practices	General Direction	Standards and Guidelines
Mining (7-A) **SNFPA**[1]	Ensure that plans of operation, reclamation plans, and reclamation bonds address the costs of: (1) removing facilities, equipment, and materials; (2) isolating and neutralizing or removing toxic or potentially toxic materials; (3) salvaging and replacing topsoil; and (4) preparing the seed bed and revegetating to meet the objectives of the land allocation in which the operation is located. Ensure that mine owners and operators limit new road construction, decommission unnecessary roads,	

[1] SNFPA direction does not apply within the Stanislaus-Tuolumne Experimental Forest (SNFPA ROD, p. 15; USDA Forest Service 2004)

Practices	General Direction	Standards and Guidelines
	and maintain needed roads consistent with Forest Service roads policy and management direction for the land allocation. Require mine reclamation to be conducted in a timely manner. Inspect and monitor mining-related activities on a regular basis to ensure compliance with laws, regulations, and operating plans. Base the frequency of inspections and monitoring on the potential severity of mining activity-related impacts. During mining-related activities, limit the clearing of trees and other vegetation to the minimum necessary. Clearing of vegetation should be pertinent to the approved phase of mineral exploration and development.	
Locatable Minerals (7-A)	Administer the locatable mineral management program on the Forest in accordance with applicable law, regulations and orders. The emphasis is to attain voluntary compliance from operators with regulations related to prospecting and development of mineral resources. All Standards and Guidelines are applicable except within: designated Wilderness, Wild portions of Wild and Scenic River corridors, administrative sites, hydro-electric area withdrawals and other withdrawn areas. Mineral related prospecting and development are subject to valid existing rights.	Require submission of a Notice of Intent or Plan of Operation for all mineral related activities where the potential for significant surface disturbance exists. Approve reasonable means of access consistent with Management Area direction when needed for mineral prospecting, exploration and development activities. Require prompt reclamation of surface disturbance to productive uses consistent with Management Area direction. Posting of a properly executed reclamation bond or other surety to assure compliance is recommended in most cases. Limit the duration of approved operations to the extent necessary to complete planned work in a phased development process. Approval of Plans of Operation greater than one year in duration is not recommended without justification. Conduct periodic site visits to approved operations to determine the extent of the work and the need for modifications to approved operations to meet changed conditions. Review cases of suspected or actual abuse of the mining laws related to occupancy and use of the National Forest for other than mining purposes. Promptly initiate appropriate administrative and/or legal remedies to rectify such problems, to prevent unnecessary resource damage or unauthorized occupancy. Conduct validity determinations for proposed operations in Wilderness and the Wild portions of Wild and Scenic Rivers or other withdrawn areas where a Plan of Operation is required. Do not approve a Plan of Operation in a designated Wilderness, Wild portion of a Wild and Scenic River corridor or other withdrawn area prior to completion of a validity determination. Limit activity authorized by a Notice of Intent for mineral prospecting and required labor within Wilderness to the maximum extent possible. Restoration and cleanup of prior operations and recovery of the surface resources to as near a natural condition as possible is the objective.
Leasable Minerals (7-B)	Administer the leasable minerals program on the Forest in accordance with Bureau of Land Management direction including Oil and Gas Onshore Order #1 as amended by. The 1987 Oil and Gas Leasing Act and related regulations. All standards and guidelines are acceptable except within: designated Wilderness, Wild portions of Wild and Scenic River corridors, hydro-electric area withdrawals or other withdrawn areas. Mineral related prospecting and development are subject to valid existing rights.	Conduct appropriate interdisciplinary analysis as required to provide timely response to BLM requests for Forest Service approval concerning lease stipulations for applications to drill, deepen or plug back. Restrict or prohibit surface occupancy by leaseholders on lands identified as unsuitable for seismic prospecting or drilling activities by use of the 'no surface occupancy' (NSO) stipulation. Standard stipulations (Form 3109) provide adequate protection for lands under the jurisdiction of the Forest Service related to most operations. Request additional stipulations only in unusual cases. Seismic testing permits will only be authorized after completion of an appropriate environmental document. Permit fees will be computed on a per-mile basis. Designated flight paths, precautions for fire suppression and prevention, public safety and related restrictions will be considered in approval of all seismic testing permits.

Lands

Practices	General Direction	Standards and Guidelines
Landownership Adjustment (8-A)	Adjust landownership pattern through acquisition and disposal to improve administration of the Forest and enhance public values by consolidation of landownership. Acquire lands that would best be managed as National Forest to achieve public benefits and dispose of lands that would best be managed in private ownership.	Consolidate private and National Forest landownership within Management Areas. Inventory and acquire private land parcels that compromise National Forest administration and programs. Develop and implement a landownership consolidation plan in cooperation with major landowners. Avoid encumbering isolated parcels which are candidates for disposal through investments in physical improvements, authorizations, agreements, easements, contracts and permits which would create potential land title clearance problems.
Acquisition of Easements (8-B)	Acquire easements and licenses necessary to carry out National Forest programs only when other access through the National Forest is not available or feasible.	Initiate cost-share agreements within areas where Forest land is intermingled with lands owned by one other entity. Whenever feasible, locate Forest roads, trails, fuelbreaks, and other facilities on Forest lands to avoid the necessity for easements, licenses or agreements. Permanently acquire all rights necessary to carry out long-term management objectives of the National Forest including full public benefits to avoid repeated costs for acquisition of temporary rights. Locate facilities or easements acquired to minimize costs and avoid disruption of the private land uses to the maximum extent possible. Inventory, rank and acquire rights-of-way for all system roads, trails and other improvements where rights-of-way are needed.
Special Use Management - Non-Recreation (8-C)	Review and process applications and administer authorizations for non- recreation special uses.	Consider the long-term effects of encumbering National Forest land prior to issuance of all authorizations. Do not grant authorizations for uses which are incompatible with the purposes for which the National Forest was created. Avoid authorizations which legitimize unauthorized uses of the National Forest such as trespasses involving physical improvements, livestock and encroachments when other remedies are available to terminate or control such use. Authorizations for new electronic sites will be considered only when the proposed improvements are incompatible with existing uses of approved sites or the location of existing approved sites cannot fulfill the objectives for the proposed communications use. Authorizations for linear uses such as power lines and telephone lines will comply with appropriate requirements for burial and will be issued whenever possible as amendments to master permits to major utility companies. Authorizations will not be granted to individual landowners for such installations. Special Use Permits for access to private land parcels may only be issued to individual landowners or homeowners associations when it is determined through an environmental assessment that National Forest land is the only feasible access route and issuance of a right-of-way grant to a public road agency is not appropriate.
Right-of-Way Grants for Roads and Trails and Utilities (8-D)	Convey necessary rights for county roads, state highways and major utility improvements when such conveyances are in the long term interest of management of the National Forest and in the public interest. Grant rights-of-way to privately owned land within the National	New utility lines will be confined to existing rights-of-way whenever possible or to locations subsequently approved through an environmental analysis. Consider the need for additional future facilities when authorizing initial facilities for both above and underground locations. A Forest Road and Trail Act (FRTA) easement may be granted to the County for a County maintained road that crosses through Forest Service land. A United States Department of Transportation easement may be granted to the State of California, Department of Transportation

Practices	General Direction	Standards and Guidelines
	Forest boundary only when an environmental assessment shows that access across National Forest land is the only feasible alternative.	for a state highway that crosses Forest Service land. Grants for roads needed to access private land subdivision developments will only be issued to public road agencies such as counties, state or legally formed special-assessment districts. Various easement documents are available for use in granting road rights-of-way to cooperators who participate in cost-share agreements with the Forest Service. These easements are reciprocal in nature for easements acquired by the Forest Service. Trail rights-of-way grants are authorized by the Forest Road and Trail Act (FRTA).
Federal Energy Regulatory Commission (FERC) Consultation (8-E)	Provide for licensed actions that do not compromise the purpose of Congressionally designated areas such as Wild and Scenic River corridors. Establish protection, mitigation, compensation and enhancement measures in project licenses related to project-induced impacts on other Forest Resources. Conduct interdisciplinary consultation with the proponent, state and local agencies and the FERC to assure compliance with applicable laws, regulations, policy and management plans associated with proposed project areas. Execute appropriate agreements and authorizations with project proponents upon acceptance of the license application by the FERC to assure timely participation by the Forest Service in project related studies and consultation processes and to authorize study by the proponent on National Forest land related to the project. Seek flows below new projects that maintain fishery resources near naturally occurring (pre-project) conditions. Complete the 4E report to the FERC with necessary license conditions to assure project compliance with National Forest management objectives and mitigation requirements. Authorize special use permits for all phases of construction and operation necessary to protect National Forest values and to assure compliance with National Forest law, regulation and policy. Execute appropriate agreements to provide for reimbursement of costs associated with consultation concerning proposed projects, to recover costs associated with mitigation of project induced impacts and to develop, operate and maintain improvements as mutually agreed between the proponent and the Forest Service. Request the FERC to designate the Forest as a cooperating agency for the environmental review process concerning each proposed project in accordance with the National Environmental Policy Act. Note: The following factors shall be considered in conjunction with relicensing of certain hydro-electric facilities. This Standard and Guideline is related only to existing and expired license projects through the year 2005. This is not a complete list of all requirements related to these projects. Additional mitigation may be required as a result of the FERC consultation process. 1. Beardsley-Donnell #2005: Recreation use near Beardsley Dam and on adjacent Hartley Lake has exceeded the capacity of the limited developed facilities for a number of years. During relicensing of this project, the Forest Service will seek inclusion of provisions for installation by the licensee of a family campground, upgrading of the present day-use facilities, including the access road, extension of the existing boat launch ramp and other related work to meet projected and existing recreation demand at this popular recreation area. The Forest Service seeks to maintain Donnell Lake as a primitive recreation experience and will seek only to improve parking as a condition of relicensing on this project. 2. Utica-Murphys #2019: This project area includes two popular lakes and access to the Mokelumne Wilderness as well as being located adjacent to the Wilderness boundary. Management planning in this area has identified the need to stratify use and provide a mix of recreational opportunities in conjunction with the management of this area. A recreation study will be required in conjunction with relicensing consultation. Minimum required improvements sought by the Forest Service will include development of a boat launch and day use facilities, installation of sanitary facilities and rehabilitation of areas adjacent to the reservoirs which have been denuded and eroded by overuse. 3. Spring Gap-Stanislaus #2130: Project facilities include Relief Reservoir, Pinecrest Lake and the Philadelphia Ditch which divert water into the Middle Fork of the Stanislaus River through the Spring Gap power house. The highest concentration of public use on the Forest occurs within the Pinecrest Herring Creek composite planning area. The project-induced recreational impacts are well documented. During the re-licensing consultation process, the Forest Service will consider	

Practices	General Direction	Standards and Guidelines
	requirements for maintenance of Pinecrest Lake at as high a level as possible through July and August to optimize public use. Additionally, following guidance within the Pinecrest-Herring Creek composite plan, the licensee will be required to share in the development and improvement of public recreation facilities within the project area. The removal of improvements at Relief Reservoir will also be sought, including the caretaker's cabin which is of limited use and compatibility with the recreational and scenic qualities of the area. Diversion of water from the South Fork to the Middle Fork of the Stanislaus River which has significantly altered the character of the South Fork will also be evaluated. The current 7 CFS flow below the Philadelphia Ditch diversion appears to be inadequate and will require study as a part of the relicensing process. Minimum flows to meet habitat requirements associated with the Phoenix Project (#1061) will also be required as shown in the Phoenix Project #1061 4E requirements. Any possible increase in flows would require a balance between fisheries improvement and lake levels for recreation at Pinecrest Lake. 4. Phoenix #1061: The Forest has been working with the licensee to provide for limited public access to Lyons Lake as well as development of the Rails-to-Trails proposal along the old railroad grade from Sonora to Strawberry. No substantial recreational development is contemplated as part of the relicensing. The Forest is concerned with the low flow releases below Lyons Dam, but recognizes the potentially serious conflict between domestic water demands and fisheries needs in setting minimum fish flows. The problems associated with unrestricted OHV use at and near the reservoir which are contributing to significant and detrimental pollution of the water supply are also being addressed in the relicensing consultations. 5. Mokelumne River #137: The Eldorado National Forest is the lead Forest in consultations related to the relicensing of this project. The Stanislaus National Forest will propose that the licensee participate in the rehabilitation of several developed recreation sites along the Mokelumne River which are affected as a result of the induced recreation demand which project access roads and facilities create on these improvements. The presence and continued need for a number of private dwellings associated with this project area is being reviewed. The Forest recommends that all unneeded structures within the Salt Springs project be removed or transferred to the Forest Service for administrative uses.	
Property Boundary Location and Marking (8-F)	Survey, mark, post and maintain the property boundaries of the Forest. Maintain land title and survey records necessary to establish or reestablish property boundaries and corners.	Inventory, rank and survey unsurveyed and unmarked property lines and corners. Solicit and participate in cooperative landline location and cost-share surveys with adjacent land owners. Limit investments in cadastral surveys of parcels identified for disposal or acquisition in the Forest landownership adjustment plan. Complete land-line surveys prior to conducting resource activities adjacent to private property. Recognize the sensitivity of private land-use concerns and the need for site-specific consideration of these concerns during the analysis of proposed projects adjacent to inholdings. Specific concerns should be analyzed when proposed activities may occur adjacent to developed subdivisions or areas developed for public recreation. Identify and promptly resolve all encroachments on National Forest lands.

Range

Practices	General Direction	Standards and Guidelines
Allotment Management (9-A)	Livestock grazing and all other uses are based on soil and vegetative resources. Maintaining these resources in satisfactory condition is the first priority of range management on this Forest. Any management practice that maintains or causes unsatisfactory soil or vegetative conditions in an area must be modified or if necessary,	Improve ecological condition of rangelands, where currently unsatisfactory, through improved management, and structural and non-structural improvements. Develop range resources to their reasonably attainable potential and manage them on a sustained yield basis. Manage grazed lands to achieve a stable or upward vegetative trend, except in specified areas of transitory range. Use management strategies that protect the soil and vegetative resources and other resources in a cost effective manner. Consider all vegetation dependent uses when developing allotment management plans.

Practices	General Direction	Standards and Guidelines
	eliminated from that area. (36 CFR 219.20(b)) AUM increases are possible in allotments with satisfactory resource conditions. In many cases, improving resource conditions leads to increased forage production.	Revise range allotment management plans to be consistent with law, regulations, Executive Orders, Forest Service direction and Forest Standards and Guidelines, by 1997. Revise and develop allotment management plans in consultation with all involved parties, including permittees, State or other agencies, and any other involved entities. On any allotment or unit of allotment, grazing management will be based on the vegetative type or soil type contained which is most susceptible to damage through improper grazing management. Examples: a riparian drainage through annual grassland; meadows within transitory range. Allowable use standards will be established in the allotment management plans and annual operating plans for each unit of each allotment. The standards will be based on Regional standards in R5 FSH 2209.21. Priority will be given to range improvement on allotments with a high percentage of primary range land in unsatisfactory condition, or high conflicts between livestock grazing and other resources and uses. On allotments where discontinuous grazing systems are not in effect, adjust permitted Animal Unit Months to achieve allowable use on the primary range. Transportation systems in established range allotments will include fences and cattle guards where new roads open up natural livestock barriers. Reduce or eliminate livestock grazing from ranges in unsatisfactory range condition which cannot be improved through better management or treatment at the current level of grazing. **Annual Range** Includes any segment of the California annual grassland either in large pure types or small types interspersed with shrubs and hardwoods. When management is based on this type the following apply: 1. Determine livestock on-dates based on soil moisture conditions and expected readiness date on associated perennial range to which the livestock are moved. **Perennial Range** Includes meadows, perennial grassland, sagebrush, broadleaf and riparian vegetative types. When grazing management is based on perennial range the following apply: 1. On allotments or pastures under intensive management provide rest or deferment during the growing season at least every third year. 2. On allotments under intensive management, as part of an approved discontinuous grazing system, allow grazing use to exceed normal allowable use (as defined in R5 FSH 2209.21) up to one year out of two. 3. Under extensive or maintenance management where continuous season-long grazing is allowed, remove livestock when grazing reaches the allowable use level specified for the designated key areas. 4. Under all management strategies base on-dates for livestock on the phenological development of key forage or indicator species. Refer to R5 FSH 2209.21 for range readiness standards or use comparable criteria for species not listed. One exception is where an intensive management system limits early grazing to that which the range can withstand. 5. When primary range occurs within riparian areas: Allowable herbaceous forage utilization levels will be set according to Regional methods at standards that will contribute to the achievement of good to excellent vegetative and soil conditions (See FSH 2209.21, Range Analysis Handbook). **Transitory Range** Includes all forage available following logging or fire, whether natural or

<table>
<tr><th>Practices</th><th>General Direction</th><th>Standards and Guidelines</th></tr>
<tr><td></td><td></td><td>seeded where there is no intention of permanently managing the type for forage production because tree or shrub canopies will grow to severely limit forage production. When management is based on transitory range the following apply:
1. Maximize forage utilization consistent with other resource values. Utilization may exceed normal range allowable use standards, but soils, watershed, riparian, wildlife or recreation considerations may modify use.
2. Initiate grazing use to complement silvicultural needs. Heavy grazing can help control grass and shrubs and prevent them from dominating the site.</td></tr>
<tr><td>Grazing (9-A)
SNFPA[1]</td><td colspan="2">To protect hardwood regeneration in grazing allotments, allow livestock browse on no more than 20 percent of annual growth of hardwood seedlings and advanced regeneration. Modify grazing plans if hardwood regeneration and recruitment needs are not being met.
Grazing utilization in annual grasslands will maintain a minimum of 60 percent cover. Where grasslands are in satisfactory condition and annual precipitation is greater than 10 inches, manage for 700 pounds residual dry matter (RDM) per acre. Where grasslands are in satisfactory condition and annual precipitation is less than 10 inches, manage for 400 pounds RDM per acre. Where grasslands are in unsatisfactory condition and annual precipitation is greater than 10 inches, manage for 1,000 pounds RDM per acre; manage for 700 pounds RDM per acre where grasslands are in unsatisfactory condition and precipitation is less than 10 inches. Adjust these standards, as needed, based on grassland condition. This standard and guideline only applies to grazing utilization.
Where professional judgment and quantifiable measurements find that current practices are maintaining range in good to excellent condition, the grazing utilization standards above may be modified to allow for the Forest Service, in partnership with individual permittees, to rigorously test and evaluate alternative standards.</td></tr>
<tr><td>Range Imp. - Nonstructure (9-B)</td><td></td><td>Plan non-structural range improvements using interdisciplinary input.</td></tr>
<tr><td>Range Imp. – Structure (9-C)</td><td></td><td>Construct all structural improvement to Regional standards. See FSH 2209.22 R5 and the 1988 USDA publication "Fences" for the standards.</td></tr>
<tr><td>Grazing Permit Administration (9-D)</td><td>Table 7 sets forth maximum allowable forage utilization levels for some common range vegetation types of the Stanislaus National Forest. Allowable uses limit the extent to which one or a group of key species may be grazed in key areas. The allowable use level must provide for sufficient herbage residue to ensure favorable plant vigor and soil protection on good and excellent condition range, or to contribute to improvement in lower condition range.
Allowable use levels for specific areas will be set at or below these maximums to conform to local range condition, soil stability, or special circumstances. Allowable use levels will be detailed in the</td><td>Monitor at least 85 percent of allotments yearly to determine grazing use levels and condition of range facilities.
Table 7 Maximum Forage Use Levels
(percent of weight removed)
<table>
<tr><th>Allowable Management</th><th>Rest-Rotation (1 year in 2 or 3)</th></tr>
<tr><td colspan="2">Meadow</td></tr>
<tr><td>Good or Better</td><td>75</td></tr>
<tr><td>Fair</td><td>60</td></tr>
<tr><td>Poor</td><td>30</td></tr>
<tr><td>Very Poor</td><td>10</td></tr>
<tr><td colspan="2">Upland Bunchgrass/shrub</td></tr>
<tr><td>Good or Better</td><td>60</td></tr>
<tr><td>Fair</td><td>45</td></tr>
<tr><td>Poor</td><td>20</td></tr>
<tr><td>Very Poor</td><td>10</td></tr>
<tr><td colspan="2">Riparian Primary Range</td></tr>
<tr><td colspan="2">Revise "meadow" levels as needed to achieve riparian area goals.</td></tr>
</table></td></tr>
</table>

[1] SNFPA direction does not apply within the Stanislaus-Tuolumne Experimental Forest (SNFPA ROD, p. 15; USDA Forest Service 2004)

Practices	General Direction	Standards and Guidelines
	allotment management plan for each allotment. Pastures receiving periodic full growing season rest can have higher allowable use levels, as shown. If condition classes of vegetation and soil vary, use the lower class to establish the allowable level.	
Range Studies (9-E)	Management objectives and practices for the allotments will be specified in their allotment management plans.	Monitor ecological condition and trend using Regionally established methods and standards (R5 FSH 2209.21) on a ten year schedule.
Noxious Weed Management (9-E) **SNFPA**[1]	Inform forest users, local agencies, special use permittees, groups, and organizations in communities near national forests about noxious weed prevention and management. Work cooperatively with California and Nevada State agencies and individual counties (for example, Cooperative Weed Management Areas) to: (1) prevent the introduction and establishment of noxious weed infestations and (2) control existing infestations. As part of project planning, conduct a noxious weed risk assessment to determine risks for weed spread (high, moderate, or low) associated with different types of proposed management activities. Refer to weed prevention practices in the Regional Noxious Weed Management Strategy to develop mitigation measures for high and moderate risk activities. When recommended in project-level noxious weed risk assessments, consider requiring off-road equipment and vehicles (both Forest Service and contracted) used for project implementation to be weed free. Refer to weed prevention practices in the Regional Noxious Weed Management Strategy. Minimize weed spread by incorporating weed prevention and control measures into ongoing management or maintenance activities that involve ground disturbance or the possibility of spreading weeds. Refer to weed prevention practices in the Regional Noxious Weed Management Strategy. Conduct follow-up inspections of ground disturbing activities to ensure adherence to the Regional Noxious Weed Management Strategy. Encourage use of certified weed free hay and straw. Cooperate with other agencies and the public in developing a certification program for weed free hay and straw. Phase in the program as certified weed free hay and straw becomes available. This standard and guideline applies to pack and saddle stock used by the public, livestock permittees, outfitter guide permittees, and local, State, and Federal agencies. Include weed prevention measures, as necessary, when amending or re-issuing permits (including, but not limited to, livestock grazing, special uses, and pack stock operator permits). Include weed prevention measures and weed control treatments in mining plans of operation and reclamation plans. Refer to weed prevention practices in the Regional Noxious Weed Management Strategy. Monitor for weeds, as appropriate, for 2 years after project implementation (assuming no weed introductions have occurred). Conduct a risk analysis for weed spread associated with burned area emergency rehabilitation (BAER) treatments. The BAER team is responsible for conducting this analysis. Monitor and treat weed infestations for 3 years after the fire. Consult with American Indians to determine priority areas for weed prevention and control where traditional gathering areas are threatened by weed infestations. Complete noxious weed inventories, based on regional protocol. Review and update these inventories on an annual basis. As outlined in the Regional Noxious Weed Management Strategy, when new, small weed infestations are detected, emphasize eradication of these infestations while providing for the safety of field personnel. Routinely monitor noxious weed control projects to determine success and to evaluate the need for follow-up treatments or different control methods. Monitor known weed infestations, as appropriate, to determine changes in weed population density and rate of spread.	

Recreation

Practices	General Direction	Standards and Guidelines
Inventory and Planning Recreation Inventory and Planning (10-A)	Implement and monitor the recreation portions of the Forest Plan. Maintain a current Recreation Information Management (RIM) inventory.	Coordinate activities with other resources.
Recreation Opportunity Spectrum (10-B)	Recreation Opportunity Spectrum (ROS) is a management concept that applies Forestwide. Every acre of National Forest land treated by this Forest Plan fits into one of the ROS classes listed below. The adopted ROS classes are displayed on Map 5, Appendix I.	
1. ROS Primitive	Manage the area to be essentially free from evidence of man-induced restrictions and controls. Provide a range of primitive-recreation opportunities and experiences.	Meet the ROS objective of Primitive. Interaction between visitors is very low and the evidence of other users is minimal. Mechanized use is prohibited. Resource improvements will normally be limited to minimum, unobtrusive facilities. Road development and timber harvest are not permitted.
2. ROS Semi-primitive Non-motorized **NMFPA**	Manage the area so that on-site controls are minimized and restrictions are subtle. Provide a range of semi-primitive non-motorized recreation opportunities and experiences.	Meet the ROS objective of Semi-primitive Non-motorized. Interaction between visitors is low but there is evidence of other users. Motorized use is normally prohibited, except for: 4N80Y; 5N02R **(NMFPA)**. Resource improvements will normally be limited to minimum, unobtrusive facilities.
3. ROS Semi-primitive Motorized	Manage the area so that on-site controls and restrictions are evident but not dominant. Provide a range of semi-primitive motorized recreation opportunities and experiences.	Meet the ROS objective of Semi-primitive Motorized. Interaction between visitors is low to moderate and there is evidence of other users. Motorized use is normally allowed, but may be subject to seasonal restrictions. Resource improvements occur but are subordinate to the surrounding natural environment.
4. ROS Roaded Natural	Manage the area so there is only moderate evidence of the sights and sounds of man. Provide a range of roaded natural recreation opportunities and experiences.	Meet the ROS objective of Roaded Natural. Interaction between users is usually low to moderate with evidence of other users prevalent. Resource modification practices are evident. Conventional motorized use is provided for in construction standards And facilities designs. A full range of other resource activities is permitted to the extent that the general practice description is met.
5. ROS Rural	Manage the area to accommodate substantial modification of the natural environment. Provide a range of rural recreation opportunities and experiences.	Meet the ROS objective of Rural. Sights and sounds of man are evident. Interaction between users is moderate to high. Facilities are designed for use by large numbers of people and intensified for motorized use and parking. A full range of other resource activities is permitted to the extent that the general practice description is met.
Motor Vehicle Travel Management (10-G) **MVTM**	Motor Vehicle Travel Management applies Forestwide. Every acre of National Forest treated by this Forest Plan fits into either the Closed or Restricted categories as shown below.	
1. Closed Motor Vehicle Travel Management **NMFPA**	a. Closed to motorized use except for: 4N80Y; 5N02R **(NMFPA)**. 1. Consider temporary exceptions when threat to life or property dictate otherwise. 2. Consider temporary exceptions for administrative access. b. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to eliminate evidence of, and access by, unauthorized motorized use.	
2. Restricted Motor Vehicle Travel Management **FFPA** **WPTFPA** **NMFPA**	**A. Social Setting** **1. Private Property**: a. Inventory, rank and acquire route rights-of-way as needed. b. Recognize private property during route inventory and revisions. c. Locate designated routes to avoid private property unless opportunities and agreements for a connected network of routes exist.	

Practices	General Direction	Standards and Guidelines
	d. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize conflicts with private property caused by motorized use. **2. User Groups**: a. Seek partnerships with the State, industry, users and other federal and local agencies to develop a successful motorized recreation program. 1. Encourage users to work with local authorities to seek opportunities for hill climbs and motocross events on lands other than National Forest. 2. Stay in tune with motorized users. Users are essential in laying out road and trail networks and organized groups are interested in resource protection. User participation and support are essential ingredients to all motorized recreation management activities. 3. Work with user organizations and vehicle dealers to identify needs, utilize volunteers and spread a conservation ethic. 4. Strengthen work with the State and BLM to address joint management of trail networks and define roles. 5. Use Adopt-a-Trail to maintain routes. 6. Use public to monitor motorized use and report problems. b. Monitor public concerns and preferences to identify new issues. 1. Maintain and update the Forest OHV mailing list and periodically make related information available to the public. 2. Create a file for public comments and agency responses and review for trends and issues. c. Use public participation to complete route inventories and make recommended changes in the route system. Include both users and non-users in this process. d. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize conflicts with other user groups caused by motorized use. **B. Resource Setting** **1. Cultural Resources**: Follow Forestwide Standards and Guidelines for Cultural Resources. In addition: a. Complete cultural resource inventory and analysis as part of all site-specific motor vehicle travel management projects. b. Complete a module for motorized use and add to the programmatic agreement for the treatment of cultural resources. c. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to cultural resources caused by motorized use. **2. Fire**: Follow Forestwide Standards and Guidelines for Fire. In addition: a. Locate routes and manage motorized use to minimize conflicts with fuel break and other fire management activities. b. Emphasize good fire prevention practices in Forest Service generated public information material, news releases, and public service announcements. c. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize fire losses caused by motorized use. **3. Fish and Wildlife**: Follow Forestwide Standards and Guidelines for Fish and Wildlife. In addition: a. The wildlife areas (See Wildlife Maps) subject to special management are: 1. **Peregrine Falcon** (not on Forest Plan Maps) a. Implement a limited operating period (LOP), from February 1 through July 31, on all peregrine falcon territories active within the preceding five years, for at least 0.5 miles from the nest. 1. Restrict motor vehicle activities and new road construction, during this LOP, according to a management plan for the area. b. Prohibit new motor vehicle activity within 200 feet of lake shorelines that are used by peregrine falcons. 2. **Bald Eagle** a. Within Designated Territories (delineated bald eagle management areas, or additional territories, based on nesting occupancy): 1. Implement a LOP, from January 1 through August 31. a. Apply LOP restrictions to motor vehicle activities on level 1 roads and OHV routes open to the general public. b. Allow new road construction, during the LOP, only when surveys	

Practices	General Direction	Standards and Guidelines
	determine no nesting activity. c. Encourage use of existing roads and skid trails for vegetation and fire management purposes. d. Construct new roads only for vegetation or fire management purposes; close these new roads following their management use. 2. Prohibit new motor vehicle activity in wetlands, streamside management zones, and within 200 feet of lake shorelines that are used by bald eagles. b. Outside Designated Territories (new active bald eagle nests outside of designated management territories): 1. From January 1 through August 31, implement the following restrictions in a buffer area around the nest for a distance determined by the Wildlife Biologist on a site-specific basis. a. Re-route existing OHV use to routes at a safe distance from the nest. b. Close or detour existing roads in the proximity of the nest site. c. Prohibit motor vehicle activities in the roost area. 3. **California red-legged frog** (not on Forest Plan Maps) a. Within 300 feet of streams or ponds that have potential suitable habitat: 1. Construct new roads or trails or use off-road routes for motorized vehicles only after conducting amphibian surveys to the most recent protocol for the frog. 2. Allow stream crossings only where the route, through the water, and the adjacent streamside areas are naturally resistant to tires or are hardened with rock or other materials. 4. **Spotted Owl, Fisher, Marten, Goshawk, Great Gray Owl, Western Pond Turtle** a. Active nests of sensitive raptors not otherwise protected in specified management areas (not on Forest Plan Maps): 1. Provide special measures to protect nests discovered close to motorized trails or 4WD routes where needed for nesting success. b. Within Fisher/Marten reproductive areas in Forest Plan Near Natural and Wildlife management areas (see Forest Plan Wildlife Maps). 1. Construct new roads or trails or use existing off-road routes for motorized vehicles only where approved in the fisher/marten area management plan. c. In area adjacent to waters with known populations of western pond turtle: 1. Construct new roads or trails or use existing off-road routes for motorized vehicles only if at least ¼ mile from occupied habitat or where approved by a Wildlife Biologist except for: 1S1727; FR98486; FR98515; FR98520; FR98537; FR98539; FR98548; FR98560; FR98599. **(WPTFPA)** 5. **Early Successional Species** (mule deer and associates) a. Deer winter concentration areas or critical winter deer range may be closed to motorized use from 11/15 to 4/15. b. Deer summer concentration areas or critical summer deer range may be closed to motorized use from 4/15 to 8/1. b. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize conflicts with fish and wildlife caused by motorized use. **4. Range**: Follow Forestwide Standards and Guidelines for Range. In addition: a. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize conflicts with range caused by motorized use. **5. Recreation**: Follow Forestwide Standards and Guidelines (as amended) for Recreation. In addition: a. Designate a managed system of existing motorized routes maintained to standards. 1. Conduct route condition ratings, using the Route Condition Rating form and its instructions. a. Utilize interdisciplinary skills and public participation. b. Manage routes as follows: 1. For routes rated Green (OK): Sign open to motorized use with width restrictions, if any. Schedule maintenance to remain in Green.	

Practices	General Direction	Standards and Guidelines
	2. For routes rated Brown (Needs maintenance): Sign open to motorized use with width restrictions, if any. Schedule maintenance to move up to Green, with priorities set to avoid moving into Orange. 3. For routes rated Orange (Needs Major Attention): Close to motorized use. Schedule maintenance, rehabilitation or mitigation to move up to Brown, then Green; or, obliterate. b. **Designated Routes**: include roads, routes and trails as described below. If resource damage or unresolvable conflicts are likely, the route should be repaired, relocated or closed. Designated routes may be installed, signed and maintained by Special Use Permittees. 1. **Off-Highway**: include Motorcycle, ATV, OHV, 4WD and Combined Use routes as described below. a. **Designated Motorcycle Routes**: include narrow single track trails. Designated Motorcycle Routes are open only to single track vehicles less than 24 inches wide (Motorcycles Only). b. **Designated ATV Routes**: include narrow double track trails. Designated ATV Routes are open only to vehicles less than 50 inches wide (Motorcycles and ATVs Only). c. **Designated OHV Routes**: include full width roughly graded (level 2) Forest System roads which are open to public motorized use. Designated OHV routes also include other full width routes and trails which are open to motorized use. Designated OHV Routes are open to all vehicles, but not maintained for conventional highway vehicles. d. **Designated 4WD Routes**: include full width roads, routes or trails which are not maintained for conventional highway vehicles; 4WD travel is recommended. e. **Designated Combined Use Routes**: include portions of high standard roads for Combined Use by street legal and non-street legal vehicles. 2. **Over-Snow**: include Wheeled Over-Snow (WOS) routes and Over-Snow Vehicle (OSV) routes as described below. a. **Designated WOS Routes**: include surfaced roads and other routes which are open for WOS use by ATVs. b. **Designated OSV Routes**: include roads, routes and trails which are open to motorized use. Cross-country over snow travel, by vehicles designed specifically for that purpose, will be permitted when there is 12 inches or more of snow and no contact is made with native soil or vegetation. c. Provide comprehensive user information and education programs. 1. Renew the “Host” program emphasis and provide training. 2. Include well done entry stations and bulletin boards at staging areas and contact stations. 3. Provide professional quality signs, maps and brochures. 4. Emphasize a conservation ethic through literature, handouts and radio announcements with the message being the same: tread lightly, stay on roads and trails to protect our sport, our meadows and our environment. 5. Encourage motorized use in appropriate areas. d. Provide comprehensive project level planning, perhaps within a watershed analysis. 1. Incorporate control measures such as fencing and rehabilitation measures for presently disturbed areas. 2. Involve interdisciplinary skills and public participation in route condition ratings, nominations, designations, closures, construction and maintenance. 3. Include sign planning, installation and maintenance in contracts for construction and maintenance of routes. 4. Strategically locate staging areas serving as trailheads near street legal access points. 5. Consider future changes, additional designations and route developments to enhance OHV opportunities for loop travel. 6. Consider other selected maintenance level 3, 4, and 5 Forest roads for Combined Use where this would enhance OHV opportunities. 7. Provide motorcycle and ATV trail riding opportunities in the Hull Creek, Crandall, Penny Pines, Liberty and Pilot Ridge areas. e. Prepare California Backcountry Discovery Trail (CBDT) nominations after project level	

Practices	General Direction	Standards and Guidelines
	analysis and sign routes that are accepted by the California Department of Parks and Recreation. 1. Provide maps and other information on CBDT segments. Include information on segments open to OSV use and other similar OSV opportunities. f. Seek opportunities to increase OSV route grooming as additional non-Forest Service funding is available. g. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize conflicts with other recreationists caused by motorized use. **6. Riparian**: Follow Forestwide Standards and Guidelines for Riparian. In addition: a. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to riparian areas caused by motorized use. **7. Sensitive Plants**: Follow Forestwide Standards and Guidelines for Sensitive Plants. In addition: a. Protect sensitive plants from motorized activities which might cause the plants to become federally threatened or endangered. 1. Allow OHV use through populations of sensitive plants only where the planned impacts are considered acceptable and where proliferation of routes into adjacent parts of the population does not occur. 2. Locate OHV staging areas where associated off-site use does not damage sensitive plants. b. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to sensitive plants caused by motorized use. **8. Soils**: Follow Forestwide Standards and Guidelines for Soils. In addition: a. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize soil loss caused by motorized use. **9. Special Areas**: Follow Management Area Direction (as amended) for Special Interest Areas, Research Natural Areas, and Experimental Forest. In addition: a. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to special area values caused by motorized use. **10. Transportation**: Follow Forestwide Standards and Guidelines for Transportation. The existing direction to manage the road system to protect wildlife and riparian values also applies to OHV routes and OSV routes. In addition: a. Prohibit non-street legal vehicles on roads or routes not designated for OHV use. b. Consider closing to all motorized use those roughly graded roads that do not enhance motorized opportunities. c. Comply with the Highway Safety Act and prepare Combined Use orders as necessary. d. Utilize seasonal closures to protect road and route surfaces. e. Develop entrance strategies to discourage normal passenger vehicle travel on designated OHV routes. f. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize traffic conflicts caused by motorized use. **11. Vegetation**: Follow Forestwide Standards and Guidelines for Diversity. In addition: a. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to vegetation caused by motorized use. **12. Visual Resource**: Follow Forestwide Standards and Guidelines for Visual Resource. In addition: a. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to the visual resource caused by motorized use. **13. Water**: Follow Forestwide Standards and Guidelines for Water. In addition: a. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to water quality caused by motorized use. **14. Wild and Scenic Rivers**: Follow Management Area Direction (as amended) for Wild and Scenic Rivers. In addition: a. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to Wild and Scenic River values caused by motorized use. **15. Wilderness**: Follow Management Area Direction (as amended) for Wilderness. In addition: a. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to eliminate evidence of, and access by, unauthorized motorized use.	

Practices	General Direction	Standards and Guidelines
	C. Management Setting **1. Administration**: a. Prohibit motorized use and close motorized routes in non-motorized areas, except for: 4N80Y; 5N02R **(NMFPA)**. b. Prohibit cross-country overland OHV travel. c. Recognize OHV activities as legitimate uses of the National Forest and provide opportunities, where compatible the other direction and guidelines established in the Forest Plan. d. Manage OHV activities to meet the intent of the Executive Orders 11644 and 11989. e. Control and direct OHV use to protect resources, promote the safety of all users, and minimize conflicts among the various uses of the Forest (36 CFR 219.21 (g)). f. Resolve motorized activity problems presenting an immediate threat to life or property through an immediate closure to vehicle type(s) causing the problem. g. Include an evaluation of motorized activities in timber sale, reforestation, fuelbreak, fire suppression and other projects that may affect Motor Vehicle Travel Management. For traffic safety, roads or routes may be temporarily closed during management activities. h. Consider applications for organized events on a case-by-case basis. i. Treat different types of motorized use fairly. 1. Motor vehicle travel is restricted to designated routes. Manage motorized routes as open unless signed or physically closed. a. Cross country overland travel is not permitted. b. Cross country over snow travel, by vehicles designed specifically for that purpose, is permitted when there is 12 inches or more of snow and no contact is made with native soil or vegetation. 2. Prohibit public motor vehicle travel off NFTS routes except as allowed by permit or other authorization. Allow parking within one vehicle length (vehicle and trailer) off of NFTS routes unless otherwise prohibited. **(FFPA)** j. Provide consistent signing. 1. **Roads**: Forest roads are signed as described below. a. **Roads maintained for conventional highway vehicles**: standard highway sign, or Forest Service sign with horizontal route number, installed at road intersections. b. **Roads not maintained for conventional highway vehicles**: standard Forest Service sign, or carsonite type marker (on Designated OHV Routes), with vertical route number, installed at road intersections. 2. **Off-Highway**: Forest roads, routes and trails are signed as described below. a. **Designated Motorcycle Routes**: carsonite type marker with motorcycle symbol (vertical route number, if shown) installed at access points and intersections with other designated routes. b. **Designated ATV Routes**: carsonite type marker with ATV or motorcycle/ATV symbol (vertical route number, if shown) installed at access points and intersections with other designated routes. c. **Designated OHV Routes**: standard Forest Service sign, or carsonite type marker, with vertical route number, installed at access points and intersections with other designated routes. d. **Designated 4WD Routes**: standard Forest Service sign, or carsonite type marker, with 4WD (Jeep) symbol and vertical route number, installed at access points and intersections with other designated routes. e. **Designated Combined Use Routes**: yellow diamond shaped highway sign with ATV symbol in addition to standard signs indicating Combined Use by street legal and non-street legal vehicles, installed at both ends of the Combined Use segment. 3. **Over-Snow**: Forest roads, routes and trails are signed as described below. a. **Designated WOS Routes**: ATV symbol installed at access points from winter parking areas. b. **Designated OSV Routes**: snowmobile symbol installed at access points from winter parking areas. 4. **Closed**: Forest roads, routes and trails that are closed to motorized use are indicated by: a. the presence of closed signs, gates or barriers.	

Practices	General Direction	Standards and Guidelines
	2. Law Enforcement: a. Provide appropriate levels of enforcement: 1. A Forest Service presence in the use area and application of law enforcement based on the need are essential. 2. Forest Service personnel riding the type of vehicles used in the area; these contact persons must be well equipped with machine and safety gear and they must be qualified riders or drivers. b. Update Forest Orders and enforce closures and other restrictions.	
Mountain Bicycle Management (10-H)	Mountain bicycle management applies Forestwide. Every acre of National Forest land treated by this Forest Plan fits into one of the categories listed below (no open use is included). Special Note: Mountain bicycle management applies to and includes all forms of non-motorized mechanical transport, except wheelchairs used for access by the physically impaired.	
1. Restricted Mountain Bicycle Management	Mountain bicycle use will be controlled and directed to protect resources, promote the safety of all users, and minimize conflicts among the various users of the Forest.	Mountain bicycle use is restricted to existing roads and trails, subject to seasonal closures as resource conditions warrant. Roads and trails are considered open to mountain bicycle use unless signed closed to bicycles. Mountain bicycle use will be monitored for signs of overuse, conflicts and threats to public safety. Mountain bicycle-related problems presenting an immediate threat to life or property will be resolved through an immediate mountain bicycle closure, as it relates to the problem.
2. Closed Mountain Bicycle Management	Areas of the Forest in which mechanized use is prohibited are closed to mountain bicycle use.	Wilderness and proposed Wilderness are closed to mountain bicycles. Mountain bicycles may be prohibited from using other specific areas or trails by Forest Order.
Trail Management (10-I)	Maintain trails for their intended use. Regulate and restrict trail use as mandated by law or policy. Protect resource values and user safety while reducing conflicts. Emphasize and utilize volunteers, through the Adopt-A-Trail program and other agreements whenever possible.	Follow Forest Service Manual direction for trail management. Implement trail use regulations. Manage the Pacific Crest Trail as outlined in USDA Forest Service "Comprehensive Management Plan for the Pacific Crest National Scenic Trail", January, 1982.
Trail Construction and Reconstruction (10-J)	Develop a trail system that accommodates different types of users such as foot, equestrian, OHVs and mountain bicycles. Construct or reconstruct trails so as to avoid impacts to sensitive areas such as meadows.	Construct or reconstruct trails to accommodate the predicted type of use and capacity while providing the desired recreation experiences. Design equestrian trails to safely accommodate pack horses as well as horse and rider use. Design trails for OHVs to provide an enjoyable experience. When applicable, utilize closed or obliterated roads as trails.
Trail Construction and Reconstruction - Special Purpose (10-K)	Provide for special purpose trails such as physically impaired, educational, bicycle, and over-snow.	Separate bicycle trails from other uses except when incorporated into selected roads. Over-snow trails may be installed, signed and maintained by special use permittees.
Interpretive Services Planning (10-L)	An Interpretive Services plan for the Forest will establish objectives, priorities, evaluation criteria, and coordinate programs. Each District with an Interpretive Services Program will develop a Plan.	Maintain and update visitor information, interpretive, and environmental education plans including natural, cultural and management themes according to the direction of FSM 1661.
Interpretive Services Management (10-M)	Develop and maintain interpretation and visitor information programs.	Provide appropriate levels of information programs to enhance visitor understanding of the Forest environment and Forest Service management activities. Develop new programs. Present quality programs for large and small audiences that may include staffed information offices, guided and unguided activities, displays, exhibits, brochures and campfire programs.

Sensitive Plants

Practices	General Direction	Standards and Guidelines
Sensitive Plants Interim and Recovery Management (12-A)	Provide for protection and habitat needs of sensitive plants, so that Forest activities will not jeopardize their continued existence.	Protect sensitive plants from activities which might cause them to become Federally listed as Threatened or Endangered. Identify populations of sensitive plants which occur in areas planned for timber sales or other projects. Modify planned projects to avoid or minimize adverse impacts to sensitive plants. Where projects may jeopardize a sensitive plant species perform a Biological Evaluation, botanical investigation and develop management guidelines, as necessary, for the species involved. Prepare species management guidelines for all sensitive species in order of the degree of risk posed by management activities. Conduct surveys and monitoring necessary to detect potentially damaging disturbances, changes in known populations and locations of new populations.
Sensitive Plant Surveys (12-A) **SNFPA**[1]	Conduct field surveys for TEPS plant species early enough in the project planning process that the project can be designed to conserve or enhance TEPS plants and their habitat. Conduct surveys according to procedures outlined in the Forest Service Handbook (FSH 2609.25.11). If additional field surveys are to be conducted as part of project implementation, survey results must be documented in the project file.	

Soils

Practices	General Direction	Standards and Guidelines
Soil Support Services (13-A)	Forest projects and activities shall be conducted to maintain or improve soil productivity. (36 CFR 219.27(a) (1), 219.27(a)(2), 219.27(b)(5), 219.27(f)). Forest Soil Quality Standards and Best Management Practices will be implemented.	Soil properties or conditions should not be altered to the degree that would result in a 15 percent or more reduction in the inherent' productivity potential of the soil. **Soil Cover**: Manage soil cover to avoid a High Erosion Hazard condition, as defined by the R-5 Erosion Hazard Rating method. Soil cover should be in place prior to seasonal precipitation. **Soil Porosity**: Maintain soil porosity above 90 percent of its natural condition on at least 85 percent of a treatment unit or activity area (90 percent where aerial logging systems are used). Plantable landings and skid trails will be tilled, if compacted. Standard does not apply to system roads, administrative sites, or livestock driveways and bedding grounds. **Surface Organic Matter**: Provide an organic mulch on approximately 50% of the soil surface after site preparation. Provide for a mix of duff, small woody debris less than 3 inches in diameter, and large woody debris, mostly decaying and unmerchantable logs (minimum 5 logs per acre)., Desired logs are about 20 inches in diameter, about 10 feet long, and represent a range of decomposition classes as defined in the Soil Management Handbook, FSH 2509.18, Chapter 2. Standard may be waived in fuel break areas where fuel loading would be a safety hazard. **Soil Organic Matter**: Maintain topsoil organic matter to at least 85 percent of its original total in the top 12 inches. Applies to areas dedicated to growing vegetation, i.e., timber and forage production, vegetation that contributes to the quality of the recreational experience, and for watershed protection. Stockpile topsoil to rehabilitate disturbed areas such as borrow pits, mined areas, material storage sites, etc. **Best Management Practices** (BMPs): Implement BMPs to mitigate the environmental impacts of erosion, compaction, and soil displacement. Require special soil mitigation to use ground skidding equipment on slopes steeper than 35%. Require special soil mitigation to use ground skidding equipment on soils that erode, displace, or compact easily. Where actual

[1] 1920-2, April 19, 2005; Corrected Errata - SNFPA 2004 ROD - TEPS Plant Survey Standard and Guideline. SNFPA direction does not apply within the Stanislaus-Tuolumne Experimental Forest (SNFPA ROD, p. 15; USDA Forest Service 2004)

Practices	General Direction	Standards and Guidelines
		or potential slope instability is identified, specific mitigating measures will be developed by an interdisciplinary team including a geologist.
Soil Resource Improvement (Planning, Treatment and Maintenance) (13-B)	Improve the inherent productivity of the soil, or return degraded soils to the productivity consistent with Regional Soil Quality Standards and resource objectives. (36 CFR 219.27 (f))	Identify and evaluate the need for soil fertilization and other soil improvement techniques in areas where the soil is likely to respond to treatment. (36 CFR 219.27(b)(2). Treat areas that are found to be cost effective and that will respond favorably. Productivity lost as a result of soil erosion, soil compaction, loss of organic matter, or soil displacement, will be restored as practical to meet Soil Quality Standards. Include these areas in the Forest WINS inventory (Watershed Improvement Needs Survey), and in project K-V plans for restoration and improvement.
Soil Hydrologic Functions Soil Environmental Health (13-C)	Design and implement management practices that maintain or improve soil hydrologic function and soil environmental health.	Soil Moisture Regime is unchanged where productivity or potential natural plant community are dependent upon specific soil drainage classes. **Soil Hydrologic Function** Infiltration and permeability are not reduced to ratings of 6 or 8 as defined in Region 5 Erosion Hazard Rating System (Chapter 50, R-5 FSH 2509.22). Use Region 5 Cumulative Watershed Effects Analysis (Chapter 20, R-5 FSH 2509.22) to determine the extent of area needed to meet the soil hydrologic function threshold defined above. **Soil Environmental Health** Soil reaction class, buffering or exchange capacities, or biological populations are not altered to the degree that significantly effects soil productivity, soil hydrological function, or the health of humans and animals. Develop local threshold values and submit to Regional Forester for standardization among forests.

Special Areas

Practices	General Direction	Standards and Guidelines
Cave Resources Inventory and Evaluation (14-E)	Follow criteria and procedures for identification and evaluation of individual caves consistent with 36 CRF Parts 290, in accordance with P.L. 100-691, 36 CFR Part 290, and FSM 2356. This should be accomplished within one year of final rule making.	Compile information regarding cave location, condition, and characteristics from readily available sources including the National Speleological Society and other interested publics. Inventory should be based on existing, readily available data. Apply the legal criteria to evaluate the significance of each cave. Prepare nominations for significant caves and submit to the Regional Forester for designation.
Cave Resources Planning and Management (14-F)	Administer significant caves in accordance with provisions of P.L. 100- 691, 36 CFR Parts 260 and 290, and FSM 2356.	Incorporate significant caves, when identified, by amendment into the Forest Plan as a Forest Cave Management Plan. This will take the form of provisions to protect and maintain significant cave resources. The Forest Cave Management Plan will be written in conjunction with the National Speleological Society and other interested publics. Protect caves from vandalism by physical protection, cooperative efforts with user groups, signing, or other activities associated with cave resources protection developed in the Forest Cave Management Plan. Conduct law enforcement investigations when cave resources are impacted, using 36 CFR 290 and other applicable laws and regulations.

Transportation and Facilities

Practices	General Direction	Standards and Guidelines
Road Construction and Reconstruction (16-A)	Construct and reconstruct Forest roads including long-term and temporary roads.	Conduct an integrated interdisciplinary transportation analysis, following the national roads analysis procedures, as part of landscape analysis. Complete unclassified road inventories for each national forest within 10 years. Geometric standards and location will be planned to provide acceptable levels of service and traffic safety and meet resource management needs. Traffic Service Level C (see Appendix G of the Plan for descriptions of traffic service levels) or higher should be used where a significant mix of public and commercial traffic is planned. Alignment, width and passing facilities should provide appropriate speed, traffic safety and flow on roads with high traffic volumes or public traffic. Traffic Service Level D may be used on roads where use will be primarily commercial and traffic volumes will be low. On Traffic Service Level D roads limited turnouts and sight distance may be acceptable in combination with traffic management for safety. Surfacing will be planned with consideration for the total cost of transportation, including construction, operation and maintenance costs, while meeting resource management objectives. Roads with weak subgrades which are susceptible to rutting may require surface stabilization. Traffic Service Level will be considered when public use justifies smooth dust-free surfaces. Roads with higher traffic volumes, often arterial and collector roads, may need more stable and higher-speed surface types. Economic analysis and road management objectives will be used to determine improvement needs. Location, design and construction standards will protect soil, watersheds, fisheries and other resources.
Road Construction, Reconstruction, and Relocation (16-A) **SNFPA**[1]	To protect watershed resources, meet the following standards for road construction, road reconstruction, and road relocation: (1) design new stream crossings and replacement stream crossings for at least the 100-year flood, including bedload and debris; (2) design stream crossings to minimize the diversion of streamflow out of the channel and down the road in the event of a crossing failure; (3) design stream crossings to minimize disruption of natural hydrologic flow paths, including minimizing diversion of streamflow and interception of surface and subsurface water; (4) avoid wetlands or minimize effects to natural flow patterns in wetlands; and (5) avoid road construction in meadows.	
Transportation Management, Roads - Obliteration (16-D)	Obliterate roads not needed for continuing management so as to protect resources and restore resource productivity.	The Forest Road Obliteration Plan will identify and prioritize roads to be obliterated. Obliterated roads will be closed to motor vehicles with barricades of natural materials, such as logs, or by restoring the natural slope. Where economically feasible, the natural slope of the obliterated road will be restored. The roadbed will be scarified when necessary to encourage revegetation. The obliterated road will be cross-drained to prevent erosion. The roadbed will be reseeded or replanted.

Visual Resources

Practices	General Direction	Standards and Guidelines
Visual Resource Inventory and Planning (17-A)	Maintain current data files for: Visual Quality Objectives (VQOs), Visual Absorption Capability (VAC), and Existing Visual Condition (EVC). Provide visual resource recommendations to land managers and interdisciplinary team members who are assessing land altering projects with a VQO of Partial Retention or Retention.	Provide visual analysis using aerial photos, existing VAC maps, field analysis, computer perspective plots or simulations for projects with a VQO of Partial Retention or Retention. Predict future visual condition on a project basis.

[1] SNFPA direction does not apply within the Stanislaus-Tuolumne Experimental Forest (SNFPA ROD, p. 15; USDA Forest Service 2004)

Practices	General Direction	Standards and Guidelines
Visual Quality Objectives (VQOs) (17-B)	Manage areas to provide a characteristic natural appearing landscape commensurate with the description stated for each VQO practice. Resource management activities will be guided by the appropriate Landscape Management handbooks and Forest Landscape Architects' recommendations. The adopted VQOs are displayed on Map 8, Appendix I. VQOs are desired ratings outlined under the Forest Service system of Visual Resource Management. VQ0s apply Forestwide; every acre of National Forest land treated by this Forest Plan fits into one of the VQO classes listed below (No Maximum Modification):	Meet the adopted VQO for all landscape altering projects. VQOs will be compatible with the applicable ROS classes. Maintain visual quality by including mitigation measures for all activities that have the potential to alter the landscape beyond the adopted Visual Quality Objective. Specific facility and vegetative treatment within major highway view sheds will be guided by approved View shed Plans.
1. VQO Preservation	Allow ecological changes only, except for trails.	Design and locate trails, trail bridges, and other trail related improvements as unobtrusive as possible in the landscape.
2. VQO Retention	Provide a natural appearing landscape where changes are not readily evident.	**Foreground Distance Zone** Impacts of management activities in highly visible foreground areas will be reduced through special treatments. **Middleground and Background Zones** Visual diversity shall relate to the concept of a “natural appearing forested landscape” in a sequence and continuity of a view in the middleground or background. Special cutting may be applied.
3. VQO Partial Retention	Provide a natural appearing landscape where changes are evident but are subordinate to the surrounding characteristic landscape.	**Foreground Distance Zone** Where safe, maintain old-growth specimen character trees in the immediate foreground distance zone. Visual diversity shall relate to the concept of a “natural appearing forested landscape” in a sequence and continuity of a view in the foreground. Special cutting permitted. Impacts of management activities in highly visible foreground areas will be reduced through special treatments. **Middleground and Background Zones** Visual diversity shall relate to the concept of a “natural appearing forested landscape” in a sequence and continuity of a view in the middleground or background.
4. VQO Modification	Allow for modified conditions where changes are readily evident and may dominate the surrounding characteristic landscape.	
Visual Resource Improvement (17-C)	Apply to areas created by management activities or where existing conditions require improvement.	Schedule and carry out rehabilitation to upgrade landscapes that do not meet the adopted VQO for the area. Undertake enhancement measures where it is determined that there is potential for greater natural appearing variety.

Water

Practices	General Direction	Standards and Guidelines
Water Quality Management (18-A)	Comply with all applicable Federal and State water quality standards. Prevent or minimize as much as possible any water quality impacts which may be caused by Forest management activities. Achieve the goals for preventing or minimizing water pollution as stated in the Federal Clean Water Act. Implement water quality Best Management Practices (BMPs) as specified in the Management Agency Agreement with the California Water Resources Control Board for protection of non-point water pollution sources. Comply with applicable provisions of the Water Quality Control Plan (Basin Plan) of the California Central Valley Regional Water Control Board.	Implement water quality Best Management Practices (BMPs) as needed for all Forest management activities. BMPs are a system of nearly 100 practices designed to minimize or prevent water pollution from Forest management activities. They cover such activities as timber harvest, road construction, mining, recreation, fire management and grazing. See Appendix K of the EIS for a discussion and listing of the water quality BMPs. Monitor the implementation and effectiveness of BMPs in selected areas to determine if they are being carried out and if they are accomplishing their objectives. Analyze cumulative watershed effects (CWE) on all applicable proposed Forest management activities to determine off-site effects on the beneficial uses of water.
Water Quantity Management (18-B)	Support water yield increase where economically feasible and environ- mentally acceptable. Follow Forest Service Manual policy for proposed weather modification projects, especially in designated Wilderness. Provide input to proposals for water supply and hydroelectricity which may alter fluvial systems by construction of facilities such as dams, diversions and tunnels. Such input will support valid proposals provided they are consistent with sound watershed resource protection measures. Support all valid uses of water from the National Forest. Insure that such uses are carried out commensurate with Federal and State laws and regulations.	Follow all Federal and State regulatory practices required in responding to proposals to develop the water resource. Keep current all water rights management for beneficial uses of water on the Forest.
Watershed Maintenance and Improvement (18-D)	Maintain or improve watershed condition to provide stewardship of water and soil resources. Survey Forest watersheds and restore degraded areas to improve watershed condition. Establish a Forestwide water resources inventory (WRI) to determine needs for maintenance and improvement of the water resource. The WRI is a comprehensive data base of water resource information for each Forest watershed. It is used to determine watershed condition to (1) protect or enhance the water resource when planning forest management activities and (2) to determine watershed improvement needs (WIN).	Conduct periodic watershed surveys to determine the current condition of the water resource, identify potential WIN projects and assess the potential for cumulative watershed effects. Conduct disaster surveys as needed and prescribe applicable emergency rehabilitation treatments. Such disasters include wildfires, floods, earthquakes and damage from high winds and avalanches. Implement the following watershed recovery practices following major wildfires, except in Wilderness in most cases: 1. Restore ground cover as soon as possible when necessary to reduce flood flows to protect life and property, to maintain soil productivity and/or to minimize stream sedimentation and cumulative watershed effects. 2. Conduct reforestation activities in a manner which reduces the potential for cumulative watershed effects, such as dispersing site preparation adequately over time and space and/or using techniques which minimize land disturbance.

Management Area Direction

The Forest has been divided into Management Areas based on their predominant management emphasis. Management Area boundaries were created from issues, concerns and opportunities developed during the planning process and from existing administrative boundaries.

Each Management Area has a management emphasis statement, a description of the physical area, and a management prescription which describes specific practices, activities, and Standards and Guidelines applicable to that Management Area. All Forestwide Standards and Guidelines also apply within each Management Area. If additional specific direction is given for a particular Forestwide practice, the specific direction applies, in addition to the Forestwide Standards and Guidelines[1].

[1] Practices column also indicates the source of the direction if other than the original 1991 Forest Plan (see Forest Plan Amendments).

Wilderness and Proposed Wilderness

Management Emphasis

Manage to maximize the quality and naturalness of the Wilderness environment. Minimize impacts to the Wilderness resource while allowing it to be used for primitive recreation and preserving scenic, scientific, educational and historical values. Mechanized use is not normally allowed. All National Forest lands within Congressionally designated Wilderness and areas recommended for Wilderness will be managed in accordance with the Wilderness Act of 1964 (16 USC 1131-1136) as amended.

Description

This Management Area contains:

Wilderness

Carson-Iceberg Wilderness (77,800 acres)

The Stanislaus portion of the Carson-Iceberg is located in the northeastern part of the Forest. It borders the Toiyabe National Forest along the northeast Forest boundary. Approximately 1/2 of the Carson-Iceberg Wilderness is within the Toiyabe N.F. Recreation use in this large area includes hiking, backpacking, camping and horse riding. Fishing use is light, but hunting is popular near trailheads in the fall. A portion of the Clark Fork proposed Wild and Scenic River is within this Wilderness. Disaster Creek, which has been found eligible for Wild and Scenic River status, is also located here.

Emigrant Wilderness (112,000 acres)

Located in the east-central part of the Forest, this area is characterized by large expanses of bare, glaciated granite and sub-alpine vegetation types, numerous glacial lakes, high quality scenery and wilderness recreation opportunities. It is bordered on the east by Toiyabe National Forest and Yosemite National Park. The Emigrant Wilderness became part of the National Wilderness Preservation System in 1975. The California Wilderness Act of 1984 added 5,855 acres to the original area. Recreation use of the Emigrant Wilderness increased rapidly during the 1970's and early 1980's but appears to have leveled off since then. It now averages about 100,000 recreation visitor-days (RVDs) per year. Most of this use is hiking, camping and backpacking, but pack-stock are also commonly used. Fishing is quite popular at most lakes; hunting use is light. Commercial livestock grazing occurs in some areas. Tungsten mining in the Snow Lake area has occurred in the past. Portions of several streams which are eligible for Wild and Scenic River designation lie within this Wilderness. They include Kennedy Creek (proposed Wild and Scenic River), Relief Creek South Fork Stanislaus River, Buck Meadow Creek, Summit Creek, and the Cherry Creek system.

Mokelumne Wilderness (22,000 acres)

The Stanislaus portion of the Mokelumne Wilderness is located in the northern part of the Forest. It includes rugged slopes above the Mokelumne River, the Mokelumne River bottom, and other lands between Highway 4 and the northern Forest boundary. The Mokelumne Wilderness was created by the Wilderness Act in 1964. 13,000 acres on the Stanislaus National Forest were added by the California Wilderness Act of 1984. Recreation use of the Stanislaus portion if fairly light, limited to a few trails and camping areas. Fishing in the Mokelumne is popular, but access is limited to steep trails. Some grazing use occurs. A portion of the North Fork Mokelumne proposed Wild and Scenic River is within this Wilderness.

Proposed Wilderness

Bald Peak (20,500 acres)

This area is the Bald Peak portion of the Carson-Iceberg Planning Area, located in the northeast portion of the Forest. The area is recommended as an addition to the Carson-Iceberg Wilderness. The Pacific Crest Trail crosses a corner of the area near Sonora Pass. There is one other hiking trail on Douglas Creek which receives only light use. Hunters use the area in pursuit of deer, grouse and quail. Grazing occurs throughout the area.

Tryon Peak (3,400 acres)

The Tryon Peak portion of the Carson-Iceberg Planning Area is located in the northeast corner of the Forest. The area is recommended as an addition to the Carson-Iceberg Wilderness. The Pacific Crest Trail crosses the western edge of the area along the Sierra Nevada Crest. Hunters use the area in the fall. Grazing occurs in the area.

Practices	General Direction	Standards and Guidelines
Fish and Wildlife		
Fisheries Habitat Improvement and Maintenance - Structural Improvements, Streams and Lakes (5-B)	Operate and maintain water control structures which are compatible with Wilderness values.	Conduct activities only to maintain water control structures approved for retention in a way which protects Wilderness and associated values.
Range		
Allotment Management - Extensive or Maintenance (9-A-2 and 9-A-3)	Manage livestock grazing to preserve the characteristics and values of Wilderness.	Improve ecological condition of rangelands, where currently unsatisfactory, through improved management and structural and non-structural improvements. Construct new range improvements only as necessary to manage grazing and protect resource values. Construct improvements using non-motorized tools and access.
Recreation		
ROS Primitive (10-B-1)	Provide for very low interaction between visitors with a range of primitive recreation experiences. Evidence of other users is minimal.	Manage to a ROS Class of Primitive. This is the adopted ROS level for management of all Wilderness as shown on the ROS Map The ROS Class of Semi-Primitive Non-Motorized is an acceptable interim level for certain areas within Wilderness.
Dispersed Recreation Management (10-F)	Provide for recreation activities that are compatible with Wilderness Management	Manage dispersed recreation to be consistent with guidelines for Wilderness Management.
Closed Motor Vehicle Travel Management (10-G-1) **MVTM**	Closed to motorized use.	Manage to Forestwide S&Gs for Closed Motor Vehicle Travel Management. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to eliminate evidence of, and access by, unauthorized motorized use.
Closed Mountain Bicycle Management (10-H-2)	Prohibit all mechanized use except wheelchairs needed for barrier-free access.	
Interpretive Services Planning (10-L)	Develop and update IS Plans for each Wilderness.	Identify objectives, audiences, interpretive messages, communication methods and facility requirements for each.

Practices	General Direction	Standards and Guidelines
Interpretive Services Management (10-M)	Interpret unique features of each Wilderness	Prepare maps, brochures, signs and other interpretive devices to explain special features and reduce area damage.
Interpretive Services Facilities not On Interpretive Services Sites (10-N)	Provide information and education material at trailheads outside of Wilderness to explain Wilderness use and protection	Develop maps, brochures, and publications for visitor use that stress Wilderness manners, health, safety, no-trace camping, control of dogs, and proper use of firearms.
Special Areas		
Research Natural Area (RNA) Investigations (14-A)	Conduct RNA investigations while protecting Wilderness values.	Coordinate activities with PSW/R5 RNA committee.
RNA Management (14-B)	Manage RNAs within Wilderness under dual designation.	Manage to be consistent with Wilderness guidelines.
Special Interest Area (SIA) Investigations (14-C)	Conduct SIA investigations while protecting Wilderness values.	
SIA Management (10-D)	Manage SIAs within Wilderness under dual designation.	Manage to be consistent with Wilderness guidelines.
Transportation and Facilities		
Road Construction and Reconstruction (16-A)	Construct and reconstruct roads only where existing valid rights exist.	Limit road construction to that necessary to reasonably remove minerals from valid mineral leases and existing mining claims. Motorized access for valid mining claims must be approved as a part of the plan of operation. Location, design and construction standards will protect soils, watershed, fisheries and other resources.
Transportation Management, Roads Excluded from Highway Safety Act (16-C)	Restrict traffic to users with existing valid rights.	Limit motorized traffic to users with valid existing mining claims and approved plans of operation.
FA&O Facility Operation and Maintenance (16-F)	Perform needed maintenance on existing facilities.	Maintain existing cabins and dams as needed.
Visual Resource		
VQO Preservation (17-B-1)	Allow ecological changes only. Trails, trail bridges, and other trail related improvements will be designed and located to be as obscure as possible.	Manage to the VQO of Preservation. This is adopted VQO level for all Wilderness as shown on the VQO Map.
Wild and Scenic Rivers		
Wild and Scenic River Inventory and Planning (19-A)	Conduct studies and prepare management plans while protecting Wilderness values.	Be consistent with application of Wilderness guidelines.
Wild and Scenic River Management (19-B)	Manage Wild Rivers within Wilderness under dual designation.	Manage to be consistent with application of guidelines for Management Area 2 (Wild and Scenic Rivers).
Proposed Wild and Scenic River Management (19-C)	Protect and enhance Wild and Scenic values of proposed segments within Wilderness.	Manage to be consistent with application of guidelines for Wild and Scenic Rivers Management Area. Manage to Wilderness guidelines.
Alternate Management (19-D)	Protect Wild and Scenic River values of eligible segments proposed for Wilderness Alternate Management (See Appendix E (EIS) Wild and Scenic River Study).	Manage to Wilderness guidelines, all or portions of the following segments that are within Wilderness: Summit Creek, South Fork Stanislaus, Cherry Creek Segments 1-4, Disaster Creek, Buck Meadow Creek, and Relief Creek.

Practices	General Direction	Standards and Guidelines
Wilderness		
Wilderness Inventory and Planning (20-A)	Complete and update Wilderness Management Plans for all designated Wildernesses. Use monitoring data and public input to recommend major changes in Wilderness management direction. Complete formal nominations for proposed Wilderness as necessary.	Develop plans using the Limits of Acceptable Change (LAC) Methods. Review or develop new management strategies or controls for this planning period. Utilize systems for judging impacts on Wilderness campsites, such as the Frissell method of condition classification and LAC.
Wilderness Management (20-B)	Manage to preserve unique Wilderness characteristics. Implement Limits of Acceptable Change (LAC). Wilderness management will be consistent with adjoining National Park Wilderness management and will limit use as necessary. Allow commercial uses by permit only after evaluation shows that such use will not com- promise Wilderness resources and character.	Use the Wilderness permit system and/or field observation to collect visitor data. Control use as follows: When LAC standards are exceeded for a site or area, implement appropriate management actions to remedy the situation. Close, rotate, or rehabilitate campsites to allow for site recovery. Require parties with recreation stock to carry feed when conditions warrant. Restrict stock use from steep and rocky terrain. Grant permits to collect native plants only when needed to meet administrative or research needs. Limit commercial outfitter/guide activities to those meeting specific public needs that cannot be provided outside Wilderness. Do not issue permits for training activities or recreation events. The above Standards and Guidelines are consistent with and will be used in conjunction with the Management Plans for each Wilderness.
Proposed Wilderness Management (20-C)	Protect and enhance Wilderness characteristics.	Manage the same as designated Wilderness.

Emigrant Wilderness[1]

Management Emphasis

Management emphasis, within the Emigrant Wilderness is to move the Wilderness as a whole toward a more pristine condition by maintaining some areas and moving others to a more pristine Opportunity Class (Class) designation. Management direction moves the Long Lake, Yellow Hammer Lake, Blue Canyon Lake, and the Chewing Gum trail corridor to Class II. The travel corridor from Coyote trail head through Horse and Cow Meadow, Hay Meadow, Whitesides, Upper Relief and Lower Relief, and Kennedy Creek and Kennedy Lake, move from Class IV to Class III. The double corridor between the Crabtree Trail and the Bell Meadow Trail, including Piute, Deer, Long, Kole, Leighton, Gem and Jewelry Lakes moves to Class III. The corridor between Mosquito Pass and the upper end of Emigrant Lake also moves to Class III.

Description

This Management Area contains the 112,000 plus acre Emigrant Wilderness. Located in Tuolumne County, the Wilderness is characterized by bare glaciated granite, sub-alpine vegetation types, numerous glacial lakes, high quality scenery and excellent Wilderness recreation opportunities. Recreation use, which includes backpacking, horse packing, hunting, fishing, cross-country skiing and rock climbing increased rapidly throughout the seventies and early eighties then dramatically declined in the mid 1980's. Use has shown a steady increase since 1989 and now averages around 75,000 recreation visitor days (RVDs) of overnight use and an estimated 20,000 RVDs of day use per year. The Emigrant Wilderness is approximately 140 air miles east of San Francisco and 50 miles south of Lake Tahoe.

Practices	General Direction	Standards and Guidelines
Indicators, Standards and Activities **EWMD**	When standards are not met, management actions may be implemented to assure attainment. The least obtrusive effective measures to ensure standards are met will be employed. Actual actions taken will depend on site specific situations. Reaching these thresholds will not require stepping up to the next level of action, but will allow for the stronger response should specific site conditions warrant them. When level 2 of 3 actions are allowable they will not necessarily be implemented if less obtrusive actions will be effective (see Monitoring and Evaluation).	
Crowding **EWMD**	The opportunity for solitude is... The opportunity for a primitive or unconfined recreation experience is... I. outstanding II. high to outstanding III. moderate to outstanding IV. low to outstanding	Implement the standards, possible actions and thresholds shown in Monitoring and Evaluation.
Campsite and Stock Holding Area Condition **EWMD**	The imprint of human influences is... I. unnoticeable II. unnoticeable in most areas III. substantially unnoticeable IV. substantially unnoticeable Human influences on aquatic life, hydrologic processes, soils (and) vegetation are… I. unnoticeable II. unnoticeable in most areas III. minimal IV. minimal	Pack and saddle stock are appropriate in all opportunity classes except as necessary to protect wilderness resources as determined through site specific analysis. Continue monitoring the condition of larger areas, such as large meadows where stock are grazed, through range condition and trend analysis as undertaken for cattle allotments. **Campsite Condition Indicator** Implement the ratings, standards, possible actions and thresholds shown in Monitoring and Evaluation. **Stock Holding Area Condition Indicator** Implement the ratings, standards, possible actions and thresholds shown in Monitoring and Evaluation. When a particular category of stock user (commercial, private, alternative stock) can be distinguished as the primary cause of the problem at a given destination, then tailor actions to that particular category when possible.

[1] Emigrant Wilderness Management Direction, Forest Plan Amendment, USDA Forest Service 1998

Practices	General Direction	Standards and Guidelines
Emigrant Wilderness Opportunity Classes (20-B-1) **EWMD**	The Emigrant Wilderness is subdivided into four (I-IV) Opportunity Classes. The table below shows Opportunity Class allocations by destination area. The Emigrant Wilderness Opportunity Class Map also shows the allocations. The direction takes precedence in cases of disagreement between the direction and the maps.	

Table 8 Emigrant Wilderness Opportunity Class Allocations

Destination	Unit	OC	Destination	Unit	OC	Destination	Unit	OC
Adele Lake	D	IV	Grouse Lake	D.2	III	Piute Meadow	D.2	III
Bear Lake	D	IV	Hay Meadow	D.2	III	Powell Lake	D	IV
Big Lake	B	II	High Emigrant Lake	C.6	II	Pruitt Lake	A	I
Bigelow Lake	C.6	II	Hollywood Basin	C.6	II	Red Bug Lake	C.6	II
Black Bear Lake	B	II	Horse and Cow Mdw.	D.2	III	Red Can Lake	B	II
Black Hawk Lake	A	I	Horse Meadow	C	III	Relief Reservoir	D	IV
Black Bird Lake	C	III	Huckleberry Lake	C	III	Ridge Lake	B	II
Blue Canyon Lake	C.5	II	Hyatt Lake	B	II	Rosasco Lake	C.3	II
Buck Lakes	C	III	Iceland Lake	B	II	Rose Lake	A	I
Camp Lake	D	IV	Jewelry Lake	D.2	III	Salt Lick Meadow	B	II
Chain (Dutch) Lakes	C.2	III	Karl's Lake	D.2	III	Sardella Lake	B	I
Chewing Gum Lake	D	IV	Kennedy L/Ck/Soda C	D.1	III	Saucer Meadow	D	IV
Coolidge Meadow	A	I	Kole Lake	B	II	Shallow Lake	B.2	II
Cooper Meadow	D.2	III	Leighton Lake	D.2	III	Sharon Lake	A	I
Cooper Pocket	D.3	II	Leopold Lake	B	II	Sheep Camp	D	IV
Cow Meadow Lake	C	III	Lertora Lake	C	III	Snow Lake	C.3	III
Coyote Lake	B	II	Long Lake	C.4	II	Spring Meadow	C	III
Deadman Lake	A.1	II	Lord Meadow	C	III	Star Jordan Lake	A	I
Deer Lake	D.2	III	Lost Lake	B.2	II	Starvation Lake	C	III
Douglas Lake	A	I	Louse Canyon	D.2	III	Studhorse Meadow	A	I
Emigrant Lake	D.2	III	Lower Lewis Lake	B	II	Summit Meadow	C.3	III
Emigrant Mdw. Lake	C.6	II	Lower Relief Valley	D.3	II	Toejam Lake	C	III
Estella Lake	A	I	Lunch Meadow	D	IV	Tom's Canyon	B	II
Fisher Lakes	B.2	II	Maxine Lakes	B.2	II	Upper Lewis Lake	A	I
Five Acre (Edna) Lake	B	II	Maxwell Lake	C	III	Upper Relief Valley	D.3	II
Fraser Lakes	B.2	II	Mercur Lake	A	I	W Lake	B.2	II
Frog Lake	C	III	Mid. Emigrant Lake	C.6	II	Waterhouse Lake	D	IV
Gem Lake	D.2	III	Mid. Lewis Lake	B	II	Whitesides Meadow	D.2	III
Granite Lake	C	III	Mosquito Lake	B.3	I	Wilson Meadow Lake	A	I
Grizzly Meadow Lake	C.1	III	Olive Lake	A	I	Wire/Banana Lakes	C	III
Groundhog Meadow	D.2	III	Pingree Lake	C.3	II	Wood Lake	D.2	III
Grouse Creek	A	I	Pinto Lakes	C.6	II	Y Meadow	C	III
Grouse Creek Lake	A	I	Piute Lake	D.2	III	Yellowhammer Lake	C.5	II

Campfire Wood and Campfires **EWMD**	The imprint of human influences is... I. unnoticeable II. unnoticeable in most areas III. substantially unnoticeable IV. substantially unnoticeable Human influences on soils vegetation and woody debris accumulation are... I. unnoticeable II. unnoticeable in most areas III. minimal IV. minimal	A campfire is defined as any controlled fire set by humans in association with camping activities for various purposes such as cooking, burning garbage, warmth, aesthetics, or social activities. Firewood is considered any down woody debris between one inch in diameter and 4 inches in diameter. Continue campfire restrictions above the 9,000 foot contour. Allow site-specific variations based on monitoring firewood availability indicators and standards. **Firewood Availability Indicator** Implement the ratings, standards, possible actions and thresholds shown in Monitoring and Evaluation. Do not consider areas with less than sparse stand densities for

Practices	General Direction	Standards and Guidelines
		campfire wood gathering.
Stream Condition **EWMD**	Human influences on aquatic life, hydrologic processes, soils (and) vegetation are… I. unnoticeable II. unnoticeable in most areas III. minimal IV. minimal	Evaluate stream condition in the Emigrant Wilderness by the degree to which human uses disturb the natural pattern, profile and dimension of stream channels. Measure stream condition in stream reaches sensitive to disturbance using the USDA Forest Service Pacific Southwest Region Stream Condition Inventory (SCI) protocols (or future similar protocols). **Stream Condition Indicator** Implement the standards, possible actions and thresholds shown in Monitoring and Evaluation.
Water Developments **EWMD**	Ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces. I. no noticeable effects from human uses II. localized human uses may have limited effects in very few areas. III. localized human uses may have limited effects in few areas. IV. localized human uses may have limited effects in some areas. Human influences on aquatic life and hydrologic processes are... I. unnoticeable II. unnoticeable in most areas III. minimal IV. minimal The imprint of human influences is... I. unnoticeable II. unnoticeable in most areas III. substantially unnoticeable IV. substantially unnoticeable Facilities Structures and Signing may be utilized for... I. resource protection when other less obtrusive measures have been exhausted. II. resource protection, administration or Wilderness purposes. III. same IV. same	Maintenance of water impoundment structure will be consistent with the USDA Forest Service / California Department of Fish and Game joint strategy. No maintenance activities will occur until site specific analysis is completed and a determination is made as to whether the structure is necessary to meet the minimum requirements for the administration of the area as Wilderness. Dams without a high enough value to warrant retention should be allowed to deteriorate naturally (no maintenance) consistent with Forest Service direction, rather than removed. If a safety concern dictates removal, conduct the appropriate level of analysis to determine removal method.
Dog Control **EWMD**	Ecosystem are unaffected by human manipulation and influences so that plants and animals respond to natural forces (see FSM 2320.2). Localize human influences may have limited effects in... I. no noticeable effects from human uses. II. in very few areas. III. in few areas.	Opportunity class objectives for degree of wildlife disturbance vary, however potential management actions would be difficult to implement by opportunity class. The following direction applies to all opportunity classes. **Dogs out of Control** An unleashed dog not immediately responsive to commands, or a dog chasing wildlife or livestock (except working cow dogs), digging up burrows, or actions that disturb other visitors. **Education** Educate visitors in the office and the field on Emigrant dog policy

Practices	General Direction	Standards and Guidelines
	IV. some areas. Wildlife use patterns may show… I. no noticeable II. brief, temporary III. seasonal, temporary IV. seasonal, temporary …alterations due to human influences but are not permanently altered.	and the effects loose dogs have on wildlife, livestock and other visitors.
Wildlife Habituation **EWMD**	Ecosystems are unaffected by human manipulation and influences so that plants and animals respond to natural forces (see FSM 2320.2). Localize human influences may have limited effects in... I. no noticeable effects from human uses II. in very few areas III. in few areas IV. some areas Wildlife use patterns may show… I. no noticeable II. brief, temporary III. seasonal, temporary IV. seasonal, temporary …alterations due to human influences but are not permanently altered.	Increase the level of visitor education regarding the storage of food. Encourage all Wilderness visitors to store food in bear proof containers. In the absence of bear proof containers, encourage all visitors to store food using current and appropriate methods to protect animals from human foods. Emphasize the methods and rationale for this practice in educational materials.
Rock Climbing **EWMD**	The imprint of human influences is... I. unnoticeable II. unnoticeable in most areas III. substantially unnoticeable IV. substantially unnoticeable	The following direction applies to all opportunity classes to prevent damage to rock faces and visual impacts resulting from rock climbing activities. Education: Make educational materials readily available with information on low impact rock climbing techniques. Rock Drills: Prohibit mechanized equipment such as rock drills. Chalk: Allow chalk use. Bolts: Prohibit additional climbing bolts. Pitons: Discourage the use of Pitons through educational materials and visitor contacts. Chocks: Encourage the use of chocks through educational materials and visitor contacts.
Facilities, Structures and Signs **EWMD**	The imprint of human influences is... I. unnoticeable II. unnoticeable in most areas III. substantially unnoticeable IV. substantially unnoticeable Facilities Structures and Signing may be utilized for... I. resource protection when other less obtrusive measures have been exhausted. II. resource protection, administration or Wilderness purposes. III. same IV. same	Provide facilities and improvements only for protection of the Wilderness resource. Document and justify conditions for providing facilities in the Forest Plan. Install facilities as a last resort (FSM 2323.13). Remove existing structures not determined essential to the administration, protection or management of wilderness for wilderness purposes or not provided for in the establishing legislation. (FSM 2320.3(4)). Maintain structures determined essential for administration, resource protection, special uses or wilderness purposes. Wilderness purposes include recreational, scenic, scientific, educational, conservation, and historical use (sec. 4(b)). Maintenance activities will be in conformance with all applicable laws, policies and direction. Do not use interpretive or informational signs (FSM 2324.33f).

Practices	General Direction	Standards and Guidelines

The table below displays the management disposition, using the following definitions, for existing individual facilities, structures and signs

Maintain Objective is to maintain structure to all applicable FSM/FSH standards.

No Maintenance Structure should be allowed to deteriorate over time. If a public safety concern warrants removal, conduct appropriate level of analysis to determine method of removal.

Temporary Use as needed on a temporary basis

Remove Physically remove, relocate, burn if appropriate or scatter if made from natural materials. Structures may be relocated outside of Wilderness.

Management of Existing Structures

National Register Eligible	
Cooper Cabin	Maintenance permitted as part of existing grazing permit. Re-evaluate at permit cancellation or AMP revision.
Yellowhammer Cabin	Maintain only to arrest decay and prevent irretrievable deterioration pending completion of site-specific analysis determination for long-term management of the site and structures.
Kennedy Cabin	Maintenance permitted as part of existing grazing permit. Re-evaluate at permit cancellation or AMP revision.
Horse Meadow Cabin	Maintenance permitted as part of existing snow survey permit. Re-evaluate at permit renewal, transfer, cancellation or revision.
Summit Meadow Cabin	No Maintenance
Not Eligible for National Register	
Huckleberry Cabin	Maintenance permitted as part of existing snow survey permit. Re-evaluate at permit renewal, transfer, cancellation or revision.
Buck Lakes Partial Structure	No Maintenance
Hay Meadow Partial Structure	No Maintenance
Other Structures and Facilities	
Cooper Allotment Fencing	Maintenance permitted as part of existing grazing permit. Re-evaluate at time of AMP revision or permit cancellation. Remove unused fences
Kennedy Allotment Fencing	Maintenance permitted as part of existing grazing permit. Re-evaluate at time of AMP revision or permit cancellation. Remove unused fences
Horse Meadow Fencing	Maintain minimum necessary for resource protection using native or visually unobtrusive materials.
Cow Meadow Lake Fencing	Maintain minimum necessary for resource protection using native or visually unobtrusive materials. Remove peninsula fence
Huckleberry Lake Fencing	Maintain minimum necessary for resource protection using native or visually unobtrusive materials.
Buck Lake Meadow Fencing	Maintain minimum necessary for resource protection using native or visually unobtrusive materials.
Mining Structures and Debris	Remove
Bridges	Maintain existing bridges. Do not Build Summit Creek Bridge.
Communications	Temporary
Snow Sensors	Temporary; remove when no longer minimum necessary.
Aerial Snow Marker	Remove

Practices	General Direction	Standards and Guidelines
	Treatment of Existing Facilities, Signs and Structures **Administrative Structures** **Historical Structures** **Fencing** **Communication Structures** **Other Agency and Special Use Permit** **Snow Measurement Sites** **Range Structures**	Limit structures and improvements for administrative purposes or under special use permit to those actually needed for management, protection, and use of the wilderness for the purposes for which the wilderness was established (FSM 2324.31). Determine the long-term need of the improvement and its location before authorizing substantial maintenance for administrative or permitted improvements (FSM 2324.31). The Regional Forester may approve stabilization or restoration and subsequent maintenance of National Register eligible sites, buildings and structures in Wilderness if their continued existence is determined essential for administration, protection, special uses or wilderness purposes. All structures determined eligible and deemed necessary will be managed pursuant to 36 CFR Part 800, regulation implementing Section 106 of the National Historic Preservation Act and the Secretary of the Interior's Standards and Guidelines for Treatment of Historic Properties. No maintenance activities will be performed on an historic site, building or structure until a treatment plan is completed and approved. When maintaining or building fencing, place it in the least visible location possible, using the most unobtrusive methods and materials. Maintain communication structures only as necessary for administration and protection of the wilderness. Evaluate and document the need for communications structures in the Forest plan (FSM 2323.33g). Periodically review permits for structures in wilderness to determine and Special Use whether or not their continued existence is in the public interest. If not, terminate the permits and remove the improvements (FSM 2324.3). Encourage the transfer of existing wilderness sites to locations outside of wilderness (FSM 2323.44a). Construction of new range improvements may be approved if they are necessary for resource protection (range or wilderness) and for the effective management of these resources. Do not approve construction solely to accommodate increased grazing. (FSM 2323.26a)	
Trails **EWMD**	The imprint of human influences is... I. unnoticeable II. unnoticeable in most areas III. substantially unnoticeable IV. substantially unnoticeable Facilities Structures and Signing may be utilized for... I. resource protection when other less obtrusive measures have been exhausted. II. resource protection, administration or Wilderness purposes. III. same IV. same The opportunity to utilize a high degree of skill and self reliance, while experiencing risk and challenge is... I. outstanding II. high to outstanding	**Trails** Design, construct, and maintain trails consistent with the opportunity class objectives established in the Forest Plan. Abolish the trail designation of "un-maintained - Stock use not advised". Manage trails currently in this category as historic ways. Higher standard trails will be designated as either primary or secondary routes. Historic Ways are travel routes, which have developed as a result of long-term use. These routes will not be displayed on public maps, leaving them as "routes of tradition and discovery". Historic ways will be retained as a managed part of the trail system with maintenance activities limited to resource protection needs. Secondary Trails are shown on public maps and managed to provide resource stable travel ways to destinations or connecting corridors and generally receive less traffic than primary trails. Primary Trails are indicated on public maps as the main arteries into the Wilderness and may receive relatively heavy use. User created trails (not designated as historic ways) are not part of the established Wilderness Trail system and when identified will typically trigger management action to obliterate or discourage use.

Practices	General Direction	Standards and Guidelines
	III. moderate to outstanding IV. low to outstanding Trails... I. are rare to non-existent, consisting of historic ways. II. are few, consisting of non-system historic ways, and secondary system trails. III. may be common, consisting of non-system historic ways, secondary and primary system trails. IV. same	Additions of trail to the established system will require site-specific analysis compliant with NEPA. When the objective for maintenance on a trail is determined, maintain trails to appropriate standards and guidance found in FSH (2309.18). Consider trail re-routes for resource protection needs only. Changes in trail management designation may be considered through site-specific analysis. Maintain all existing primary and secondary system trails in current designation. In addition, maintain the following trails as: **Historic Ways** ▪ Studhorse Meadow ▪ Grouse Creek Lake ▪ Between Cow Meadow Lake and Lord Meadow. ▪ Blue Canyon ▪ Waterhouse ▪ Snow Lake to Bigelow Lake ▪ Deer Lake to Long Lake ▪ Golden Stairs to Rosasco and Pingree Lake **Secondary Trail** ▪ Bell Meadow Trail to Big Lake ▪ Lower Huckleberry **Trail Signs** Place directional signs only at major trail intersections. **Stream Course Crossing Structures and Bridges** Maintain stream course crossing structures and bridges for resource protection. Resource protection needs apply to the stream channel and immediate area of the crossing, as well as, areas affected by the crossing.
Fisheries Management **EWMD**	Ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces. I. no noticeable effects from human uses II. localized human uses may have limited effects in very few areas. III. localized human uses may have limited effects in few areas. IV. localized human uses may have limited effects in some areas. Human influences on aquatic life and hydrologic processes are... I. unnoticeable II. unnoticeable in most areas III. minimal IV. minimal The IAFWA MOU Policy and Guidelines recognize that specific on-the-ground conditions will have a different application of guidelines. These different applications are	The Stanislaus National Forest in consultation with the CDFG Region 4, and in consideration of intensive public involvement developed the objectives, definitions and decision criteria for the Emigrant Wilderness shown in Table 10-1. Use these criteria, definitions and objectives as direction to guide the Forest in developing initial recommendations when negotiating lake-by-lake stocking decisions with the CDFG. Lake by lake decisions will be agreed to in a local MOU between the two agencies. The Fisheries Decision Criteria. in the table below, uses the following definitions: Traditionally Stocked — Stocking was an established, routine practice prior to Wilderness designation. Human Influences — Any manipulation of the population, individuals within the population, or habitat, whether direct or indirect or intended or not. Examples include angling, stocking, and habitat destruction. The Forest Supervisor may agree to site specific variations of the decision criteria in this Direction.

<table>
<tr><th>Practices</th><th>General Direction</th><th>Standards and Guidelines</th></tr>
<tr><td></td><td>spelled out in National Forest Plans. Specific lake by lake fisheries management decisions are reached cooperatively between the administering agency and the state agency in memorandums of understanding (MOU) specific to each Wilderness.

A new MOU between the Stanislaus National Forest and California Department of Fish and Game (CDF&G) Region 4 will be negotiated as the site-specific direction for fisheries management.</td><td></td></tr>
<tr><td>Fisheries Management
EWMD</td><td>Table 9 Emigrant Wilderness Fisheries Decision Criteria
<table>
<tr><th rowspan="2">Criteria[1]</th><th rowspan="2"></th><th colspan="4">Opportunity Class</th></tr>
<tr><th>I</th><th>II</th><th>III</th><th>IV</th></tr>
<tr><td rowspan="2">1) Was the lake traditionally stocked before Wilderness designation</td><td>Yes</td><td colspan="4">Go to question 2</td></tr>
<tr><td>No</td><td colspan="4">Stocking may be considered only with adequate environmental analysis and decision document</td></tr>
<tr><td rowspan="2">2) Is a TES species being adversely affected by the fishery?[2]</td><td>Yes</td><td colspan="4">No measures may be taken to stock or otherwise enhance the fishery without adequate mitigation.</td></tr>
<tr><td>No</td><td colspan="4">Go to question 3</td></tr>
<tr><td rowspan="2">3) Is a TES species being positively affected by the fishery?[2]</td><td>Yes</td><td colspan="4">Fishery may be stocked to benefit the TES species as agreed upon by the joint agencies.</td></tr>
<tr><td>No</td><td colspan="4">Go to question 4</td></tr>
<tr><td rowspan="2">4) Is the fishery naturally reproducing?</td><td>Yes</td><td colspan="4">Fishery may be stocked only if human influences (Including angling) adversely affect the population.</td></tr>
<tr><td>No</td><td>No stocking of the fishery may be considered for recreational purposes.</td><td colspan="2">Only very unique or special fisheries may be considered for stocking with joint CDFG and FS agreement in the local MOU.[3]</td><td>Stocking may be utilized to maintain a wilderness recreational fishery.</td></tr>
</table>
[1]If the answer to any of the four questions above is unknown for any given fishery, a joint effort will be made to determine the answers in the most timely manner possible. During evaluation, joint agreement must be reached as to interim management consistent with existing MOUs.

[2]When these questions are answered it is assumed the CDFG and the FS have already looked at all the factors (historical presence, current presence, % of populations, connectivity of populations, etc.).

[3]Special or Unique Fishery is unique within the Emigrant in terms of species, size, etc.. Golden trout fisheries may fall into this category.

▪ Fisheries management actions other than stocking that may be undertaken cooperatively include indirect measures such as recreation use pattern shifts, and education on low impact angling techniques.

▪ TES = Threatened, Endangered, Sensitive</td><td></td></tr>
<tr><td>Wilderness Education and Visitor Contact
EWMD</td><td>Education is conducted...
I. off-site
II. off-site
III. on-site and off-site
IV. on-site and off-site</td><td>Target ethnic, immigrant and economically disadvantaged groups within the extended service area of the Stanislaus National Forest for Wilderness education. Coordinate this effort with regional Wilderness education projects to assure maximum coverage and efficiency.</td></tr>
</table>

Practices	General Direction	Standards and Guidelines
		Do not conduct on-site Wilderness education in opportunity classes I and II, unless invited by the visitor or, in response to an obvious misuse or violation. Conduct active on-site education contacts with visitors in opportunity classes III and IV. Prepare a Wilderness Education implementation schedule documenting the specific education needs and priorities, including activities and target audiences.
Resource Interpretation **EWMD**	Prehistoric sites and cultural sites are not interpreted. (All Opportunity Classes) An element of discovery is maintained… I. for the enjoyment of visitors II. same Off-site information is readily available… III. for the enjoyment and education of visitors. IV. same	Provide interpretation information only in response to inquiries, for areas located within opportunity classes I or II. Produce high quality flyers or brochures to interpret historical and natural resources, for areas located within opportunity classes III or IV.
Physically Challenged Access **EWMD**	The opportunity to utilize a high degree of risk and challenge is... I. outstanding II. moderate to outstanding III. low to outstanding IV. low to outstanding Trails... I. are rare to non-existent, consisting of historic ways. II. are few, consisting on non-system historic ways, and secondary system trails. III. May be common, consisting of non-system historic ways, secondary and primary system trails. IV. same	Provide the highest level of access without diminishing the Wilderness experience. During trail maintenance or reconstruction, consider universal design features (such as low maximum riser heights when steps are constructed) when they do not negatively affect the environment and are commensurate with the opportunity class allocations. Conduct an inventory of suitable camping areas that are naturally flat and obstacle free. Develop a trail difficulty rating and mapping system to aid people with disabilities in determining feasible itineraries. Make trail inventories readily available, but not necessarily displayed. Maintain an element of discovery for those visitors wishing to experience the Wilderness without knowing every detail prior to entering.
Range **EWMD**	Ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces. I. no noticeable effects from human uses II. localized human uses may have limited effects in very few areas III. localized human uses may have limited effects in few areas IV. localized human uses may have limited effects in some areas Human influences on aquatic life hydrologic processes, soils (and) vegetation are... I. unnoticeable II. unnoticeable in most areas	The grazing of livestock, where established prior to the effective date of the Act, shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary of Agriculture (Sec. 4(d)(4) Wilderness Act of 1964). FSM Policy 2323.22: (Congressional Grazing Guidelines) - ...there shall be no curtailment of grazing or grazing permits or privileges in an area simply because it is designated as wilderness, nor should wilderness designations be used as an excuse by administrators to slowly "phase out" grazing. Any adjustments to the numbers of livestock permitted to graze in wilderness areas should be made as a result of revisions in the normal grazing and land management planning and policy setting process, giving consideration to legal mandates, range condition, and the protection of the range resource from deterioration. Site-specific range management will be determined in allotment management plans and annual operating plans. These plans must tier to Forest Plan direction, standards and guidelines for range including the Emigrant Wilderness Management Direction. Site-specific analysis of existing range improvements (cabins, water sources, fences, etc.) will be incorporated into AMP

Practices	General Direction	Standards and Guidelines
	III. minimal IV. minimal The opportunity for solitude is... I. outstanding II. high to outstanding III. moderate to outstanding IV. low to outstanding The imprint of human influences is... I. unnoticeable II. unnoticeable in most areas III. substantially unnoticeable IV. substantially unnoticeable	revisions. Meadows grazed by recreational stock must comply with all Forest Plan direction for range condition. Site-specific actions may be taken to assure range standards are met in recreation areas. These actions may include such measures as limited grazing seasons, limited numbers of animals, structures when absolutely necessary to protect the Wilderness resource, and other range management actions available. Strongly discourage the use of cowbells on commercial grazing allotments. Explore methods for reducing or eliminating the use of cowbells in cooperation with the permittees during development of annual operating plans. Re-evaluate the use of cowbells, when permits change hands, including limiting bells to a maximum of 10% of cattle. Work with the allotment permittees to adjust management practices whenever possible to meet the opportunity class objectives for resources other than range.
Outfitting and Guiding **EWMD**	No objectives specific to outfitting and guiding are included in the opportunity class objectives. All objectives and standards will apply to outfitted-guided recreation as it applies to all visitors.	Complete needs assessments as special use permits expire. Utilize guidelines provided in FSH 27909.11(41.53a) and the Outfitter-Guide Administration Guidebook. When a specific wilderness dependent public need is identified, issue a formal prospectus to solicit bids for outfitter-guide services. Award outfitter-guide permits on the basis of past experience and performance, ability to provide needed services, economic viability, knowledge of wilderness values and “leave no trace” ethics and practices. Apply all use restrictions and actions to outfitters and private visitors equally. Require outfitter-guides to provide clients with information on “leave no trace” practices, Wilderness values and regulations. Require outfitters to train all guides and trip leaders to provide the same.
Heritage Resources **EWMD**	Prehistoric sites may be surveyed and evaluated but not disturbed by activities outside the evaluation. (All Opportunity Classes) Contemporary Native American sites (sacred, gathering) are not impacted by non-Native American activities.	The Regional Forester may approve stabilization or restoration and subsequent maintenance of National Register eligible sites, building and structures in Wilderness if their continued existence is determined essential for administration, protection, special uses or wilderness purposes. All structures determined eligible and deemed necessary will be managed pursuant to 36 CFR Part 800, regulation implementing Section 106 of the National Historic Preservation Act and the Secretary of the Interior's Standards and Guidelines for Treatment of Historic Properties. Future project specific undertaking implemented through this plan will follow 36 CFR Part 800 regulations implementing section 106 of the National Historic Preservation Act. Adopt the standard of no intentional disturbance (other than that necessary for professional evaluation), vandalism or looting. Implement management actions over and above required law enforcement actions, if vandalism of sites or disturbance of contemporary Native American sites is discovered. Actual selection of appropriate actions will depend on site-specific circumstances.
Fire Management **EWMD**	Ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces. I. no noticeable effects from human uses	Continue managing Prescribed Natural Fire (PNF) and wildfire under the guidelines of the Stanislaus National Forest, Forest Fire Management Action Plan (available at the Stanislaus National Forest Supervisor's Office). In addition:

Practices	General Direction	Standards and Guidelines
	II. localized human uses may have limited effects in very few areas. III. localized human uses may have limited effects in few areas. IV. localized human uses may have limited effects in some areas.	1. Planned ignitions may be used (after appropriate site specific planning and NEPA analysis) to reduce the hazard associated with vegetative conditions resulting from past human activities, primarily fire suppression. Planned ignitions should be used when it is determined that a lightning ignited fire in a given area would not meet management objectives. Vegetative conditions and fuel loads will be analyzed to determine the need for planned ignitions. The goal behind these corrective actions is to allow fire to function as a naturally occurring ecological process. 2. As a long term objective, allow a minimum of 95% of naturally occurring wildland fires to be managed to achieve resource objectives, rather than be suppressed.
Administrative Activities **EWMD**	Administrative activities are limited to the minimum necessary to ensure compliance with... I. Opportunity Class I objectives II. Opportunity Class II objectives III. Opportunity Class III objectives IV. Opportunity Class IV objectives	Administrative activities are those actions undertaken by the Forest Service and cooperating agencies to implement the forest plan direction.
	The following standards and actions are specific to the Emigrant Wilderness and are in addition to FSM policies. **Permitted Activities**: Administrative activities are limited to the minimum necessary to meet the objectives of the opportunity classes. **Mechanized Use**: Use the minimum tool necessary to administer the Wilderness consistent with opportunity class objectives. **Administrative Camps**: Do not allow administrative camps in Opportunity Class I areas. Allow administrative camps in Opportunity Class II only if no other sites in classes III or IV are available. Locate and manage administrative camps in response to opportunity class standards, utilizing minimum impact techniques. **Wilderness Permits**: Maintain an accurate wilderness permit database. Issue permits only from Stanislaus National Forest offices. Permits requested in advance may be picked up at the pack stations or other offices. If a permit is requested at a pack station, the Toiyabe National Forest, or Yosemite National Park with insufficient time to send it by mail, the permit information may be taken over the phone, then FAXed to the requesting location. If for some reason phone or FAX is unavailable, then the permit may be issued manually at the requesting location. Make every effort to ensure timely service to visitors. **Day Use**: Collect data to establish more accurate baseline day use levels. Utilize this information in targeting user segments with educational activities and other management actions to ensure standards are met. **Existing Forest Orders**: Continue implementing existing regulations unless monitoring shows a need for additional actions or changes. **Monitoring**: See Monitoring and Evaluation. **Accountability**: Report Wilderness monitoring activities annually in the Forest Land Management Plan Monitoring Report. This report should contain at a minimum: 1. The monitoring activities conducted since the last report, and summary of the results. 2. An accounting of why any scheduled monitoring did not take place. 3. A listing of areas known to be out of standard and the actions taken or planned to address the situation.	

Mokelumne Wilderness[1]

Management Emphasis

The Mokelumne Wilderness will be managed according to the Wilderness Act of 1964 to ensure an enduring resource of wilderness for present and future generations. The wilderness character of the Mokelumne and its specific values of solitude, physical and mental challenge, scientific study, inspiration and primitive recreation will be protected and where necessary restored. The wilderness will be administered for public use and enjoyment as wilderness, consistent with the primitive conditions and wilderness character, in such a manner that leaves the area unimpaired for future use and enjoyment as wilderness. The area will be managed under a concept of non-degradation, to prevent further loss of naturalness or solitude, and to restore substandard settings and conditions. The limited access and primitive quality of much of the Mokelumne Wilderness will be maintained as a finite and unique asset. Management will emphasize maintaining the relatively pristine and challenging conditions of the North Fork Mokelumne River Canyon and lower Summit City Canyon. Management will minimize the impacts to, and as needed, restore high use areas such as Carson Pass. As feasible, actions will be taken to develop and enhance primitive backcountry recreation opportunities outside the wilderness to help reduce use pressure and impacts within the wilderness, and to meet the needs of non-wilderness dependent recreational use. Management will be consistent with the Wilderness Act of 1964, direction provided in 36 CFR 261 and 293, the Forest Service manual 2320, and the Wilderness Management Handbook (FSH 2309.19). See the Appendix C for key regulations, policies and objectives.

Description

The 104,500 acre Mokelumne Wilderness is bordered by Highway 88 on the north and Highway 4 on the south, and extends from Salt Springs Reservoir east along the North Fork of the Mokelumne River and over the Sierra Crest. The dominant feature of the wilderness is the North Fork Mokelumne River Canyon. The canyon is 3000-4000 feet deep in places, and is primarily without system trails. The rugged nature of this canyon provides unique and outstanding opportunities for solitude among central Sierra wilderness areas. The Mokelumne is less used than the adjacent Desolation and Carson-Iceberg wilderness areas. In 1994 recreation use was estimated to be 42,000 RVDs, compared to 283,000 RVDs in the Desolation and 71,000 RVDs in the Carson-Iceberg.

Hiking, camping, viewing nature, fishing, horseback riding and cross country skiing are all popular activities within the wilderness. The proximity of the Mokelumne Wilderness to large urban areas and several highways provides a large potential visitor base for the area. However, the topography of the Mokelumne, a deep, rugged canyon with a few surrounding peaks, highlands and twenty small lakes, tends to concentrate recreational use at the lake basins along the wilderness perimeter. This concentrated use is most prevalent in the Carson Pass area.

The Carson Pass area, including Emigrant, Round Top, Winnemucca, 4th of July and Frog Lakes, was one of the most, highly used Rare 11 areas in California prior to inclusion in the Mokelumne Wilderness in 1984. The area continues to present a challenge for management as wilderness. Many factors contribute to the popularity of the area, easy access from Highway 88, high quality scenery, three lakes within 2 miles of several trailheads, articles in prominent magazines promoting the scenery, historical interest, nearby campgrounds, parking and other recreational facilities. In 1993, over half of the visitors with overnight permits entered the wilderness at the trailheads in the Carson Pass area. The area is extremely popular with day users, with hundreds of visitors per day using the area on peak season weekends.

Special features of the wilderness include the variety of geologic features and diversity of plant communities in the Round Top Geological and Botanical Special Interest Area. The North Fork Mokelumne River within the wilderness has been recommended for Wild River status. The Snow

[1] Mokelumne Wilderness Management Guidelines, Forest Plan Amendment, USDA Forest Service 2000

Canyon Research Natural Area was recognized to promote the protection and study of the outstanding western white pine community found there.

The wilderness is jointly administered by the Eldorado and Stanislaus National Forests in Region 5; and the Toiyabe National Forest in Region 4. The Mokelumne Wilderness (50,000 acres) was designated as part of the original Wilderness Act of 1964. The California Wilderness Act of 1984 added approximately 54,500 acres to the Mokelumne Wilderness. The acreage of the Mokelumne Wilderness is divided, between the three Forests as follows:

- Eldorado National Forest, Amador Ranger District 60,700 acres
- Stanislaus National Forest, Calaveras Ranger District 23,600 acres
- Toiyabe National Forest, Carson Ranger District 20,200 acres

Rapidly growing populations of the foothill communities and regional urban areas are anticipated to cause increased demand for recreational opportunities on the three Forests which administer the Mokelumne Wilderness. Dispersed recreational use, which includes wilderness, on the Eldorado NF is expected to increase from an estimated 2 million RVDs in 1994, to 2.5 million RVDs in the year 2000, and 2.75 million RVDs in the year 2010. Applying this same trend to the Mokelumne Wilderness, use would be expected to increase (without use limits) from an estimated 42,000 RVDs in 1994, to 52,500 RVDs in the year 2000, and 57,750 RVDs in the year 2010.

Practices	General Direction	Standards and Guidelines
Administrative Activities		
Administrative Activities **MWMG**	Limit administrative activities to the minimum requirement necessary for the administration of the area as wilderness and the purposes of wilderness. Accomplish management activities with non-motorized equipment and non-mechanical transport of supplies and personnel. The sight, sound and other tangible evidence of motorized equipment and mechanical transport will be excluded within wilderness except where needed and justified. (FSM 2326.02 [2]).	
Closed Motor Vehicle Travel Management (10-G-1) Closed Mountain Bicycle Management (10-H-2) **MWMG**	Unless specifically authorized, motorized or mechanical vehicles are prohibited in wilderness, including over snow vehicles (OSV), off highway vehicles (OHV), mountain bikes and hang gliders (36 CFR 261.16). The use of wheelchairs in wilderness is allowed for individuals whose disability requires use of a wheelchair. Prevent trespass of motorized or mechanized vehicles (including off-road vehicles, snowmobiles and mountain bikes) into the wilderness. Problems with OSV trespass have occurred at Indian Valley, Blue Lakes, Squaw Ridge and Forestdale Divide. A problem with mountain bike trespass has been identified at the spur trail from the Kirkwood ski lift service road (10N10) to the Emigrant Lake Trail. Work with Kirkwood Ski Area to prevent mountain bike trespass. Where problems exist: ▪ Post wilderness boundary signs, motorized/mechanical vehicle closure signs and other necessary information at points of trespass and at key access areas (parking lots, trailheads). At specific problem areas install large 4'X 4' sign boards at wilderness boundary specifically warning trespassers of prohibition of this use in wilderness, potential fines and that the area is being patrolled. Signs need to be clearly visible (i.e.: above snow level if needed) at critical points of trespass. ▪ Conduct winter patrols to enforce regulations on weekends and holidays in known areas of trespass. ▪ Initiate educational programs and efforts for motorized user groups which access areas adjacent to the wilderness. Emphasize wilderness values and regulations, problems with motorized/mechanized trespass, and work with user groups to develop solutions to problems. Where significant trespass problems persist, an environmental analysis will be completed to determine if closing the OHV or OSV routes in the problem area is appropriate.	
Use of Motorized Equipment or Mechanized Transport **MWMG**	Follow the direction in FSM 2326 regarding the use of motorized or mechanized equipment and transport in wilderness. The objectives are to accomplish management activities with non-motorized equipment and non-mechanized transport and to exclude the sight, sound, and other tangible evidence of motorized equipment or mechanized transport except where they are needed and justified. Forest Supervisors can approve the use of motorized equipment or mechanized travel when situation involves an inescapable urgency and temporary need for speed beyond that	

Practices	General Direction	Standards and Guidelines
	available by primitive means and for exploration and for development of valid existing mineral rights. Emergency categories include, including fire suppression, health and safety, law enforcement involving serious crimes or fugitive pursuit, removal of deceased persons and aircraft accident investigations. The Regional Forester can approve motorized or mechanized uses for other administrative purposes. ▪ Document each incident where motorized use is approved in the wilderness. Complete a minimum tool analysis prior to seeking Regional Forester approval for non-emergency administrative use of mechanized transport or motorized equipment. **Search and Rescue** Develop consistent policies and procedures for the wilderness, across the three Forests and in coordination with the county law enforcement agencies and emergency services for the use of aircraft and other motorized equipment in search and rescue, law enforcement and other emergencies in the wilderness. **Aircraft Overflights** The goal is to limit the impacts of overflights on wilderness visitors and resources. Current FAA recommended flight level over wilderness areas is 2000' above ground level (AGL). Assess and evaluate if low-flying aircraft are adversely impacting the wilderness experience. ▪ Wilderness rangers to monitor low overflights. Monitoring should identify type of aircraft (military, private, commercial) so any future actions can be targeted to specific groups. ▪ If significant problem exists with military aircraft, implement an educational effort with nearby military airbases about the impacts of overflights on wilderness experience. Wilderness managers contact FAA to ensure current wilderness boundary is on aeronautical charts.	
Research **MWMG**	Follow the direction in FSM 2324.41 regarding approval of research in the wilderness. Limit research to those activities which are dependent on the wilderness environment. ▪ Review research proposals with the wilderness manager, Forest Supervisor and an appropriate research scientist from one of the Forest Service Research Stations (i.e. PSW or Leopold Institute).	
Water Quantity Management (18-B) Snow Survey Sites, Weather Modification **MWMG**	Follow the direction in FSM 2323.44a regarding snow survey sites within the wilderness, and the direction in FSM 2323.45 regarding weather modification programs which target the wilderness. Do not permit long term weather modification programs that produce a repeated or prolonged change in weather directly affecting the wilderness. Do not permit weather modification activities which target the wilderness unless: 1) the proponent can provide scientifically supportable evidence that the activities will not produce permanent, substantial changes in natural conditions; 2.) the proposal includes no feature that will visibly alter or otherwise impact the wilderness; 3.) and the proposal will not reduce the value of the wilderness for recreation, scenic, scientific, educational, conservation or historic use.	
Air Resources		
Air Resource Inventory and Monitoring (1-A) **MWMG**	Protect air quality related values (AQRV) in the Mokelumne Wilderness, including visibility, while allowing natural forces, such as fire, to assume their natural ecological role. Achieve the air quality goals established in the Clean Air Act and meet Federal and State air quality standards for Class I airsheds. To fulfill the intent of the Clean Air Act, adequate information regarding the condition of air quality related values in the Mokelumne Wilderness is needed. Initial research indicates that visibility, ambient air quality (ozone levels and S02, N02 and NOx), lichen plots, and lake water chemistry (pH, ANC and clarity) are key AQRVs to monitor in the Mokelumne. ▪ Complete and implement an air resources monitoring schedule and program for the Mokelumne Wilderness (see Appendix B). ▪ Identify appropriate sensitive receptors of key AQRVs to monitor and determine the existing condition of each sensitive receptor. ▪ Establish baseline information useful to the regulatory process in predicting the effects of air pollution sources on the identified sensitive receptors. ▪ Determine if existing air pollution is resulting in man-caused change in the conditions of identified sensitive receptors. ▪ Review and respond to operational permits for new or modified point sources (Prevention of Significant Deterioration review), which have the potential to threaten the air quality in the Class I	

Practices	General Direction	Standards and Guidelines
	airshed. ▪ Work with air resource agencies if mobile or area-wide sources are causing significant adverse effects on the Class I airshed. ▪ Manage smoke from wildland fire in or near the Mokelumne Wilderness in a manner that causes the least impact to the natural range of variability AQRVs within wilderness.	
Facilities		
Trail Management (10-I) **MWMG**	Develop trails outside the wilderness, and make improvements to signing and parking at non-wilderness trailheads, as opportunities become available, to help disperse visitors from high use wilderness areas. Examples of areas where these improvements of new developments might be made include: the Coast to Crest Trail, Red Lake Peak Trail, Meiss Lake Trailhead, Devils Lake, Hidden Lake, Devils Hole Lake, and Summit Meadow Lake. Some trails within the Mokelumne Wilderness may need to be managed for a more challenging experience than currently exists to meet the Opportunity Class objectives. Trail improvements will be constructed to blend into natural landscape as unobtrusively as possible. ▪ Do not develop new system trails inside the wilderness except as a resource protection measure, where no other management options are available. ▪ Materials used in trail maintenance and construction (if ever required) will harmonize with the natural environment. Use native materials unless collection of these materials will create unacceptable impacts. Otherwise use natural materials, unless alternate materials are required to protect resources. ▪ Relocate trails away from meadow and riparian areas where possible. ▪ Fords to be used in preference to bridges at stream crossings. ▪ Provide the minimal tread needed for the designated trail experience level and types of use. ▪ Naturalize and rehabilitate abandoned trails and old jeep roads in wilderness as feasible and needed. ▪ No trails will be constructed in the Musser-Jarvis watershed, the water supply for Markleeville. ▪ Evaluate the user created route to the summit of Round Top to determine future actions to prevent resource damage and minimize the visual impacts of this route. ▪ Improvement or relocation of the Woods Lake, Carson Pass or Lost Cabin Trailheads might be made to resolve traffic problems or to prevent resource damage. To prevent increased use in the Carson Pass area, no net gain in parking facilities will be allowed in these areas. ▪ Two areas of gully erosion associated with old roadways at Ladeaux Meadow will be treated to prevent further erosion and sedimentation. Restoration involves: I.) restoring flow to natural channel and stabilizing gully with native materials; and 2.) and raking a portion of roadway to encourage natural re-vegetation. ▪ Trail construction and maintenance will follow guidelines in Trails Management Handbook. (FSH 2309.18) Trails will be managed to meet Opportunity Class objectives for each management area. Trails will be designated with specific difficulty levels and management prescriptions, using the following guidelines:	

Opportunity Class	Trail Experience/Condition		
	Most Difficult	**More Difficult**	**Easiest**
1. Pristine	No system trails would be constructed or maintained.		
2. Primitive	X	x	--
3. Remote	x	X	x
4. Portal	--	X	x*

X - Trails in these areas would primarily be managed for this experience level and prescription.

x - Some trails in these areas may be managed for this experience level and prescription.

* - FSM 2311.11 Exhibit 2 indicates trails designated as "easy" are generally inappropriate for areas managed as an ROS class of primitive. Managing trails for an "easiest" classification may be appropriate in some cases to meet management objectives for Opportunity Class 4 areas.

Practices	General Direction	Standards and Guidelines
	Below are the trail management prescriptions. In addition to this scheduled maintenance, routine maintenance, such as cleaning water bars and logging out will be performed annually or as appropriate given the management prescription. ▪ Most Difficult - Maintained for primitive experience. No tread maintenance. Drainage is functional and not likely to fail. Trail sides not brushed, but tread kept passable. Tread may be rough, but provisions are made for resource protection. Expected use level is less than 30 users annually. Condition surveys and maintenance performed every 3-5 years. ▪ More Difficult - Maintained for near primitive experience. Tread maintained for resource protection. Drainage performance is the same as Most Difficult. Limited brushing, slide removal and drainage maintenance. Logs or similar rustic structures may be used at stream crossings. Expected use level is 30-600 users annually. Condition survey and maintenance performed every 2-3 years. ▪ Easiest - Maintained for intermediate level experience. Tread surface is relatively smooth. Tread and backslopes groomed, rocks removed, structures maintained. The drainage specifications are the same as Most Difficult. Trail sides brushed out to Trail Handbook standards. Expected use level is 600 plus users annually. Condition survey and maintenance performed every 1-2 years. Logged out annually. **Number of User-Created Trails** The number of user-created trails will not exceed the existing number of acceptable user created trails along a given segment of system trail. The number of user-created trails will serve as an indicator of impacts in high use areas. Monitoring will occur along trails in selected Class 3 and Class 4 areas where current use is at or near social standards. Unwanted user-created trails will be obliterated or blocked. The number of user-created trails will be counted, mapped and photographed along a given segment of trail. This would establish a baseline of the acceptable number trails. Monitor to determine if user-created trails are increasing. Range of Actions if Standard is Exceeded. (Actions in bold may require further analysis) ▪ Obliterate or discourage use of unwanted user-created trails. ▪ Educate visitors to disperse when traveling off-trail and to avoid trampling plants, walking in wet areas and other fragile areas. ▪ Increase wilderness patrols. ▪ Prohibit off-trail use in sensitive areas where resource damage is occurring. ▪ Reduce group size limit in a specific area. ▪ Restrict off-trail travel where significant resource problems are occurring. ▪ Implement a quota system to limit use. **Changes in Trail Width** An increase of 50% in trail width of will serve as a yellow flag to analyze the situation and initiate appropriate actions. Changes in trail width can be caused by heavy recreational use and by grazing operations. Monitoring points would be established in known problem areas to assess the extent of problem. Range of Actions if Standard is Exceeded. (Actions in bold may require further analysis) ▪ Educate visitor to walk single file along trails. ▪ Use rocks and other natural barriers to contain use within existing trail tread and prevent increases in tread width. ▪ Enhance or develop trails in non-wilderness areas, and redirect use. ▪ Change access conditions, reduce parking and road access signs, move trailhead further from boundary. ▪ If caused by grazing operations, work with permittee to reduce impacts. Require permittee to contribute to trail maintenance commensurate with damage caused by livestock. ▪ Require day use permits to provide greater opportunity to educate visitors. ▪ Reduce group size or the number of animals per group for a specific area. ▪ Implement a quota system to limit use.	

Practices	General Direction	Standards and Guidelines
Accessibility **MWMG**	In accordance with Section 507 of the Americans with Disabilities Act (ADA) of 1990, those persons whose disability requires the use of a wheelchair can use either motorized or non-motorized wheelchairs in the wilderness. Wheelchairs are defined in Section 507 (c) (2) of the ADA as "a device designed solely for use by a mobility-impaired person for locomotion that is suitable for use in an indoor pedestrian area." For situations and requests where there are questions regarding the appropriateness of the use of a device, use the Wilderness Access Decision Tool to assist in evaluating the situation and reaching a decision. Access sites outside the wilderness will conform to the ADA Access Guidelines. When provided, information will be in a format available to persons with disabilities. Trails within the wilderness are not required to be designed to accommodate wheelchair use. Improving trails to accommodate wheelchairs may be considered when not in conflict with wilderness values. Wilderness managers analyzed the potential to improve trails within the Mokelumne Wilderness to specifically accommodate wheelchairs. Better options to provide trails designed specifically for wheelchairs exist in non-wilderness areas. Equestrian outfitter/guide services provide an option to increase wilderness accessibility for disabled visitors.	
Sign Management **MWMG**	Provide sufficient signing at trailhead to convey all important wilderness education and regulation information. Provide minimal signing within wilderness; directional signing at major system trail junctions and signing for resource protection as needed. Survey and sign wilderness boundary as needed and feasible. Conduct inventory of existing wilderness trailhead and trail junction signing to determine signing needs. Below are sign standards to be used at trailheads and along trails. All signing within the wilderness to be constructed of unfinished natural wood. Letters will be routed and left unpainted. **Wilderness Boundary Survey and Signing** Prioritize boundary survey and signing needs. Identify areas where motorized or mechanical vehicle trespass has been a problem, or other threats to wilderness necessitate survey and signing of wilderness boundary. Coordinate with engineering staff on each forest to accomplish survey and signing. **Trailhead Sign Boards** Purpose: Identify the trailhead and provide board space for a map, forest orders, educational material and wilderness regulations. Could also be used for trailhead self-registration boxes. Location: This sign is placed at every trailhead with trails leading into the wilderness. Design Recommendations: A 3'X 3' sign board (plywood or boards) attached to two 4"X4" or 6"X6" posts for lightly used trailheads. A 4' X 8' sign board for heavily used trailheads to better convey "leave no trace" information and regulations. The larger sign board is recommended for the following trailheads: Carson Pass, Woods Lake, Lost Cabin, Emigrant Lake, Tanglefoot, Salt Springs, Woodchuck Basin, Kinney Meadows. Signs may either be a bulletin board format as indicated in Appendix C, or a well designed sign panel incorporating a map and other information to fulfill the Purpose described above. **Wilderness Portal Sign** Purpose: Indicates entrance into wilderness area along main travel routes. Location: At or near wilderness boundary on major system trail or waterway. Specifications: Five-sided routed wood wilderness signs, as in FSH 7109.11 (5-46,47). Two sizes: 5' horizontal sign or 3' vertical sign. Recommend large horizontal portal sign for the eastern end of Salt Springs Reservoir to inform visitors arriving in boats that they are entering the wilderness. Recommend replacing portal signs at the following trails: Lost Cabin, Woods Lake, Beebe Lake, and elsewhere as needed. **Trail Name and Destination Sign** Purpose: Identifies trail name and major destinations (mileage and directional arrows optional). Location: Along trails leading into wilderness, within 1/4 mile of trailhead. Design Recommendations: Same as Standard Trail Directional Signs found in FSH 7109.11 (541). Sign board is natural wood 1 ", size variable depending on number and length of lines. Letters routed 1" high. Trail name at top underlined. Sign mounted on 4"X4" or 6"X6"post the top of which is approx. 3 1/2' above ground. National Trail symbol can be mounted on post below sign where applicable. (See Appendix C)	

Practices	General Direction	Standards and Guidelines
	Interior Trail Junction Sign Purpose: Provides destination direction at major system trail junctions within wilderness. Location: At major system trail junctions. Design Recommendations: Sign consists of a single unfinished wood 4"X4" or 6"X6" post, the top of which is chamfered. Top of post is approximately 3 1/2' above ground. Trail destination is routed in 1" (unpainted) letters vertically on post with vertically-oriented arrow. Destinations are routed on as many sides as needed. Post is oriented so visitor reads correct destination as she/he faces trail leading to this destination. National Trail markers can be placed on post below lettering as needed.	
Fire Management		
Fire Management (4-A) **MWMG**	The management of fire for the Mokelumne Wilderness will be outlined in specific Forest Fire Management Plans prepared by each Forest. The Fire Management Plans will develop prescriptions for where and when lightning fires will be allowed to burn in the Mokelumne Wilderness, address the need for planned ignitions to remove unnaturally high accumulations of fuel, and identify areas that need protection from fire. When fire suppression strategies are employed, fires will be controlled with a minimum impact to wilderness resources. The objectives for Mokelumne Wilderness in the Fire Management Plans are: ▪ To allow lightning fires to assume, as nearly as possible, their natural ecological role in wilderness. ▪ To reduce, to an acceptable level, the risks and consequences of wildfire within wilderness or escaping from wilderness. (FSM 2324.2). ▪ To provide a coordinated Wilderness Fire Management Strategy for all three Forests that manage the Mokelumne Wilderness. When the Fire Management Plans are completed, monitor fire regime (including frequency, intensity and acres) and compare to historic range of variability. Use planned ignitions only to remove any unnaturally high accumulations of fuel. Use the appropriate management response, considering least cost, to meet resource objectives. Minimum impact suppression tactics and guidelines (such as the MIST guidelines developed in Region 1 and the Light hand Tactics developed in Region 6) will be developed and used in management actions for wilderness fires. Appropriate fire personnel will be trained in these fire management concepts and strategies. The responsible line officer will inform wilderness managers of all wilderness fires and appoint a wilderness resource advisor for all Class C fires, or larger (>10 acres), in the wilderness. This advisor will be responsible for ensuring fire management activities have minimum impact on resources and are compatible with wilderness management objectives. The emergency use of motorized equipment such as chain saws, portable pumps, helicopters and aircraft (including the use of fire retardant) will be made by the Forest Supervisor or District Ranger on a case by case basis.	
Fish and Wildlife		
Fish and Wildlife (5-A) **MWMG**	Natural ecological processes, rather than human actions and influences, determine the presence, abundance, distribution and behavior of wildlife species. The vertical and horizontal diversity of habitats and habitat requirements of indigenous species (including cover, breeding sites, migration routes, and food sources) are protected or restored from human caused impacts and influences. Viable populations of all indigenous species are protected, and management practices are developed and implemented to ensure sensitive species do not become threatened or endangered because of Forest Service actions (FSM 2670). ▪ Habitat alteration and disruption of wildlife due to recreation use is limited to the extent described in the Opportunity Class objectives. ▪ At capable sites, the structure of grass/forb habitat in meadows is sufficient to maintain populations of both predator and prey, such as great gray owl and their prey. ▪ Habitat of sensitive species, such as mountain yellow-legged frog and Yosemite toad (including breeding sites and movement corridors) is protected or restored from human caused impacts, including impacts from livestock grazing and fish stocking. ▪ Forests will assess achievement of these desired conditions and objectives by determining presence, condition and trend of habitat, and assessments of animal populations.	

Practices	General Direction	Standards and Guidelines
Fish and Wildlife Habitat Coordination **MWMG**	Direction for the management of fish and wildlife in Wilderness is provided in an agreement, "Policies and Guidelines for Fish and Wildlife Management in National Forest and Bureau of Land Management Wilderness" (in FSH 2309.19). Further direction is provided in a Memorandum of Understanding (MOU) between Region 5 of the Forest Service and the California Department of Fish and Game (CDFG). The IAFWA agreement states that different applications of the IAFWA guidelines will be spelled out in National Forest Plans or wilderness management plans. ▪ Finalize, document and implement the decisions and agreements for fisheries management, including specific fish stocking decisions and future management of lake level dams, in the Mokelumne Wilderness reached between Region 2 of the California Department of Fish and Game and the Eldorado, Stanislaus and Toiyabe National Forests.	
Fisheries Habitat Improvement - Non-structural (5-C) **MWMG**	Fish-stocking is permitted only on waters previously stocked, to maintain an indigenous species (in this case, species of fish traditionally stocked prior to designation may be considered indigenous) which is likely to survive and has been depleted by human influences, or to aid in the recovery of an indigenous threatened or endangered species (FSH 2309.19). Management of wilderness fisheries will emphasize quality and naturalness (FSM 2323.34).	
Fisheries Habitat Improvements - Structural (5-B) **MWMG**	Existing streamflow maintenance and lake level enhancement dams will be managed according to FSM 2323.35b and the agreement developed with Region 2 of the California Department of Fish And Game regarding the management of fisheries in the Mokelumne Wilderness. Lake level dams which no longer meet CDFG and Forest Service management objectives will be removed from the CDFG special use permit and allowed to disintegrate over time. A decision to repair a dam or allow a dam to disintegrate may require further site-specific analysis. ▪ Safety hazards, such as sharp pieces of steel or concrete, would be treated or removed. ▪ Those dams which are to be retained would continue to be operated, restored, and maintained by CDFG under the existing special use permit. ▪ Any repair work would be completed by non-motorized means, and using native rock where possible.	
Recovery Species Administration and Management (5-L) **MWMG**	Populations of federally listed threatened and endangered (T&E) species and Forest Service sensitive species will be protected and where needed, restored. Priorities for inventory of wildlife species in the wilderness will be based on known or potential T&E or sensitive species habitat and where wilderness uses are a potential conflict with these resources. ▪ Campsites and trails will be relocated as required to protect T&E and sensitive species. Through formal consultation with the U.S. Fish and Wildlife Service (USFWS), specific range standards were adopted by the Stanislaus and Toiyabe National Forests for areas which have Lahontan cutthroat trout (LCT). These standards were developed in a multi-Forest programmatic biological assessment, and accepted by USFWS with minor changes in a biological opinion on July, 15, 1994 (USFWS 1994a). These standards would be applicable to those streams in the Mokelumne Wilderness which have been identified as existing or potential recovery habitat for Lahontan cutthroat trout. Raymond Meadows Creek was identified as existing LCT habitat, and Jeff Davis Creek and Forestdale Creek were identified as potential recovery habitat in the recovery plan developed by USFWS for this species.	
Heritage Resources		
Heritage Resource Management (2-B) **MWMG**	Heritage resources will be managed in a manner compatible with wilderness management objectives. **Monte Wolfe Cabin** Complete evaluation to determine if the Monte Wolfe Cabin is eligible for the National Register of Historic Places, including developments in the surrounding area such as the outhouse. If the cabin is eligible, and restoration or maintenance of the cabin is determined essential to heritage resource management in the wilderness, seek approval will be from the Regional Forester to maintain the structure (as required by FSM 2323.82). Specific long term management of the cabin will be determined when Regional Forester makes decision. ▪ If this approval is granted, the Eldorado NF will prepare a brief management plan for the cabin and agreement with the Monte Wolfe Foundation regarding future management of the cabin. ▪ If the cabin is not eligible for the National Register, or approval to maintain the structure is not granted by the Regional Forester, the cabin will be allowed to deteriorate. Documentation and mitigation required by section 106 of the National Historic Preservation Act will be completed.	

Practices	General Direction	Standards and Guidelines
	Unauthorized locks, signs on the cabin, and private belongings in the cabin will be removed. Occupancy of the cabin is prohibited until future management of the cabin is determined. The resource will be protected as required by NHPA until a decision on future management of the cabin is determined. Manage the cabin and site to prevent degradation of the primitive wilderness character and Opportunity Class I objectives of the Middle Mokelumne Canyon management area. Monitor the cabin yearly.	
Heritage Resource Interpretation (2-C) **MWMG**	All interpretation of heritage resources will be done outside of the wilderness (FSM 2323.83).	
Heritage Resource Inventory and Evaluation (2-A) **MWMG**	Heritage resources would be identified, evaluated and protected as required by federal laws and regulations, and managed in a manner compatible with wilderness character and Opportunity Class objectives. To address the effects of wilderness use on heritage resources, these resources will be inventoried, any damage assessed and mitigation measures developed according to the following schedule. Inventories will start with the highest use areas in each forest and continue until all use areas are surveyed. Forest or District Archaeologist will survey areas prior to trail reconstruction, campsite rehabilitation or other ground disturbing activities occur. Schedule to Address Effects to Heritage Resources	

Forest	Priority	Complete Inventory, Develop and Implement Treatment Plans
Eldorado NF	1	Carson Pass area, including: Emigrant, Round Top, Frog and Winnemucca Lakes.
	2	Plateau area, including: Black Rock, Cole Creek, Long and Beebe Lakes.
	2	Granite Lake to Grouse Lake area.
	2	Shriner Lake to Moraine Lake area.
	3	Other high use or known sensitive areas, or at least 5 miles of trails per year until complete.
Stanislaus NF	1	Blue Hole area.
	2	Wheeler Lake area.
	3	Other high use or known sensitive areas, or at least 5 miles of trails per year until complete.
Toiyabe NF	1	Raymond Lake area.
	2	Jeff Davis Creek area.
	2	Raymond Meadows area.
	3	Other high use or known sensitive areas and at least 5 miles of trails per year until complete.

Lands	
Minerals Management Locatable Minerals (7-A) Leasable Minerals (7-B) **MWMG**	The Forest Service Manual (FSM 2800 and 2320) and the Code of Federal Regulations (CFR 228 and 293) provide direction for the management of mineral activities in wilderness where there are valid existing rights. Manage any mineral development activity, with valid existing right, to minimize impact on wilderness resources and preserve wilderness character to the extent possible. Forest Service mineral examiner to verify valid existing rights prior to authorizing any significant surface disturbing mineral access or development activity. Mineral information-gathering activity in designated wilderness, including prospecting, is only for scientific and educational purposes. Mineral information-gathering activity must be authorized in writing by authorized officer. Terms and conditions of authorization must specify purpose of proposed activity. The gathering of mineral information, including prospecting, in a wilderness area is not permitted for recreational activities, for commercial exploration or for non-commercial purposes for personal gain, whether by hand tools, panning, sluicing or other methods. (R5 Supplement 230094-1).

Practices	General Direction	Standards and Guidelines
	Periodically review wilderness mining claims to ensure annual assessments and holding fees are current. For claims which are out of date, notify the BLM to review case file and issue abandoned and void notices as appropriate.	
Land Adjustment (8-A) **MWMG**	Acquire private lands within the wilderness, as feasible, to protect wilderness values, forestall non-compatible land uses, and reduce conflicts.	
Property Boundary Location and Marking (8-F) **MWMG**	Prioritize wilderness boundary survey and signing needs. Identify areas where motorized or mechanical vehicle trespass has been a problem, coordinate with engineering staff on each Forest to accomplish survey and signing.	

Table 10 Mokelumne Wilderness Inholdings

Forest	Location	Parcel	Ownership	acres	Acquisition Priority Ranking*
Toiyabe NF	1. Sec. 7, T9N, R20E	Raymond Canyon	Chandler (trustee)	40	32
	2. Sec. 7, T9N, R20E	Raymond Canyon	Orloff	43	28
	3. Sec. 7, T9N, R20E	Raymond Canyon	York	37	28
	4. Sec. 18, T9N, R20E	Raymond Canyon	Hawle	20	28
	5. Sec. 9, T9N, R19E	Jeff Davis Creek	Dressler Co.	160	28
	6. Sec. 26, TION, R18E	Carson Pass	State of CA	40	27
	7. Sec. 35, TION, R18E	Forestdale Creek	State of CA	40	27
Stanislaus NF	8. Sec. 28&29, T8N, R16E	Round Valley	Garthawaite	10	35
	9. Sec. 8, T9N, R20E	mining claim		9	32
Eldorado NF	10. Sec. 5&8, T8N, R19E	Deer Valley	PG&E	481	39
	11. Sec. l9&30, T10N, R18E	Caples Lake	PG&E	120	35
	12. Sec. 2, T9N, R18E	Summit City Creek	PG&E	160	35
	13. Sec. 3&10, T9N, R18E	Devils Corral	PG&E	320	34
	14. Sec. 13&24, T8N, R16E	Cole Creek	Southern Pacific	400	32
	15. Sec. 36, T8N, R16E	Tanglefoot	State of CA	40	31
	16. Sec. 36, T8N, R 16E	Tanglefoot	State of CA	120	27
	Total			2040	

*These rankings were the result of a cooperative project between the USDA-Forest Service, The Wilderness Land Trust and Colorado State University. The rankings incorporated an assessment of development potential, ecological importance and social impacts. There is a cabin located on the Underwood Valley parcel on the Calaveras District. The owner has an easement allowing motorized access. Another cabin is located on one of the parcels along Raymond Canyon Creek on the Carson District. This cabin is accessed by trail, and is rented as a wilderness retreat.

Practices	General Direction	Standards and Guidelines
Range		
Range Planning and Analysis (9-E) **MWMG**	Forage utilization levels and range carrying capacity will be determined in Allotment Management Plans (AMP). Base proper forage utilization levels on physical, biological and social objectives for wilderness management area. (FSH 2309.19, 22.22) ▪ Where conflicts between grazing operations and recreational use persist, or where cattle consistently wander outside allotment boundaries, Allotment Management Plans will analyze if there are opportunities to exclude livestock from popular wilderness camping areas or problem areas with minimal loss of forage to the permittee. Analysis will include considering changes in allotment boundaries to make use of natural barriers, the forage value, recreational value of area of conflict and desired conditions and objectives for resources. ▪ Vacant allotments will remain vacant until site-specific environmental analysis determines the future management of these allotments. This analysis will determine if grazing can occur in the area and still meet the desired conditions, and protect the recreation and other resource values of the area. A "No grazing" alternative will be included as part of this analysis. ▪ No grazing is permitted in the Musser-Jarvis watershed, which is the water supply for Markleeville.	
Range Management (9-A) **MWMG**	Grazing will be managed in a manner that utilizes forage while meeting Forest Plan direction and management area desired conditions and objectives for all wilderness resources including Riparian Areas, Fish and Wildlife, Vegetation, Watershed/Water Quality, and Soils. Livestock management will be accomplished through Grazing Permits and Allotment Management Plans (AMP). **Desired Conditions** The desired condition for the range resource is to maintain wilderness ecosystems so that plants and animals respond to natural forces and are unaffected by human influences. The goal is to maintain or restore vegetation within the reference range of variability for the potential natural vegetation in all range types, maintain or restore ecosystem function, biological diversity and the biotic integrity of aquatic and terrestrial ecosystems ▪ Apply Standards and Guidelines from Forest Plans and Amendments to the Forest Plans to maintain or achieve desired conditions. ▪ Apply the specific range standards and guidelines developed through formal consultation with the U.S. Fish and Wildlife Service (USFWS) and adopted by the Stanislaus and Toiyabe National Forests for areas which have Lahontan cutthroat trout (see Fish and Wildlife direction). **Range Ecological Condition and Trend** Implement grazing Standards and Guidelines and Management Practices so as to achieve the following conditions: **Opportunity Class** / **Range Ecological Condition** / **Trend** 1. Pristine / Excellent to good / Stable to upward 2. Primitive / Excellent to good / Stable to upward 3. Remote / Good / Stable to upward 4. Portal / Good / Stable to upward Examples of Range of Actions to be Taken if Standard is Exceeded. (Actions will be taken through the administration of the grazing permit and allotment management processes.) ▪ Work with permittees to implement or change management practices which will help improve condition, including herding and salting. ▪ Take permit action, including changing the season of use or reducing the number of animals. ▪ Rest area until resources have recovered and standards are met. **Minimize conflicts with recreational use** Administer grazing allotments to minimize conflicts between recreational users and grazing operations. Seek to resolve conflicts and problems in Annual Operating Instructions, AMP revisions and visitor education. Educate wilderness visitors regarding the law and policy governing grazing management in wilderness, and where and when visitors may expect to see livestock. (See Interpretive Services) Use salting and herding management practices to minimize conflicts with recreational use in popular	

Practices	General Direction	Standards and Guidelines
	camping areas and to prevent cattle from wandering to lakes outside allotment boundaries. Problems have been identified at identified at Black Rock Lake, Cole Creek Lakes and Long Lake. **Use of Cowbells** The use of cowbells will be permitted in those allotments where this management practice was established at the time of this amendment (1998). In allotments which are currently vacant, if filled, the use of cowbells will permitted only if this management practice was used by the previous permittee. Range and wilderness managers will work with permittees through Annual Operating Instructions and Allotment Management Plans to reduce the noise impacts of cowbells on recreation users. **Livestock Impacts to System Trails** Where damage to system trails is caused by permitted livestock, the permittee will provide trail maintenance and repair commensurate with impacts caused by livestock. Problems will be resolved, and appropriate maintenance determined in cooperation with the permittee in the Annual Operating Instructions. Specific trails of concern are trail 19E53 (Sandy Meadow) and trail 18E02 (Woodchuck Basin) on the Stanislaus Meadow Allotment, and trail 17E27 (Cole Creek Lakes) on the Pardoe Allotment.	
Range Improvements - Structural (9-C) **MWMG**	Construction of additional fencing or other structural range improvements will be considered only when necessary for resource protection and where other non-structural management practices are not effective or feasible. Fencing materials which harmonize with the environment will be used. Fence installation or repair will normally be accomplished using non-motorized equipment and access. Exceptions may be made except where practical alternatives to motorized use do not exist and such use will not have a significant adverse impact on the natural environment. No additional permanent fencing or other range improvement structures will be permitted in Opportunity Class 1 and 2 areas. Only temporary fencing to protect T&E species will be allowed in these areas. **Ladeaux Meadow** In order to protect the habitat and viability of the mountain yellow-legged frog population in the stream at Ladeaux Meadow, a fence will be installed around the perimeter of the meadow, just within the trees surrounding the meadow. The goal of the alignment is to minimize the impact of the fence on visual resources and to make the fence as unobtrusive as possible to recreation visitors. Educational information will be included in signing at the Beebe Lake Trailhead informing visitors about the purpose of the fence. Fence will remain until monitoring determines that the desired conditions in the meadow have been achieved and that grazing can occur without adversely affecting the frog population, or until the analysis for the Allotment Management Plan for this allotment determines another strategy.	
Recreation		
ROS Primitive (10-B-1) **MWMG**	Wilderness, including areas designated as Opportunity Class 1, 2, and 3 are to be managed to meet ROS Class objectives for Primitive. Opportunity Class 4 areas are also to be primarily managed to meet ROS objective of Primitive. The area is characterized by a natural environment predominantly unmodified by human activity.	
ROS Semi-Primitive Non-Motorized (10-B-2) **MWMG**	Some aspects of Opportunity Class 4 areas may be managed to meet ROS Class objective of Semi-Primitive Non-motorized (SPNM). The area is characterized by a predominantly natural or natural appearing environment. The management of trails and social encounters may be managed to meet objectives for SPNM, and some evidence of other visitors and visitor use may be apparent.	
Wilderness (20-B) **MWMG**	The Mokelumne Wilderness is to be managed for public use, enjoyment and understanding in a way which maintains the wilderness character and prevents degradation of wilderness resources and values. Outstanding opportunities for solitude, physical and mental challenge, and primitive recreation are to be maintained. Recreational use will be managed to meet the Opportunity Class objectives, and to prevent the associated standards from being exceeded. Recreation use not dependent on wilderness will be directed to recreation opportunities outside the wilderness. Management will emphasize education, (both on-site and off-site) including contacting repeat user groups, requiring overnight permits to be issued from an office to increase visitor education, and increasing wilderness patrol. Generally, indirect controls are preferable to direct actions to protect	

Practices	General Direction	Standards and Guidelines
	the wilderness resources. Direct measures such as restricting certain types of activities and limits on use will be implemented as needed to meet management objectives. **Permits** Wilderness permits for overnight use, currently required from April 1 through November 30, will be required year round. This change will occur with the re-issuance of the Region 5 order requiring overnight visitors to obtain visitor permits for the Mokelumne and other wilderness areas. Forests will jointly pursue networked, computer issuance of overnight permits to reduce cost of administering permits and facilitate availability of information needed for effective management. Collect information on day use through a voluntary self-registration system, trail counters or other method. Locations where information is currently needed include: Carson Pass, Lost Cabin, Woods Lake, Caples Lake/Emigrant Lake, Upper North Fork/Hermit Valley, Ebbetts Pass. **Carson Pass Management Area** (Frog, Winnemucca Lakes and Round Top Lakes) Camping in the will be restricted to a limited number of designated campsites or a designated camping area (6-8 campsites total) at Round Top and Winnemucca Lakes. A quota for the overnight permits in this area will be implemented based on the number of designated sites. The quota period would be from Memorial Day through Labor Day. The stay limit for these campsites is two nights. No camping will be permitted within 1/4 mile of Frog Lake (ENF). To reduce impacts of day use in the Carson Pass area, adjust parking areas as needed to control use. **Fourth of July Lake** A quota for overnight permits will be established to prevent further unacceptable resource conditions from developing and to meet desired social conditions by limiting use at peak season at this Fourth of July Lake. There are 6-8 acceptable established campsites in the lake basin which fall within the campsite density standard. ▪ Only 6 groups/permits will be allowed at 4th of July Lake at one time. ▪ The stay limit for this area is 3 nights. ▪ The quota period would be from Memorial Day through Labor Day. c. Emigrant Lake ▪ To protect and promote the restoration of the shoreline of Emigrant Lake, camping is prohibited within 300 feet of Emigrant Lake. Camping on snow is excepted from this restriction. Direct visitors to utilize durable sites in forested areas just north of the lake. **Salt Springs Management Area** ▪ Coordinate with PG&E to ensure recreational boat use on Salt Spring Reservoir does not degrade wilderness values. Problems with campsite structures, garbage and human waste have occurred at the east end of the reservoir. **Use Regulations** ▪ Group size will be limited to 12 people per group for day use and 8 people per group for overnight use. Exceptions may be made for groups passing through the Mokelumne from other wilderness areas on the Pacific Crest Trail on a case by case basis. Exceptions will not exceed 15 people per group. Document the exceptions and monitor the number of variances granted each year. ▪ Camping will be prohibited within 100' of streams, trails and the high water mark of lakes. ▪ Disposing of human waste or wash water will be prohibited within 200' of lakes, streams, trails and campsites. Instruct visitors to bury human waste in shallow hole, 6-8 inches deep. ▪ Encourage recreation users to clean all gear (hiking boots, clothing, tack, trailers) and animals (dogs and recreational stock) of weeds, burrs and seeds to help prevent introduction of exotic species, especially noxious weeds. **Area Restrictions** Within the Mokelumne Canyon and below Telephone Gulch in Lower Summit City Canyon overnight recreational stock use is allowed only in the following areas (see map): ▪ Munson Meadow/Camp Irene/Lake Valley corridor. ▪ In lower Summit City Canyon from Telephone Gulch to the end of the maintained system trail (where the trail crosses Summit City Creek)	

Practices	General Direction	Standards and Guidelines

- From the Hermit Valley Trailhead to approximately 1/2 mile below Deer Creek.

Camping with stock in these areas is subject to the following limits:

- The length of stay is limited to two nights.
- No more than four animals per group.
- Supplemental certified weed free feed or processed feed, such as alfalfa pellets or crimped oats must be carried and used.
- Existing system trails in this area are to be managed for primitive conditions, maintenance is to be conducted for resource protection. Non-system trails and primitive travel routes will not be upgraded into maintained system trails. Information would be dispersed to users through trailhead signing, wilderness maps and other means that the trails in the canyon are maintained in a primitive and challenging condition and are not recommended for stock use.

The following additional limits apply to the Munson Meadow/Camp Irene/Lake Valley corridor:

- Camping with stock is only permitted at Camp Irene.
- Only one stock group permitted at Camp Irene at one time. A quota and reservation system for overnight stock use at Camp Irene will be implemented. If the total number of stock groups camping at Camp Irene exceeds 10 in one season, the Districts will assess conditions to insure desired conditions and management objectives for the area are being achieved.
- Llamas and pack goats will be excepted from this area restriction due to their smaller size, feed requirements and padded feet. Llamas and pack goats will be permitted to use the entire Mokelumne Canyon within the group size limits and other appropriate regulations, including the requirement to carry supplemental certified weed free or processed feed in the Canyon.

Regulations

The following regulations cover all recreational stock including horses, mules, llamas and pack goats

- Holding or confining stock within 200' of lakes, streams, or other water sources and within 100' prohibited.
- Confine stock away from camping areas.
- Tying stock directly to trees except for loading, unloading or short rest breaks while traveling is prohibited. When confining stock for longer periods of time direct visitors to use high line (hitch line), temporary corral, portable electric fence or other method.
- Scatter manure when breaking camp or leaving rest area.
- The number of animals per group is limited to 12 animals per group for both day use and overnight use. Exceptions may be made for groups passing through the Mokelumne from other wilderness areas on the Pacific Crest Trail on a case by case basis. Exceptions will not exceed 25 animals per group. Document the exceptions, monitor the number of variances granted each year and any resource impacts from these exceptions.
- No grazing will be permitted in the Round Top Special Interest Area to protect the botanical values for which this area was designated.
- Stock will be required to stay on trails in the Round Top SIA to prevent resource damage.
- All feed brought into the wilderness must be certified weed free, or processed feed, such as alfalfa pellets or crimped oats.
- Encourage recreational stock users to feed animals weed free feed two days prior to a trip into the wilderness.

Opportunities for Solitude

The following indicators will be monitored to measure impacts on opportunities for solitude. a. Number of groups or people encountered per day while traveling.

Opportunity Class	Max. # groups encountered	Max. # people encountered
1. Pristine	1	--
2. Primitive	3	--
3. Remote	8	--
4. Portal	--	150

Groups are a good indicator in lightly used areas where people tend to travel in cohesive units. In portal areas, groups of day users often spread out, making differentiation of groups difficult. Counting individuals is a more accurate measure in these areas. The Opportunity Class 4 standard

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was set according to what was judged to be reasonably achievable at Carson Pass. The typical visit in this area is less than a full day (2-3 hours). The goal is to not exceed an encounter level of 50 people in a typical 2-3 hour visit. If the standard is exceeded more than 20% of the time, analysis and actions will be taken to prevent the standard from being exceeded. Actions to achieve this goal will be phased in over several years.

Range of Actions if Standard is Exceeded. (Actions in bold may require further analysis)

Opportunity Class	Occupied campsites within continuous sight or sound
1. Pristine	0
2. Primitive	1
3. Remote	3
4. Portal	4

- Redirect visitors to non-wilderness trails.
- Improve signing, parking and promotion of nearby non-wilderness trails.
- Develop trails outside the wilderness.
- Reduce trailhead access, parking and road signs.
- Lower trail maintenance levels to discourage use.
- Review group size limits and consider lower limits.
- Require day use permits in areas where this use is significant.
- Implement quota system for summer use in affected areas.

In areas where the number of available campsites far exceed the above standard (if all were occupied) could be closed and as needed rehabilitated. However, before eliminating campsites, the situation would be analyzed to determine if this action would cause the formation of new campsites.

Range of Actions if Standard is Exceeded. (Actions in bold may require further analysis)

- Information and education to visitors on using screened sites, away from lake and stream shorelines and other visitors.
- Emphasize visitors respecting others by keeping noise levels low in the evening and morning.
- Redirect visitors to trails and destinations outside wilderness.
- Limit the number of established campsites at popular destinations. Undesirable or unacceptable established campsites should be closed: those too close to water, trails or other campsites; those in riparian areas or on other fragile ground; and those excessively impacted sites where erosion is a problem. Before eliminating campsites, consider if this action will cause the formation of new sites. An acceptable number of suitable campsites for each destination will be established based on the campsite mapping and inventory information, and the above standards.
- Reduce access, parking and road signs at trailheads leading into areas where standard is exceeded.
- Review group size limits and consider lower limits.
- Implement quota system for summer use in areas where standard is exceeded.

Campsite Management

Emphasize "leave no trace" wilderness camping concepts. In high use areas, primarily Opportunity Class 3 and 4, visitors will be encouraged to use established campsites on durable ground. In areas where no well established campsites exist, low use areas such as Opportunity Class 1 and 2, encourage visitors disperse their use to prevent new campsites from becoming established.

Undesirable or unacceptable established campsites will be closed, including those too close to water, trails (obtrusive to system trails) or other campsites, those in riparian areas or on other fragile ground, and those excessively impacted sites where erosion is a problem. Campsites to be closed will be rehabilitated if, natural recovery is unlikely within 10 years and rehabilitation efforts are feasible and likely to be successful. Inform visitors of suitable alternate sites.

A general goal for Opportunity Class 3 and 4 areas is to prevent the total disturbed area at campsites from exceeding 1000 sq. feet. As feasible, sites larger than this will be naturalized, reduced and rehabilitated.

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Campsite Condition

All campsites will be inventoried and rated as one of the following modified Frissel condition classes:

Ground vegetation is flattened or trampled, but will likely recover. Minor disturbance of organic litter. Minimal physical change except for possibly a simple rock fire ring. Total disturbed area is generally less than 100 sq. ft.

Some ground vegetation is worn away, particularly around the fire ring or center of activity. Some of the organic litter has been disturbed, but duff and litter are still present on most of site. The typical total disturbed area is 100-500 sq. ft.

Ground vegetation has been lost on most of site. Most of the organic litter has been disturbed. Bare mineral soil may be exposed on some of the site (less than 25%). Minor tree root exposure may be present. A typical disturbed area is 500-2000 sq. ft.

Bare mineral soil is widespread. All ground vegetation is absent. Two or more, large (i.e. 2000+ sq. ft.), completely barren campsites may have merged. Many tree roots may be exposed on the surface. Soil erosion may be evident.

For campsites in all areas the following information would be collected: campsites mapped; named or legal location; distance from water, trail and other sites; visibility/screening; and the site would be rated using the above modified Frissel campsite condition classification system. This quick rating of campsites would be repeated every 3-5 years to determine any changes.

Range of Actions if Standard is Exceeded. (Actions in bold may require further analysis)

- Increase leave no trace visitor education and signing.
- Redirect visitors to opportunities outside the wilderness.
- Enhance or develop trails in non-wilderness areas.
- Increase patrol of the area and direct visitor contact and education.
- Close selected campsites.
- Reduce access, parking and road signs to the area.
- Consider lower group size limits or length of stay limit in the specific area.
- Review specific uses of the area (camping, campfires, stock use) and evaluate need for restriction of a specific use. Implement restrictions as appropriate.
- Designate campsites.
- Implement quota system to limit use.

Standards for Campsite Condition Classes

Opportunity Class	Campsite Condition Class Ratings			
	A	B	C	D
1. Pristine	This condition class is the goal ,for Class 1 areas.	less than 10% total # of sites in a mgmt. area.	--	
2. Primitive	ok	This condition class is the goal or Class 2 areas.	less than 10% total # of sites for a destination.	--
3. Remote	ok	ok	less than 50% total # of sites for a destination.	--
4. Portal	ok	ok	ok	--

--Campsites in this class condition would be prevented from forming. Where they already exist, further degradation would be prevented. Sites would be restored if needed and feasible.

Change in Campsite Condition

A decline in an individual campsite condition of 25%, or a decline in the sum of the campsite condition for a destination or management area of 25%, as measured by the campsite impact index, will serve as a yellow flag to analyze situation and initiate actions where appropriate.

A detailed campsite inventory will be conducted in areas where existing heavy use is likely to create unacceptable (class D) campsite conditions, or in lightly used areas where increasing use threatens desired conditions and management objectives for the area. Parameters include total campsite area, area of barren core, vegetation loss and bare mineral soil increase. These elements will be

Practices	General Direction	Standards and Guidelines
	rated and weighted to arrive at a score, the campsite impact index, for each campsite and a total score for destinations or management areas. Range of Actions if Standard is Exceeded. (Actions in bold may require further analysis) ▪ Increase leave no trace visitor education and signing. ▪ Redirect visitors to opportunities outside the wilderness. ▪ Increase patrol of the area and direct visitor contact and education. ▪ Reduce access, parking and road signs to the area. ▪ Consider lower group size limits or length of stay limit in the specific area. ▪ Review specific uses in the area (camping, stock use, campfires) and evaluate need for restriction on a specific use. Implement restrictions as appropriate. ▪ Designate campsites. ▪ Implement a quota system to limit use. **Total Number of Campsites** Many more established campsites exist throughout the Wilderness than are needed to meet current levels of recreation use. The goal for campsite management in the wilderness is to prevent new campsites from becoming established. Encourage visitors to use established campsites or practice "leave not trace" techniques which prevent campsite formation. Once unacceptable campsites (see the general direction for campsite management) have been closed, the total number of acceptable campsites will be established for each destination and management area based on the campsite mapping and inventory information and the standards for campsite condition classes, and the number of occupied campsites within sight and sound. **Campfire Management** Building, using or maintaining a campfire above 8000' in the Mokelumne Wilderness, and in the entire Carson Pass Restricted Area (management zones 16, 17, 18, 19), is prohibited. Elsewhere firewood availability standards and monitoring will be used to determine where and when campfire restrictions are needed below 8000'. Campfires are prohibited in the Salt Springs management area due to the heavy fuel loading, steep slopes and high wildfire danger. Re-inventory amount of dead and down woody debris (firewood availability) at Shriner Lake to determine if campfire restrictions are needed in that management area. Where not restricted, visitors will be directed to use previously established fire rings or to build "no trace" fires. The construction of new fire rings is prohibited. Remove all fire rings in areas where restrictions on campfires are in effect. **Firewood Availability** Firewood (dead and down woody debris) availability at all campsites would be rated as "none", "scarce", "moderate", or "abundant" using the following definitions**. Comparable unused areas (same species, elevation, slope, aspect) would also be rated. ▪ Abundant: Dead and downed wood suitable for campfires is readily available within a 300' of the campsite. Collecting wood for 4 large campfires (a party of four staying at the site for 4 days) would not noticeably reduce the amount of down wood available. ▪ Moderate: Dead and downed wood suitable for campfires is available within a 300' of the campsite. However, collecting wood for 4 large campfires (a party of four staying at the site for 4 days) would noticeably reduce the amount of down wood available. ▪ Scarce: Little dead and downed wood suitable for campfires is readily available within a 300' of the campsite. There is not enough down wood for 4 large campfires (a party of four staying at the site for 4 days). ▪ None: There is no dead or down wood suitable for campfires within 300' of the campsite. In areas where dead and down wood naturally occurs, limbs may be stripped from green trees, branches removed from large logs or snags, or other damage may be occurring as a result of attempts to gather firewood. **Standard for Firewood Availability** In applying standard, determine if other impacts related to campfires are occurring including damage to green trees, damage to standing dead trees, excessive fire rings or fire scars. If needed, implement campfire restrictions by destination or management zone, as appropriate. **Sensitivity of Vegetation Type to Wood Collection***: Firewood Availability** **Very High**: These areas are not productive enough to support wood collection. Campfires to be	

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	discouraged or prohibited at destinations where dominant vegetation sensitivity to wood collection is very high. **High**: No more than 50% of the campsites within these vegetation types should exhibit a lower firewood availability class than a com arable unused area. **Moderate-High**: No more than 75% of the campsites at a destination within these vegetation types exhibit a lower firewood availability class than a comparable unused area. No more than 50% of the sites should exhibit "scarce" or less firewood. **Moderate, Low, Very Low**: No more than 75% of the campsites at a destination within these vegetation types should exhibit "scarce" or less firewood. *The dominant vegetation type for destinations and management areas have been determined from the potential natural vegetation (PNV) mapping completed for the Mokelumne Wilderness. **Campsites were inventoried (in 1993) using the firewood availability ratings and definitions listed above. If future management determines more effective methods of measuring down woody debris (using fuel loading photographic series, or other measurement or rating), work with Forest or Zone ecologists to relate these new measurements or ratings to the interpretations of vegetation type sensitivity to firewood collection based on productivity. Range of Actions if Standard is Exceeded. ▪ Educate visitors on resource concerns and impacts from fires. ▪ Promote "no trace"/minimum impact fires. ▪ Promote the advantages and use of backpack stoves. ▪ Prohibit campfires in the area. **Rock Climbing** National policy regarding the management of climbing bolts and other fixed anchors is being determined through a negotiated rule-making process. Existing fixed anchors in the wilderness will be inventoried and evaluated to determine future management. Wilderness managers will work with the climbing community and other interested parties in this process. **Winter Use** Monitor social conditions on peak season weekends in areas receiving high levels of cross country skiing use to determine if further controls are needed. Remove the blue diamond markers on the Winnemucca cross-country ski loop. **Interpretive Services Planning** Wilderness education is the primary tool for management of wilderness visitors. A Mokelumne Wilderness Education Schedule will be developed. This schedule will define wilderness education needs and actions for wilderness users, internal education and training needs for Forest Service personnel and volunteers, and wilderness awareness education for the general public. The schedule would identify specific wilderness education needs, audiences to be reached and methods of providing education. The following educational needs have been identified: ▪ "Leave No Trace". Communicate the "Leave No Trace" program of minimum-impact backcountry skills and ethics. ▪ Wood Campfires. Inform visitors about the impacts of wood campfires on wilderness resources, specific campfire restrictions within the Mokelumne Wilderness and the reasons for restrictions, and information on `no trace' fire options. ▪ Campsite Closures at Specific Lakes. Inform visitors about specific camping closures, reasons for closure and alternate camping areas. ▪ Wilderness Stock Travel. Provide information on minimum-impact backcountry stock camping and use techniques. ▪ Dogs in the Wilderness. Inform visitors of the impacts dogs can have on other visitors, regulations regarding dogs in the Mokelumne Wilderness, past problems and other reasons for the regulations. ▪ Air Quality. Inform visitors and the public about the special protection afforded Class I areas (including the Mokelumne Wilderness), the role of air quality in their wilderness experience and the threats to wilderness air quality.	

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	▪ Grazing in Wilderness. Inform wilderness visitors about law and policy regarding grazing in National Forest Wilderness, the management of grazing in the Mokelumne Wilderness, and where and when grazing occurs in the Mokelumne. ▪ Backcountry Opportunities Outside Wilderness. Inform visitors of recreation and backcountry opportunities outside the wilderness. Target visitors to high use areas such as Carson Pass area and non-wilderness dependent use. ▪ Fire Management. Inform the wilderness visitors and the public about the role of fire in the wilderness ecosystem, and new management strategies resulting from the Mokelumne Wilderness Fire Management Plan. ▪ Exotic Plant Species and Noxious Weeds. Educate visitors on the threat of invasive exotic plant species to the wilderness ecosystem, and how they can help prevent introduction of these species. ▪ Wilderness Risks. Inform wilderness visitors that they assume responsibility for the risks and hazards associated with wilderness use. Visitors are responsible for knowing hazards and adequate preparing for their trip. Immediate rescue in the wilderness may not be possible. ▪ Training for Front Desk Personnel and Volunteers. Provide annual training for Forest Service employees and volunteers who issue permits and provide the public with wilderness information so that current and consistent information on "leave no trace" practices, wilderness regulations and restrictions are provided to the public. **Interpretive Services Management** When feasible, the Mokelumne Wilderness Map will be updated to reflect changes in policy, regulations and trails.	
Riparian		
Riparian Area Management (11-A) **MWMG**	The condition of riparian areas is primarily the result of natural ecological processes and not human caused impacts and influences. The goal is to maintain or restore riparian areas to a condition within the natural or reference range of variability. Preferential consideration will be given to riparian dependent resources where conflicts among land uses exist. (FSM 2526) Protect riparian areas from degradation through the management of livestock grazing, recreational uses, and other human influences. ▪ At a minimum, riparian areas will be maintained or restored in proper functioning condition (PFC) as defined in the Riparian Area Management, TR 1737-9 1993 - Process for Assessing, Proper Functioning Condition (BLM, 1993), and Riparian Area Management, TR 1737-9 1993 - Process for Assessing Proper Functioning Condition for Lentic Riparian Wetland Areas (BLM, 1994). ▪ The species composition and structural diversity of native riparian plant and animal communities is maintained or restored. ▪ Riparian areas would be restored where human caused impacts threaten ecosystem function, where natural recovery is unlikely, and where restoration is likely to succeed. The first priority will be those areas identified as "at risk", second priority would be for those areas identified as "non-functional" (see PFC references). Upward trends in vegetation would be expected in 3-5 years and in physical functions in 5-10 years.	
Soils		
Soil Management (13-A) **MWMG**	Soil conditions are primarily a result of ecological processes and not human caused impacts and influences. Limit soil displacement and erosion to a rate similar to that which occurs naturally. Soil cover, soil moisture, porosity, soil cover and organic debris woody debris reflect site capability. Achievement of objectives and desired conditions would be assessed through measures of soil movement, erosion, compaction and productivity. ▪ Limit soil erosion, disturbance and compaction resulting from human activities to the extent described for campsites, trails and soils in each Opportunity Class. ▪ Campsite and trail conditions will be monitored and actions initiated to eliminate unacceptable erosion, compaction or removal of soil cover and woody debris.	

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Special Areas		
Proposed Wild and Scenic River Management (19-C) North Fork Mokelumne River **MWMG**	The 18 miles of the North Fork Mokelumne River within the Wilderness is proposed for Wild River status. Wilderness and Wild River designation are generally compatible. ▪ The area is to be managed to an ROS Class of Primitive, with very low interaction between visitors and the evidence of other users remaining minimal.	
SIA Management (14-D) Round Top Botanical and Geological SIA **MWMG**	Wilderness uses will be managed to protect the Special Interest Area (SIA) values. Recreational activities which require minimal facility, which produce minimal impacts, and which are designed for short stays will be favored. ▪ Recreational stock must stay on system trails in the Round Top SIA. ▪ No grazing of recreational stock in the Round Top SIA. ▪ No outfitter guide permits issued for this area.	
RNA Management (14-B) Snow Canyon RNA **MWMG**	Protect RNA from wilderness use activities which modify the environment. Discourage uses which contribute to modification of RNA. Prohibit uses if they threaten RNA research and educational values. ▪ Campfires are prohibited. ▪ Provide limited access. Trails will not be constructed. ▪ Monitor campsite conditions in the RNA. Prevent an increase in the number of established campsites and prevent increased impacts at existing campsites.	
Special Uses		
Special Uses **MWMG**	Non-commercial organizations (travel groups, youth groups, educational institutions) will be directed to contact District offices to determine if special use authorization is required and to obtain information on wilderness use regulations and restrictions. Those organized recreational events which require a special use authorization would not be permitted in the wilderness, but redirected to non-wilderness locations. ▪ Competitive events, training events and contests are not be permitted in the wilderness (FSM 2323.13h).	
Outfitters and Guides **MWMG**	Outfitter and guide use will be managed to ensure compatibility with the wilderness resource and other visitors. Outfitter/guide services are administered through special use permits following procedures outlined in the Forest Service Special Uses Handbook (FSH 2709.11) and the Outfitter/Guide Administration Guidebook. Wilderness use by organized camps under special use permit will be considered part of the use allocated to outfitter/guides. The use of the wilderness by organized camps is subject to all of the same conditions and requirements as outfitter/guides. The determination to allow the use of the wilderness, type, number and location of trips, and the number of service days will defined in their operating plans. **Issuing Permits** Outfitter/guide special use permits will be evaluated on a case by case basis to determine if a public need exists for the service and will be limited to those activities which meet the following criteria: a. Meets a demonstrated public need. The following elements will be considered in determining whether or not there is a public need for a particular service: 1. The service is needed to achieve the public purposes and agency objectives for wilderness, including: recreational, scenic, scientific, educational, conservation, and historic use. 2. Significant numbers of potential visitors have been making unsolicited requests for new or additional services in the area. 3. Existing outfitter services are not able to accommodate the activity or number of visitors requesting the activity within the existing permitted service days. 4. Non-commercial public use is not adequately achieving these purposes. 5. Commercial use will not conflict with existing non-commercial use of the area. 6. Will not conflict with special management objectives, such as RNA or SIA. b. Wilderness dependent. the service cannot be provided in a non-wilderness area. In determining	

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wilderness dependency, the following elements will be considered:

1. Solitude and unconfined, primitive recreation are central components of the experience.
2. The trip focus on a specific resource or condition found only in the wilderness.
3. The service cannot be provided on public lands outside the wilderness, there are no similar and suitable non-wilderness locations available.

c. Capacity and allocation. Determine capacity of area based on objectives and standards for social and resource conditions, allocate total capacity among private, commercial outfitted, and institutional public users.

1. Is compatible with wilderness character, values and resources and with the specific Opportunity Class objectives and desired conditions for the area of operation.
2. Will not degrade wilderness conditions, and specifically will not cause standards to be exceeded.
3. Is compatible with current types and levels of use.

d. Economic viability.

1. The type of service is economically viable. Additional direction on issuing outfitter special use permits: • Outfitter and guide permits will not be issued for the Carson Pass, Fourth of July Lake and Emigrant Lake management areas.
2. Permits to collect native plants will be issued for administrative or research needs.
3. Outfitter and guide use will be not be permitted in Opportunity Class 1 areas to protect the primitive experience and conditions in these areas.
4. Outfitters and guides using pack and saddle stock will not be permitted in the Mokelumne Canyon to protect the vegetation and soils at the limited camping areas in the area.
5. When an existing outfitter/guide permits expire, a new permit will not be issued unless the criteria are met. If these criteria have been met and a service has been identified to be provided by an outfitter, selection of permitee will be based on past experience and performance, ability to provide the needed service, financial viability, knowledge of wilderness values and "leave no trace" practices.

Permit Management

All wilderness use regulations and restrictions (including group size limits, campfire closures, and quotas) apply to outfitters and guides. Permits will specify the total amount of use, in service days, to be permitted. Any specific planned trip dates, trip destinations, the season of use, and frequency of multiple trips to specific locations will be defined in operating plans. The number of service days or trips allowed in specific areas will be compatible with Opportunity Class objectives for the areas of operation and the current level of private use.

Maximum Levels of Outfitter Guide Use

The following maximum use levels for outfitter guide services to be permitted in the Mokelumne Wilderness are maximum use levels to be allowed and not a goal or target to fill. All outfitter use needs to meet the criteria listed under "Issuing Permits" prior to approving the use and issuing a permit.

Type of Use	Trip days per month	Service days per year (client days)
Day hiking	3 (x 5 months x 12 people=)	180
Backpacking	7 (x 5 months x 8 people=)	280
Recreation Stock	12	480
Winter use	10 (x 3 mo. x 8 or 12 people)	240-360
Total	32	1180-1300

Outfitter Performance Requirements

Specific performance requirements will be defined in the outfitter/guide operating plans. Outfitter campsite conditions, use practices and client education will be monitored.

- Outfitters and guides will provide clients with information on "leave no trace" practices, wilderness values and regulations. Outfitter will train all guides and trip leaders to provide the

Practices	General Direction	Standards and Guidelines
	same. Districts will assist outfitters in fulfilling these requirements. ▪ Outfitters and guides who use recreational stock will be required to carry and use supplemental weed free or processed feed for overnight trips. ▪ Outfitters and guides will be required to provide trail maintenance commensurate with their impact on trails.	
Vegetation/Sensitive Plants		
Vegetation Management **MWMG**	Natural ecological processes, such as fire and environmental variation, determine the composition, distribution, structure, vigor and function of plant communities. The goal is to maintain or restore vegetation within the range of variability for the potential natural community. Viable populations of indigenous plant species, including threatened, endangered and sensitive species, are protected from human caused impacts and influences. Human uses and influences are managed to achieve these conditions. Monitoring to evaluate vegetation condition and assess impacts from human use and influences will include: forage utilization, condition and trend; vegetation loss at campsites; amount of dead and down woody debris; presence and extent of new populations of exotic species (particularly noxious weeds); population trends of sensitive plant species; and current fire regimes compared to historic fire regimes.	
Exotic Species Management **MWMG**	The goal is to prevent any exotic species from becoming established, to eradicate invasive exotic species when identified, and to eradicate other non-native species as feasible and desirable. Use prevention, education, detection and eradication strategies to achieve these goals. **Education** Recreational users, including recreational stock users, will be educated on the threat of invasive exotic weeds, and how they can help prevent the spread of exotic species into the wilderness. **Prevention** All feed brought into the wilderness must be certified weed free, or processed feed, such as alfalfa pellets or crimped oats. Encourage wilderness users to clean all equipment (hiking boots, tack, trailers), clothing and animals of weeds, burrs and seeds prior to entering the wilderness. Encourage recreational stock users to feed animals weed free feed two days prior to a trip into the wilderness. A risk assessment for noxious weed introduction will be completed as part of the planning and analysis for any ground disturbing activity. The assessment will be completed or reviewed by the Forest noxious weed coordinator. All equipment used in administrative ground disturbing activities will be cleaned prior to entry into the wilderness to prevent noxious weed introduction. Fire management and suppression activities conducted in the wilderness will incorporate planning and practices to prevent the introduction of exotic species into the wilderness. **Detection** Forest noxious weed coordinator will train wilderness rangers, volunteers and others working in the wilderness how to identify invasive exotic plant species. The Forest noxious weed coordinator will coordinate and implement annual inventory and mapping of noxious weeds in the wilderness. Inventory will focus on trailhead, trail corridors, grazing allotments and other areas vulnerable to infestation. The annual goal for inventory will be 200 acres or 40 linear miles of trail per year. Sites where noxious weeds have been eradicated will be monitored for at least two years following eradication to determine success. **Eradication** Prompt eradication is the desired response to infestations of exotic noxious weeds. Use the minimum tool principle in developing eradication and control strategies. Employ methods which achieve eradication or control objectives while causing the least impact on wilderness resource. Manual removal of noxious weeds will be given preference where effective. The use of herbicides requires Regional Forester approval. Required environmental analysis will be conducted.	
Insect and Disease Management (6-A)	Indigenous insect and plant disease are to be allowed to play, as nearly as possible, their natural ecological role within the wilderness. Epidemics which threaten adjacent lands or resources may be controlled (FSM 2324.11)	

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MWMG		
Sensitive Plant Management (12-A) **MWMG**	Direction in FSM 2670 will be followed including, maintain viable populations of all native species, and develop and implement management practices to ensure sensitive species do not become threatened or endangered because of Forest Service actions. ▪ Forest Botanist will develop priorities for inventory of sensitive plant populations in the wilderness based on known and potential habitat, and where impacts of wilderness uses present a potential conflict. ▪ Forest Botanist will survey routes of new trail construction, trail reroute or other ground disturbing projects prior to project implementation, and a Biological Evaluation completed as required by Forest Service Manual direction (FSM 2670).	
Visual Resources		
VQO Preservation (17-B-1) **MWMG**	The visual quality objective for the wilderness is Preservation. Only ecological changes in the landscape are to be allowed. ▪ Trails and other improvements will be designed and located to be as unobtrusive as possible.	
Watershed/Water Quality		
Watershed Maintenance (18-D) **MWMG**	Maintain satisfactory natural watershed condition (FSM 2323.41). Watershed conditions are a result of natural forces and are substantially unaffected by human caused impacts and influences. Hydrologic function, channel morphology (including width/depth ratio, pool parameters, bank angle and stability), flooding, erosion, and deposition reflect site capability. ▪ Achieve at least 80% of the range of reference variability on stream conditions (using the USDA-FS Region 5 Stream Condition Inventory (SCI) June 1996). Where conditions are greater than 80%, prevent degradation. Maintain existing condition on stream reaches where condition is within the range of reference variability. ▪ Rehabilitate areas where human caused land disturbing activities, such as grazing and recreation use, have degraded wilderness resources and natural recovery will take longer than 10 years.	
Water Quality Management (18-A) **MWMG**	Wilderness uses will be managed to ensure lakes and streams meet State water quality standards for non-degradation. Baseline information on water quality would be collected and periodic monitoring completed. ▪ Water quality is not allowed to be degraded as a result of human uses and influences. ▪ Monitor bacteria levels (fecal/coliform) and clarity of selected lakes and streams within the wilderness every 5 years to determine if water quality is within State standards and to provide baseline information to track any degradation in water quality. ▪ Wilderness visitors to utilize "cat method" of dispersed, shallow burial of human waste. ▪ Washing directly into lakes, streams or other water sources is prohibited. ▪ The use and disposal of soaps, detergents, toothpaste or other contaminants directly in lakes, streams or other water sources is prohibited. ▪ Disposal of human waste or wash water, and holding or confining recreational stock within 200' of lakes, streams or other water sources is prohibited. ▪ Implement all applicable Best Management Practices for water quality identified in the Region 5 Water Quality Handbook.	
Wilderness		
Wilderness Inventory and Planning (20-A) **MWMG**	Use monitoring data and public participation to inform major changes in management direction. ▪ Complete campsite inventory in the following management areas: 5, 9, 15, 20, 21, 22, 25, 26, 27, 28, 29, 30 (partial inventory completed as of 1998), 31, 33, 34, 36, 37, 41 and 42. ▪ Reassess Shriner Lake to determine if campfire restrictions are needed. ▪ Monitor the indicators identified in this amendment (see Recreation and Range) and use this information to guide future management. A monitoring plan, with procedures and forms, has been developed for all indicators. ▪ Conduct necessary survey, inventory and planning to establish AQRV monitoring as indicated in Air Resources in this amendment. ▪ Survey and evaluate heritage resources as indicated in the schedule under Heritage Resources	

Practices	General Direction	Standards and Guidelines
	in this amendment and an evaluation of Monte Wolfe Cabin. ▪ Develop consistent search and rescue policies and procedures between the Forests and in conjunction with other agencies. ▪ Collect day use data at trailheads receiving high levels of this use. ▪ Complete Wilderness Education Action Schedule as indicated under Interpretive Planning in this amendment. ▪ Survey stream and riparian conditions along Cole Creek within the wilderness.	
Wilderness Management (20-B) **MWMG**	**Control of Dogs** Dogs will not be allowed to run at large, chase wildlife or harass other visitors. ▪ Dogs will be required to be on a leash or under physical control in the Carson Pass, Emigrant Lake and Fourth of July Lake management areas. ▪ Elsewhere in the wilderness dogs must be under immediate voice control. Immediate voice control is defined as the dog being within 50' of the owner and the dog immediately obeys voice commands or signals. ▪ Dogs actively being used in search and rescue, grazing management operations, or other administrative purposes, and dogs actively being used in the legal hunting of wildlife are excepted from the 50' requirement. ▪ Monitor compliance with this direction, and restrictions adjusted as needed. **Noise** Maintain outstanding opportunities for solitude and inspiration, minimize noise impacts of recreation uses and disturbance of visitors seeking solitude. Encourage visitors to leave radios, tape and CD players at home. Enforce 36 CFR 261.10 (h) which prohibits use of any device which produces noise in such a manner and at such a time so as to unreasonably disturb any person, and 36 CFR 261.10 (d) which prohibits the discharge of firearms within 150 yards of a campsite or occupied area, or in a manner whereby any person or property is exposed to injury or damage. **Firearm Use** Recreational shooting is not a wilderness dependent activity, and the noise from this activity can disturb other visitors seeking solitude. The desired condition is for recreation shooters to engage in this activity in appropriate non-wilderness settings. Standards and Guidelines ▪ Provide education to provided hunters and others carrying firearms on the value of solitude and quiet in wilderness, and the impacts of shooting on other users. Target shooters will be encouraged to engage in this activity in appropriate non-wilderness areas. ▪ Monitor incidents and complaints regarding recreational shooting. All complaints regarding recreational shooting will be documented in incident reports. Develop a user-friendly form for volunteers (such as at the Carson Pass) to record complete information about shooting incidents and complaints. If monitoring indicates there are persistent problems regarding recreational shooting, further actions will be considered including a special order restricting this use in the wilderness, if needed. **Wilderness Patrol Levels** The following recommended minimum frequency of wilderness ranger patrols are based on the Opportunity Class allocations which reflect existing and desired visitor use levels for each management area and desired education and management strategies. ▪ Opportunity Class 1 - One patrol trip per season ▪ Opportunity Class 2 - Two to four patrol trips per season ▪ Opportunity Class 3 - Patrol every 2-4 weeks in summer season (4-8 trips in average season) ▪ Opportunity Class 4 - Patrol every weekend day in peak season	
Opportunity Class 1 - (Pristine) **MWMG**	The area is characterized by a natural environment predominantly unmodified by human activity. **Resource Conditions** Soils: Soil displacement and erosion resulting from human activity does not measurably differ from naturally occurring rates. Soil compaction and loss of organic soil horizons at camping areas are minimal and do not exceed limits which prevent natural plant establishment and growth. Vegetation: Vegetation loss at camping areas and along travel routes is very minor and temporary. Impacts recover annually and are not apparent to most visitors.	

Practices	General Direction	Standards and Guidelines
	Fish and Wildlife: Habitat and species diversity is governed by environmental variation (climate, elevation) and natural forces such as fire, succession and drought. Wildlife behavior and use patterns show no noticeable alteration. Visitor use rarely, and only temporarily, displaces wildlife. Trails: There are no mapped or maintained system trails. Travel is cross-country or along unmaintained and unmapped paths. Few user-created trails exist, and no new ones are allowed to form. Campsites: Very few established campsites are evident. Where camping occurs there is little noticeable loss of vegetation, increase in bare mineral soil or disturbance of duff, litter or woody debris. Fire rings are not present. Impacts recover annually. **Social Conditions** This area provides an outstanding opportunity for isolation, solitude and freedom from evidence of human activities. The environment offers excellent opportunities to experience a high degree of challenge, risk and self-reliance. Travel is cross-country or on unmaintained travel routes, requiring a high level of outdoor skills. Encounters with other parties are rare to non-existent, whether traveling or camping. Established campsites are out of sight and sound of one another. **Management** Management emphasizes sustaining and restoring the natural ecosystem. On-site contact with visitors by Forest Service personnel is rare, and usually in response to a problem or by invitation. Information on leave no trace techniques, wilderness rules and regulations are communicated to the visitor outside the area, at trailheads, visitor information centers or ranger stations. Infrequent patrols and monitoring of conditions are conducted only as is necessary to achieve management objectives. New trails will not be constructed, and existing trails will not be maintained. Abandoned trails may be rehabilitated to natural conditions. No signs, administrative structures or facilities are present.	
Opportunity Class 2 - (Primitive) **MWMG**	The area is characterized by a natural environment predominantly unmodified by human activity. **Resource Conditions** Soils: Soil displacement and erosion resulting from human activities are not measurably different from naturally occurring rates. Minimal soil compaction and disturbance of duff, litter and dead woody debris may occur in camping areas. This disturbance of organic soil horizons will not exceed limits which prevent natural re-vegetation. Vegetation: Impacts from recreational use are limited to localized, minor loss of vegetation. In many areas these impacts recover annually and are apparent to few visitors. Fish and Wildlife: Habitat and species diversity is governed by environmental variation and natural forces such as fire, succession and disease, except where fish stocking is allowed to occur. Temporary displacement of wildlife may occur with no cumulative negative effect on population viability. Uses are managed to prevent displacement of threatened, endangered or sensitive species. Trails: Few system trails exist. There are few user-created trails, and new ones are not allowed to form. Campsites: There are few established campsites, and campsite density is low. Established campsites may exhibit a minor loss of vegetation and/or a small area of bare mineral soil which may persist year to year. **Social Conditions** There is a high probability of experiencing isolation and solitude, with little evidence of recent human activity. The environment offers visitors good opportunities to experience risk, challenge and self-reliance through the utilization of outdoor skills. Off of trails, this area presents the same challenging opportunities and conditions as Class 1. Encounters with other parties are infrequent, whether along travel routes or at campsites. Campsites are predominantly out of sight and sound of others. **Management** Management emphasizes sustaining and restoring the natural ecosystem. Direct on-site management involves minimal visitor contacts. Information on leave no trace techniques and wilderness rules and regulations is primarily communicated to the visitor outside the area. Patrols and monitoring of conditions are conducted as needed to achieve management objectives. Trails are maintained for light use. Only minimal directional signing is provided at major trail junctions. Temporary signing may be used for resource protection only when other less obtrusive measures have been exhausted.	

Practices	General Direction	Standards and Guidelines
Opportunity Class 3 - (Remote) **MWMG**	The area is characterized by a natural environment predominantly unmodified by human activity. **Resource Conditions** Soils: Soil disturbance and erosion resulting from human activities occurs at a rate similar to the natural process. Some localized soil compaction and disturbance of duff, litter and dead woody debris occurs in camping areas and holding areas for recreational stock. Vegetation: Localized moderate loss of vegetation may occur in camping areas and where stock are held. Fish and Wildlife: Habitat and species diversity is governed by environmental variation and natural forces such as fire, succession and drought, except where fish stocking is allowed to occur. Temporary displacement of wildlife may occur with no cumulative negative effect on population viability. Uses are managed to prevent displacement of threatened, endangered or sensitive species. Trails: A moderately developed system of constructed trails exists. Some user-created trails exist, however, no new user created trails are allowed to form. Campsites: Established campsites are present. Campsite density is low to moderate. The number of established sites accommodates use within acceptable limits, preventing the formation of new sites. Some campsites may exhibit a moderate area of vegetation loss, bare mineral soil in center of campsite and tenting areas, or disturbance of duff, litter and woody debris. These impacts can be expected to persist year to year and are apparent to many visitors. **Social Conditions** There is a moderate probability of experiencing, isolation, solitude and freedom from the sights and sounds of humans. The area provides visitors the opportunity to interact with the natural environment with a moderate degree of challenge, risk and self-reliance through the utilization of outdoor skills. There is a moderate probability of encountering other users on the trail and at the campsite. Campsites may be within sight and sound of others. **Management** Management will emphasize protecting and restoring the natural ecosystem while accommodating primitive recreational use and enjoyment. This area is regularly patrolled, and there is a moderate chance of encountering wilderness rangers. Contact is initiated by Forest Service personnel as part of their routine duties, and includes checking visitor permits, addressing unacceptable impacts and providing information on leave no trace techniques, wilderness regulations and restrictions. Trails are regularly maintained for moderate levels of use. Trails are reconstructed only as necessary for resource protection. Signing is limited to directional signs at major trail junctions. Temporary signs may be used for resource protection only after other less obtrusive measures have been exhausted.	
Opportunity Class 4 - (Portal) **MWMG**	The area is characterized by a natural landscape primarily unmodified by human activity. Conditions in some localized areas may show substantial evidence of visitor use. **Resource Conditions** Soils: Disturbance and erosion of soils occurs at a rate similar to the natural process. Localized soil compaction and disturbance of duff and litter occurs in camping areas and areas used by stock. Vegetation: There may be localized moderate loss of vegetation in camping areas. Fish and Wildlife: Habitat and species diversity is governed by environmental variation and natural forces such as fire, succession and drought, except where fish stocking is allowed to occur. Displacement of wildlife may occur adjacent to trail systems and near camping areas during high use season. Uses are managed to prevent displacement of threatened, endangered or sensitive species. Trails: There is a well developed system of constructed trails. User-created trails exist, however, no new user-created are allowed to form. Campsites: Where camping is allowed, there is a moderate density of established campsites at popular destinations. The number of established sites accommodates use within acceptable limits to prevent formation of new sites. Many campsites may exhibit a moderate area of vegetation loss and/or bare mineral soil which persists from year to year and is apparent to most visitors. **Social Conditions** Opportunities to experience isolation, solitude and freedom from the sights and sound of man are generally moderate, but may be low at peak season. The visitor has the opportunity to interact with the natural environment with a relatively low degree of challenge or risk. The probability of encountering other parties is relatively high along trails or at established campsites during peak season. Many campsites are within sight and sound of others. The area typically receives a high percentage of day users, with overnight visitors moving through the area.	

Practices	General Direction	Standards and Guidelines
	Management Management will emphasize protecting and restoring natural ecosystems while accommodating primitive recreational use and enjoyment. The area will be frequently patrolled by Forest Service personnel. On-site management involves actively contacting visitors to check visitor permits, providing information about leave no trace techniques, wilderness rules and regulations and addressing unacceptable impacts. Trails are regularly maintained for moderate to heavy use. Signing consists of wilderness boundary signs, trailhead signs with destinations, trailhead information boards with leave no trace messages and wilderness regulations, and directional signs at major trail junctions. Temporary signs may be used for resource protection only when other less obtrusive measures have been exhausted.	
Mokelumne Wilderness Opportunity Classes (20-B-2) **MWMG**	Table 11 Mokelumne Wilderness Opportunity Class Allocations	

#	Management Zone	acres	Opportunity Class	
			Present	Desired
1	Salt Springs Reservoir	2299	4	3
2	Mokelumne Peak	6782	2	1
3	Tanglefoot Canyon	2595	3	3
4	Shriner Lake	408	3	3
5	Cole Creek Canon	4768	2	2
6	Mosquito Lake	659	2	2
7	Munson Meadow	2105	3	3
8	Cam Irene	1152	2	2
9	Lower Summit City Creek	1112	2	2
10	Lower Beebe Lake	4227	2	2
11	Three Lakes Plateau	1833	3	3
12	Pardoe Lake	413	3	3
13	Beebe Lake	1352	3	3
14	Martell Flat	706	3	3
15	Upper Summit City Creek	4230	3	3
16	Corrie Lochan	919	2	2
17	Fourth of July Lake	475	4	3
18	Emigrant Lake	2416	4	3
19	Carson Pass	1511	4	4
20	Forestdale Basin	1358	3	3
21	Devils Corral	2033	2	2
22	Granite Lake	1194	3	3
23	Snow Canyon	1059	2	2
24	Grouse Lake	834	3	2
25	Middle North Fork Mokelumne	12461	1	1
26	Stevenot Camp	2256	2	2
27	Upper North Fork Mokelumne	943	3	3
28	Jackson Canyon	2761	2	2
29	Sand Meadow	2429	3	3
30	Wheeler Lake	1096	3	3
31	Frog Lake	1014	3	2
32	Underwood Valley	2214	2	2
33	Lake Valley	883	3	2
34	Lower North Fork Mokelumne	5270	2	2
35	Sheep Meadow	2967	3	3
36	Indian Valley	4898	3	2
37	Reynolds Peak	1022	3	3
38	Raymond Peak	921	2	2
39	Raymond Lake	3058	3	3
40	Raymond Creek Canyon	2197	2	2
41	Jeff Davis Peak	5466	3	2
42	Thornburg Canyon	6184	2	3

Wild and Scenic Rivers and Proposed Wild and Scenic Rivers

Management Emphasis

Management emphasis for these areas is to manage selected river corridors to preserve their notable values or features as part of, or for eventual inclusion in, the National Wild and Scenic River System. Direction provides for management of recommended segments in accordance with the Wild and Scenic Rivers Act of 1968 as guided by FSH 1909.12, Chapter 8, and the 1982 Guidelines for River Management (USDA/USDI). Proposed Wild and Scenic Rivers within Wilderness will be managed under dual designation. No timber harvest is scheduled; however, a wide range of resource activities are permitted depending upon the proposed classification of Wild, Scenic or Recreational.

Designated and proposed Wild and Scenic Rivers, along with immediate environments, will be managed to preserve their free flowing condition and protect their outstandingly remarkable values. To the extent of Forest Service authority, no development of hydroelectric power facilities or other water resource developments would be permitted. Opportunities for public recreation and other resource uses are based on the classification of each identified river segment.

Description

This Management Area generally contains those National Forest lands within 1/4 mile on either side of approximately 40 miles of existing Wild and Scenic Rivers and 160 miles of proposed Wild and Scenic Rivers. Wild and Scenic Rivers and Proposed Wild and Scenic Rivers are displayed on Map I-4. Appendix E (Wild and Scenic River Study) of the EIS contains detailed descriptions of each proposed Wild and Scenic River.

Wild and Scenic Rivers

Tuolumne River

The designated corridor of the Tuolumne Wild and Scenic River includes 29 miles of river and portions of the steep middle-elevation mountain slope bordering the river. This area is located in the south-central part of the Forest. The western half of the area was burned by wildfire in 1987. The following classifications were approved, along with a management plan, in 1988.

Segment	Length (mi)	Classification
Yosemite - Early Intake	5	Wild
Early Intake - Cherry Creek	1	Recreational
Cherry Creek - Lumsden	4	Wild
Lumsden Area	4	Scenic
Lumsden - Terminus	15	Wild

Merced River

The Stanislaus National Forest portion of the Merced Wild and Scenic River corridor includes 11 miles of river and portions of the steep, south-facing slope bordering the river. The river is located in the extreme southern portion of the Forest and forms the boundary between the Stanislaus and Sierra National Forests. By special agreement, the Sierra National Forest manages the Merced Wild and Scenic River corridor. A management plan is being prepared. A boundary/classification study approved in 1989 established a Recreational classification for this Wild and Scenic River.

Proposed Wild and Scenic Rivers

North Fork Mokelumne River

This area includes 27 miles of the North Fork Mokelumne River from Highland Lakes To Salt Springs Reservoir. It also includes all Stanislaus National Forest lands within 1/4 mile of the river. The river is

located in the northern portion of the Forest and forms part of the boundary between the Stanislaus and Eldorado National Forests. By special agreement, the Eldorado National Forest has studied the North Fork Mokelumne below Salt Springs. That portion of the river has been found eligible for Wild and Scenic River status. A suitability study is being prepared by the Eldorado. The following classifications are recommended for the segments of the proposed Wild and Scenic River managed by the Stanislaus.

Segment	Length (mi)	Classification
1. Highland Lakes - Mokelumne Wilderness	9	Recreational
2. Wilderness Boundary - Salt Springs	18	Wild

North Fork Stanislaus River

This area includes all 23 miles of eligible segments of the North Fork Stanislaus River, from Highland Creek to the confluence with the Middle Fork Stanislaus River. It also includes all lands within 1/4 mile of each segment. The river is located in the west-central portion of the Forest. The following classifications are recommended for this proposed Wild and Scenic River.

Segment	Length (mi)	Classification
4. Highland Creek - McKays Reservoir	13	Wild
	3	Recreational
6. McKays Reservoir - M.F. Stanislaus	7	Wild

Stanislaus River

This area includes the 1.5 mile eligible segment of the Stanislaus River, from the North/Middle Fork Stanislaus confluence to Clark Flat. It also includes all lands within 1/4 mile of the segment. The river is located near the western boundary of the Forest. Wild classification is recommended for this proposed Wild and Scenic River.

Middle Fork Stanislaus River

This area includes 41.5 miles of eligible segments of the Middle Fork Stanislaus River and its tributaries, Deadman and Kennedy Creeks. It also includes all lands within 1/4 mile of each segment. The area is located in the east and central portions of the Forest. The following classifications are recommended for this proposed Wild and Scenic River.

Segment	Length (mi)	Classification
1. Deadman Creek	8	Recreational
2. Kennedy Creek	8	Wild
5. Relief Reservoir - Clark Fork	12	Recreational
6. Clark Fork - Donnell Reservoir	3	Wild
12. Sand Bar - NF Stanislaus	10.5*	Wild

Clark Fork

This area includes all 11 miles of the Clark Fork, from its headwaters in the Carson-Iceberg Wilderness, to its confluence with the Middle Fork Stanislaus River. It also includes all lands, within 1/4 mile of the river. The river is located in the north-central portion of the Forest. The following classifications are recommended for this proposed Wild and Scenic River.

Segment	Length (mi)	Classification
1. Headwaters - Wilderness Boundary	8	Wild
2. Wilderness Boundary - M.F. Stanislaus	9	Recreational

Clavey River[1]

This area includes all 47 miles of the Clavey River, from the headwaters of its tributaries Bell Creek and Lily Creek in the Emigrant Wilderness, to its confluence with the Tuolumne River. The headwaters of Bell Creek originate approximately 0.5 mile southeast of Burst Rock, within the Emigrant Wilderness. The headwaters of Lily Creek consists of two forks, the western originating from Chewing Gum Lake and the eastern from Y Meadow Lake, both within the Emigrant Wilderness. The following classifications are recommended for this proposed Wild and Scenic River:

Segment	Length (mi)	Classification
1. Bell Creek	6	Wild
	1	Scenic
2. Lily Creek	9	Wild
	2	Scenic
3. Bell/Lily Confluence - 3N01	5	Scenic
4. 3N01 - Cottonwood Road	4	Wild
	4	Scenic
5. Cottonwood Road - Tuolumne	14	Wild
	2	Scenic

South Fork Tuolumne River

This area includes the 2 mile eligible segment of the South Fork Tuolumne River, from its confluence with the Middle Fork Tuolumne to its confluence with the main Tuolumne River. It also includes all lands within 1/4 mile of the segment. The river is located in the south-central portion of the Forest. Scenic classification is recommended for this proposed Wild and Scenic River.

Niagara Creek

This area includes the one mile eligible segment of Niagara Creek, from Highway 108 to Donnell Reservoir. It also includes all land, below the highway, within 1/4 mile of the segment. The creek is located in the north-central portion of the Forest. Scenic classification is recommended for this proposed Wild and Scenic River.

Practices	General Direction	Standards and Guidelines
Fish and Wildlife		
Fisheries Habitat Improvement and Maintenance - Structural Improvements, Streams and Lakes (5-B)	Conduct activities, as allowed under the Wild and Scenic Rivers Act, to maintain fisheries improvement structures as necessary, protecting the Wild and Scenic River values.	Utilize natural materials for all improvements. Emphasize maintenance of the watershed to prevent or control erosion.
Range		
Allotment Management - Extensive or Maintenance (9-A-2 and 3)	Grazing management will be specified in the management plan for the particular river and in the allotment plan for the allotment(s) involved. Grazing is not permitted in the Tuolumne Wild and Scenic River area, except as occurs when livestock are herded through on the way to or from their allotments.	Manage grazing to protect Wild and Scenic River values.

[1] Clavey River Wild and Scenic River Suitability, Forest Plan Appeal Review Decision, USDA Forest Service 1995

Practices	General Direction	Standards and Guidelines
Recreation		
ROS Primitive (10-B-1)	Provide for very low interaction between visitors with a range of primitive recreation experiences. Evidence of other users is minimal.	Manage to the ROS Class of Primitive. This is the adopted ROS level for all Wild Rivers within Wilderness as shown on the ROS Map (1-5).
ROS Semi-primitive Non-motorized (10-B-2) **NMFPA**	Provide for low interaction between visitors with a range of SPNM recreation experiences. Evidence of other users is unobtrusive.	Manage to the ROS Class of Semi-primitive Non-motorized, except for: 4N80Y; 5N02R **(NMFPA)**. This is the adopted ROS level for all Wild Rivers outside of Wilderness and some Scenic or Recreational rivers as shown on the ROS Map (1-5).
ROS Semi-primitive Motorized (10-B-3)	Provide for low to moderate interaction between visitors with a range of SPM recreation experiences. Evidence of other users is moderate.	Manage to the ROS Class of Semi-primitive Motorized. This is the level for some Scenic Rivers as shown on the ROS Map (1-5)
ROS Roaded Natural (10-B-4)	Provide for moderate interaction between visitors with a range of roaded natural recreation experiences. Evidence of other users is moderate.	Manage to a ROS Class of Roaded Natural. This is the adopted ROS level for some Recreational Rivers and some Scenic Rivers as shown on the ROS Map (1-5).
Dispersed Recreation Management (10-F)	Provide for recreation activities that are compatible with Wild and Scenic River Management.	Manage to be consistent with guidelines for Wild and Scenic River Management. Wild Rivers: Locate facilities outside of Wild Rivers. Provide only primitive camping facilities at inventoried sites to enhance visitor appreciation for this program. Scenic and Recreational Rivers: Provide moderate sized recreation facilities that are accessible from the rivers. Screen buildings and improvements. Keep them at least 100 feet from the river's edge.
Closed Motor Vehicle Travel Management (10-G-1) **MVTM** **NMFPA**	Closed to motorized use.	Manage to Forestwide S&Gs for Closed Motor Vehicle Travel Management, except for: 4N80Y; 5N02R **(NMFPA)**. **Clark Fork** Headwaters - Wilderness **Clavey River** Bell Creek (6 mile Wild portion) Lily Creek (9 mile Wild portion) 3N01 - Cottonwood Road (4 mile Wild portion) Cottonwood Road - Tuolumne (14 mile Wild portion) **Middle Fork Stanislaus** Kennedy Creek Clark Fork - Donnell Reservoir Sand Bar - North Fork Stanislaus **North Fork Mokelumne** Wilderness - Salt Springs Reservoir **North Fork Stanislaus** Highland Creek - Mckays (13 mile Wild portion) Mckays - Middle Fork Stanislaus **South Fork Tuolumne** **Stanislaus** **Tuolumne** Yosemite - Early Intake Cherry Creek - Lumsden Lumsden Area - Don Pedro

Practices	General Direction	Standards and Guidelines
		Conduct surveys, observe conditions and carry out rehabilitation, as needed, to eliminate evidence of, and access by, unauthorized motorized use.
Restricted Motor Vehicle Travel Management (10-G-2) **MVTM**	Provide opportunities for motorized recreation compatible with Wild and Scenic River values as shown below.	Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Wild and Scenic River values. **Clark Fork** Wilderness - Middle Fork Stanislaus **Clavey River** Bell Creek (1 mile Scenic portion) Lily Creek (2 mile Scenic portion) Bell/Lily Confluence - 3N01 3N01 - Cottonwood Road (4 mile Scenic portion) Cottonwood Road - Tuolumne (2 mile Scenic portion) **Middle Fork Stanislaus** Deadman Creek Relief Reservoir - Clark Fork **North Fork Mokelumne** Highland Lake - Wilderness **North Fork Stanislaus** Highland Creek - Mckays (3 mile Recreational portion) **Merced** **Tuolumne** Early Intake - Cherry Creek Lumsden Area **Niagara Creek** Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to Wild and Scenic River values caused by motorized use.
Restricted Mountain Bicycle Management (10-H-1)	Make travel compatible with Wild and Scenic River values.	Use restrictions to protect Wild and Scenic River values. Close routes, where impacts are unacceptable, to uses causing the damage. This is an acceptable practice for Scenic and Recreational Rivers.
Closed Mountain Bicycle Management (10-H-2)	Prohibit use of certain areas because of national policy or conflicts with Wild and Scenic River values.	All Wild rivers within Wilderness are closed to mountain bicycles.
Interpretive Services Planning (10-L)	Develop and update IS plans for Wild and Scenic Rivers	Identify objectives, audiences, interpretive messages, communication methods and facility requirements for each.
Interpretive Services Management (10-M)	Interpret unique features of Wild and Scenic Rivers.	Prepare maps, brochures, signs and other interpretive devices to explain special features and reduce area damage.
Interpretive Services Facilities not on Interpretive Sites (10-N)	Install interpretive facilities for Wild and Scenic Rivers.	Blend facilities to complement the unique character of each area. Locate facilities outside of Wild Rivers.

Practices	General Direction	Standards and Guidelines
Special Areas		
Research Natural Area (RNA) Investigations (14-A)	Conduct RNA investigations while protecting Wild and Scenic River values.	Coordinate activates with PSW/R5 RNA Committee.
RNA Management (14-B)	Manage RNAs within Wild and Scenic Rivers under dual designation.	Manage to be consistent with Wild and Scenic River guidelines.
Special Interest Area (SIA) Investigations (14-C)	Conduct SIA investigations while protecting Wild and Scenic River values.	
SIA Management 14-D)	Manage SIAs within Wild and Scenic Rivers under dual designation.	Manage to be consistent with Wild and Scenic River guidelines.
Timber		
Special Cutting - Other (15-I)	Design special cutting methods to obtain specific Wild and Scenic River management objectives (36 CFR 219.15, 219.27(b)).	Special cutting methods will be used to improve the quality of Wild and Scenic River resources.
Fuelwood and Miscellaneous Forest Products (15-M)	Permit or make available fuelwood and other forest products on all available lands within Scenic and Recreational classifications only.	Fuelwood and other forest products will be made available through sale, administrative use and personal use where such uses can protect or enhance an do not conflict with other Wild and Scenic River objectives.
Transportation and Facilities		
Road Construction and Reconstruction (16-A)	In Scenic and Recreational Rivers, construct and reconstruct roads to standards which meet resource management and resource protection needs, while protecting Wild and Scenic River values.	Road construction or reconstruction is not allowed Wild Rivers. Road construction or reconstruction in Scenic Rivers will be accomplished within the criteria for Scenic Rivers.
Transportation Management, Roads Subject to Highway Safety Act (16-B)	On designated roads outside Wild River segments, manage traffic for safe and efficient use by unrestricted public traffic, including passenger cars, and permitted commercial use.	Roads subject to the Highway Safety Act are maintained at Maintenance Levels 3, 4, or 5, suitable for passenger cars. Signing standards on unrestricted roads are planned for public traffic safety and convenience. Public use is not restricted except by seasonal closures which may be imposed to protect resources.
Visual Resource		
VQO Preservation (17-B-1)	Provide a high quality visual setting where changes are unnoticed both within the Management Area and from the rivers.	Manage to a VQO of Preservation. This is the adopted VQO level for all Wild Rivers within Wilderness as shown on the VQO Map
VQO Retention (17-B-2)	Provide a high quality visual setting where changes are not readily evident.	Manage to a VQO of Retention. This is the adopted VQO level for Wild, Scenic and Recreational Rivers which are outside of Wilderness, as shown on the VQO Map. Portions of some Scenic and Recreational Rivers exist in a condition equal to Partial Retention. This is an acceptable interim level, which will be upgraded to Retention over time through natural process and/or rehabilitation.

Practices	General Direction	Standards and Guidelines
Wild and Scenic Rivers		
Wild and Scenic River Inventory and Planning (19-A)	Complete formal recommendations for proposed Wild and Scenic Rivers. Complete legislative packages for recommended Wild and Scenic Rivers as necessary. Complete Wild and Scenic River Management Plans for rivers designated as Wild and Scenic Rivers.	Develop plans using the Limits of Acceptable Change (LAC) methods.
Wild and Scenic River Management (19-B)	Manage according to the requirements of the Wild and Scenic Rivers Act of 1968, as amended and according to the guidance provided by FSH 1909.12, Chapter 8, and the 1982 Final Revised Guidelines for River Management (USDA/ USDI). Wild and Scenic Rivers, along with their immediate environments, will be managed to preserve their free flowing condition and to protect and enhance their Wild and Scenic River values. Implement Limits of Acceptable Change (LAC) and limit use as necessary.	No development of hydroelectric power facilities would be permitted for (1) projects exempted from licensing by the Federal Energy Regulatory Commission or (2) projects on rivers designated through sections 2, 3 and 5(a) of the Wild and Scenic Rivers Act. The Forest Service will recommend to FERC that a project on a river found eligible and suitable for inclusion in the Wild and Scenic Rivers System should not licensed because it is inconsistent with the purposes for which the National Forest was created or acquired and, if necessary, impose conditions on any license issued for a project on that river that fully protect its outstandingly remarkable characteristics and free-flowing nature. Use permits and/or field observations to collect visitor data. Control use as follows: When LAC standards are exceeded for a site or area, implement appropriate management actions to remedy the situation.
	Wild and Scenic River management will be consistent with adjoining National Forest, National Park and Bureau of Land Management Wild and Scenic River management. Allow commercial uses by permit only after an evaluation shows that such use will not compromise Wild and Scenic River values.	Close, rotate, or rehabilitate campsites to allow for site recovery. Require parties with recreation stock to carry feed when conditions warrant. Restrict stock use from steep and rocky terrain. Grant permits to collect native plants only when needed to meet administrative or research needs. Limit commercial permits for outfitter guides to activities that meet specific public needs and cannot be provided outside Wild and Scenic River areas. Do not issue permits for training activities or recreation events. The above Standards and Guidelines are consistent with and will be used in conjunction with the management plans for each Wild and Scenic River.
Proposed Wild and Scenic River Management (19-C)	Protect and enhance the Wild and Scenic River characteristics. To the extent of Forest Service authority, no development of hydro-electric power facilities would be permitted.	Manage the same as designated Wild and Scenic Rivers.
Wilderness		
Wilderness Inventory and Planning (20-A)	Manage Wild Rivers within Wilderness under dual designation	Be consistent with application of guidelines for Wilderness and Proposed Wilderness.
Wilderness Management (20-B)	Manage Wild Rivers within Wilderness under dual designation	Be consistent with application of guidelines for Wilderness and Proposed Wilderness.

Near Natural

Management Emphasis

Emphasis is placed on providing a natural appearing landscape in a non-motorized setting. Public motorized use is not normally allowed and no timber harvest is scheduled. Wildlife habitat management, watershed protection, dispersed non-motorized recreation, livestock grazing and minerals uses are allowed. The area is characterized by a high quality visual setting where changes are rarely evident. Land altering practices are limited in scope and duration. It meets the Forest Service criteria for the Recreation Opportunity Spectrum class of Semi-primitive Non-motorized. Special timber harvest methods to enhance recreation or to salvage losses may be employed.

Description

This management area contains:

Tuolumne River Canyon

This area consists of the lower Tuolumne River canyon, below Cherry Oil Road, between the canyon rim and the corridor boundary of the Tuolumne River Wild and Scenic River. It includes steep middle-elevation mountain slopes in the southwest part of the Forest and most was the Tuolumne River inventoried roadless area. The area borders private and Bureau of Land Management (BLM) land along the western Forest boundary, and the City and County of San Francisco's power facilities at Early Intake are located near the eastern boundary of the area. Most of the area was burned by wildfire in 1987. This area includes deer winter range. Gold mining was an historic activity.

North Mountain

This area, located in the southeast portion of the Forest, includes a major portion of the North Mountain inventoried roadless area. It consists of middle-elevation forested slopes on North Mountain and the steep mountain slopes of the upper Tuolumne River canyon, above Cherry Oil Road, between the canyon rim and the corridor boundary of the Tuolumne Wild and Scenic River. The area borders Yosemite National Park, along the eastern Forest boundary, and the City and County of San Francisco's power facilities at Early Intake are located near the western boundary of the area.

Bell Meadow Area

This area was part of the Bell Meadow inventoried roadless area, located in the central part of the Forest. It is characterized by limited timber interspersed with meadow and granitic rock. The area is important wildlife habitat and contains several key deer fawning areas. It contains several trails and is a popular entry point to the Emigrant Wilderness, which borders the area on the east. It is heavily hunted for deer in the fall. Grazing occurs throughout.

Clavey River Canyon

This area, located in the south-central part of the Forest, includes the Clavey River and canyon from Forest road 1N04, south, to the Tuolumne River Canyon. The area includes widely scattered timber, wildlife habitat, and deer winter range. Fishing is popular at the road crossing, but otherwise there is little recreation use. Steep slopes and heavy brush make access to much of the area difficult. Some hunting and off-highway vehicle use occurs along ridges. Timber is harvested on the upper slopes. This portion of the Clavey River has been found eligible for Wild and Scenic River status.

Eagle/Night Area

This area, located in the east central part of the Forest, was the south-central portion of the Eagle inventoried roadless area and the western portion of the Night inventoried roadless area. The area is characterized by bare volcanic ridges and rock outcrops, scattered timber, and small sub-alpine

meadows. It borders the Emigrant Wilderness, between Cooper Peak and Night Cap Peak. It contains important deer summer range. The area receives light dispersed recreation use, primarily hiking and backpacking. Grazing occurs throughout the area.

Waterhouse Area

This area, located in the east central part of the Forest, was the central portion of the Waterhouse inventoried roadless area. The area includes granitic hillsides, scattered timber, and a river environment of pools and boulders. It borders the Emigrant Wilderness. The area receives light dispersed recreation use, primarily hiking, with access from Pinecrest Lake trail. Cleo's Baths is a popular recreation feature. A portion of the South Fork Stanislaus, which has been found eligible for Wild and Scenic River status, lies within this area.

Pacific Valley Area

This area was the Pacific Valley portion of the Carson-Iceberg Further Planning Area, and is located in the northeast part of the Forest. The area is typified by mountain peaks, glaciated valleys, scattered timber and considerable granite rock. It borders the Carson-Iceberg Wilderness. Lookout Peak is a prominent feature. It receives light to moderate dispersed recreation use including hiking, camping and hunting. Grazing occurs throughout. A portion of the North Fork Mokelumne, a proposed Wild and Scenic River, flows through the area. Also, a portion of Pacific Creek, which been found eligible for Wild and Scenic River status, lies within the area.

Merced Canyon

This area consists of the Stanislaus portion of the Merced canyon between the canyon rim and the corridor boundary of the Merced Wild and Scenic River. It includes steep, south-facing slopes in the southernmost part of the Forest. The area borders private and BLM land to the south and west and Yosemite National Park to the east. It receives little recreation use while providing excellent deer winter range.

Stanislaus Canyons

This area consists of portions of the Middle Fork, North Fork and main stem Stanislaus River canyons between the canyon rim and the proposed Wild and Scenic River boundaries. It is located in the west-central part of the Forest. Recreation use is light and the area provides habitat for a wide variety of wildlife. Portions of the Middle Fork Stanislaus, which have been found eligible for Wild and Scenic River Status, also lie within the area.

Highland Creek/Upper Spicer

This area consists of a portion of Highland Creek, its canyon, and the upper reaches of Spicer Meadow Reservoir. It includes steep slopes and water-related environments in the north-central part of the Forest. Recreation use is light with hiking and non-motorized boating being popular activities. The Carson-Iceberg Wilderness surrounds most of the area.

Mt. Reba

This area consists of the steep slopes of Mt. Reba between the Bear Valley Ski Area and the Mokelumne Wilderness. It is located in the northern part of the Forest.

Practices	General Direction	Standards and Guidelines
Fish and Wildlife		
Structural Habitat Improvement and Maintenance (5-K)	Conduct general fish and wildlife habitat management activities in a way that supports the overall objectives for Near Natural Areas.	Conduct activities where necessary in the recovery of Threatened, Endangered, or Sensitive species in a way which protects natural conditions.
Geology and Minerals		
Saleable Mineral Materials (7-C)	Removal of common variety mineral material including sand, gravel, clay, stone and pumice for public and administrative purposes.	Identify mineral material sites available for public use and rank each for development. Prepare site development and rehabilitation plans for each site prior to its development and use.
Recreation		
ROS Semi-primitive Non-motorized (10-B-2)	Provide for low interaction between visitors with a range of SPNM recreation opportunities. Evidence of other use is unobtrusive.	Manage to ROS Class of SPNM. This is the adopted ROS level for Near Natural as shown on the ROS Map
Dispersed Recreation Management (10-F)	Provide dispersed recreation opportunities that blend with the natural environment. Limit commercial outfitter guide and recreation event special use permits to prevent overcrowding.	Develop maps, brochures and publications for visitor use that list dispersed recreation activities. Stress back country manners and no-trace camping.
Closed Motor Vehicle Travel Management (10-G-1) **MVTM**	Closed to motorized use.	Manage to Forestwide S&Gs for Closed Motor Vehicle Travel Management. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to eliminate evidence of, and access by, unauthorized motorized use.
Restricted Mountain Bicycle Management (10-H-1)	Make travel compatible with Near Natural areas.	Use restricted access as a means of protection. Close routes, where impacts are unacceptable, to uses causing the damage.
Interpretive Services Facilities not on Interpretive Services sites. (10-N)	Provide informational and educational material at trailheads outside of Near Natural areas.	Develop maps and brochures for visitor use that stress minimum impact and leave-no-trace ethics.
Special Areas		
Research Natural Area Investigations (14-A)	Conduct RNA investigations while protecting near natural values.	Coordinate activities with PSW/R5 RNA committee.
Special Interest Area Investigations (14-C)	Conduct SIA investigations while protecting near natural values.	
SIA Management (14-D)	Manage SIAs within Near Natural under dual designation.	Make consistent with Near Natural guidelines.
Timber		
Special Cutting - Other (15-I)	Design special cutting methods to obtain specific Near Natural management objectives. (36 CFR 219.15, 219.27(b))	Special cutting methods will be used to salvage mortality or improve the quality of resources other than timber.
Fuelwood and Miscellaneous Forest Products (15-M)	Permit or make available fuelwood and other forest products.	Fuelwood and other forest products will be made available through sale, administrative use, and personal use where such uses do not conflict with other resource objectives.

Practices	General Direction	Standards and Guidelines
Transportation and Facilities		
Road Construction and Reconstruction (16-A)	Construct and reconstruct roads as needed for management activities meeting Near Natural management objectives.	Road construction will be designed to meet Near Natural management objectives. Location, design and construction standards will protect soil, watershed, fisheries, and other resource values.
Transportation Management, Roads Excluded From Highway Safety Act (16-C)	Restrict traffic to uses meeting Near Natural management objectives.	Prohibit traffic other than for projects meeting Near Natural management objectives.
Visual Resource		
VQO Retention (17-B-2)	Provide a high quality visual setting where changes are not readily evident.	Manage to a VQO of Retention. This is the adopted VQO level for Near Natural as shown on the VQO Map
Wild And Scenic Rivers		
Alternate Management (19-D)	Protect Wild and Scenic River values of eligible river segments proposed for Near Natural Alternate Management (See Appendix E (EIS) Wild and Scenic Study).	Manage to Near Natural guidelines, all or portions of the following segments that are within Near Natural: Middle Fork Stanislaus Segments 8 and 10, South Fork Stanislaus, and Pacific Creek.
Wilderness		
Wilderness Inventory and Planning (20-A)	Conduct Roadless Area Reviews as necessary.	

Wildlife

Management Emphasis

This area emphasizes late seral stage management indicator species (MIS) and all other wildlife which require mature and older forest habitats for part or all of their life cycle. Management indicator species used to prescribe management direction are spotted owl, fisher and marten which are all designated sensitive species. A variety of semi-primitive motorized recreation opportunities are also provided.

Description

This is comprised of areas designated for management for spotted owl, fisher and marten. Marten, fisher and spotted owl habitat areas which are within Wilderness, Wild and Scenic Rivers, and Near Natural Management Areas will be managed according to the management direction for those areas since it will be more protective. Where questions arise about wildlife emphasis in these other Management Areas, refer to Map 3, Appendix I, which displays all SOHAs and all furbearer habitat areas, and follow management direction for these species as well as for marten where it occurs. The direction for travel corridors required for this Management Area is also included under Forestwide Standards and Guidelines.

Practices	General Direction	Standards and Guidelines
Fish and Wildlife		
Stream and Lake Fisheries - Structural Improvements and Maintenance (5-B)	Provide medium to high quality habitat for resident trout species (rainbow, brown, and brook trout) according to the habitat capability models for these species.	Implement structural fish habitat improvements as funded and provide maintenance of projects to assure the projects are functional to meet objectives and protect investment.
Structural Habitat Improvement and Maintenance (5-K)	Conduct activities as needed to meet wildlife objectives. All such activities and objectives will be consistent with the overall objectives of the Management Area.	
Forest Pests		
Insect and Disease Management (6-A)	Carry out insect and disease control measures where needed to protect the integrity of the habitat for the recovery species emphasized.	Insect and disease control measures including salvage logging of infected and dying trees will require Biological Evaluations which address affects of the control measures on Threatened, Endangered and sensitive species.
Geology and Minerals		
Locatable Minerals (7-A)	Conduct a minerals management program which recognizes late seral stage wildlife habitat as the primary surface resource to be protected and maintained.	Approve plans of operation which include adequate measures for protection and, where necessary, rehabilitation of target habitats. For spotted owl this includes seasonal protection and for furbearers it will include consideration of the maximum desirable road density and traffic levels.
Leasable Minerals (7-B)	Conduct a minerals management program which recognizes late seral stage wildlife as the primary surface resource to be protected and maintained.	Approve lease stipulations which include adequate measures for protection and, where necessary, rehabilitation of target habitats. For spotted owl this includes seasonal protection and for furbearers it will include consideration of the maximum desirable road density and traffic levels.
Saleable Minerals Material (7-C)	Conduct a minerals management program which recognizes late seral stage wildlife as the primary surface resource to be protected and maintained. Removal of common variety mineral material including sand, gravel, clay, stone and	Common variety minerals will be sold in large volumes only where significant additional traffic will not occur and from locations approved with wildlife biologist input. Establish fees for recovery of fair market value of sales of minor amounts of mineral material for personal use. Competitively award permits for large quantities of

Practices	General Direction	Standards and Guidelines
	pumice by permit, competitive award or in accordance with free use regulations to accommodate public needs.	mineral material in accordance with 36 CFR 228, Subpart C. Establish and maintain an inventory of common variety mineral materials sources on the Forest. Identify mineral material sites needed for National Forest purposes and rank each for development. Identify mineral material sites available for public use and rank each for development. Prepare site development and rehabilitation plans for each site prior to its development and use.
Range		
Allotment Management (9-A)	Recognize the special value of meadows and riparian areas to fisher, pine marten and other late seral stage wildlife in applying range management systems. Environmental analysis for range activities within these management areas need to consider possible impacts of livestock operations on marten and fisher.	Improve ecological condition of rangelands where currently unsatisfactory, through improved management, and structural and non-structural improvements.
Recreation		
ROS - Semi-primitive Motorized (10-B-3)	Provide for low to moderate levels of interactions between forest visitors with a range of Semi-primitive Motorized recreation experiences. Evidence of other use is moderate.	Manage to the ROS class of Semi-Primitive Motorized, consistent with wildlife values and implementation plans. This is the adopted ROS level for the Wildlife Management Areas as shown on the ROS Map.
ROS - Roaded Natural (10-B-4)	Provide for moderate levels of inter- actions between Forest visitors with a range of roaded natural recreation experiences. Evidence of other use is moderate.	Manage to the ROS class of Roaded Natural, consistent with Wildlife values and implementation plans. This is the adopted ROS level for the Wildlife Management Areas, as shown on the ROS Map, where existing improvements represent the ROS Class of Roaded Natural.
Dispersed Recreation Management (10-F)	Provide for dispersed recreation activities that are consistent with wildlife values. Emphasize a generally low-level of recreation use in order to minimize harassment effects on wildlife species.	Favor recreation activities that do not require extensive facilities and are designed for short stays. Implement use season restrictions to protect wildlife values as necessary.
Restricted Motor Vehicle Travel Management (10-G-2) **MVTM**	Provide opportunities for motorized recreation compatible with Wildlife values.	Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Wildlife values. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to Wildlife values caused by motorized use.
Restricted Mountain Bicycle Management (10-H-1)	Manage travel compatibly with other resource values.	Close routes where impacts are unacceptable.
Installation or Construction of Interpretive Services not on Interpretive Service Sites. (10-N)	Provide information and interpretive material to interpret Wildlife resources and activities.	Prepare wayside exhibits, interpretive trails, and publications for visitor use and/or interpret wildlife and its benefits.

Practices	General Direction	Standards and Guidelines
Special Areas		
Research Natural Area (RNA) Investigations (14-A)	Conduct RNA investigations while protecting wildlife values. Manage SIAs within wildlife areas under dual designation.	Coordinate activities with PSW/R5 RNA committee.
Special Interest Area (SIA) Investigations (14-C)	Conduct SIA investigations while protecting wildlife values.	
SIA Management (14-D)	Manage to be consistent with wildlife guidelines.	
Timber		
Timber Program Administration (15-A)	Efficiently and economically extract forest products consistent with the primary wildlife objectives with the least damage to soils, watershed value, and residual trees. (36 CFR 219.27(b)) Identify lands available, capable, and suitable for timber production and harvesting. Control competing vegetation in openings that are to be reforested to the extent that multiple use and timber yield objectives can be met.	A variety of logging systems will be used to harvest forest products consistent with meeting late-successional MIS habitat objectives. Generally ground-based systems such as tractors will be used on slopes of less than 35%, and aerial systems such as highlead or skyline will be used where slopes exceed 35%. Aerial systems may be used on any slope or with any cutting method where economically efficient. Manage lands for timber production that have been identified as available and suitable for that purpose consistent with the primary objectives for wildlife habitat. (36 CFR 219.14)
Intermediate Cutting - Sanitation and Salvage (15-E)	Design cutting methods to obtain specific management objectives for late successional MIS habitat. (36 CFR 219.15, 219.27(b))	Even-Aged Systems are further described in FSM 2471.21, R5 supplements, and the Forest Management Practices.
Intermediate Cutting Method - Commercial Thinning (15-F)	Design cutting methods to obtain specific management objectives for late successional MIS habitat. (36 CFR 219.15, 219.27(b))	Even-Aged Systems are further described in FSM 2471.21, R5 supplements, and the Forest Management Practices.
Special Cutting - Other (15-I)	Design cutting methods to obtain specific management objectives for late successional MIS habitat. (36 CFR 219.15, 219.27(b))	Even-Aged Systems are further described in FSM 2471.21, R5 supplements, and the Forest Management Practices. Special cutting methods will be used for available and suitable lands with other resource objectives. For lands incapable or unsuitable for timber production special cutting will be used to salvage mortality or improve the quality of resources other than timber.
Reforestation (15-J)	Apply fertilizer where the application will be beneficial and economical. (36 CFR 219.27(b)(2)) Reforest all openings in available, capable, and suitable lands for timber production created by timber harvest, wind, fire, or insect and disease pests. (36 CFR 219.27(b)(2))	A soil analysis will be required for projects that propose the use of fertilizer. The analysis will assess the need, amount and composition of fertilizer required for the specific project. Site preparation - Preparation of sites for artificial or natural stand reestablishment will be completed sufficiently in advance of planting or natural seeding to provide control of competing vegetation. Normally control of competing vegetation will be designed to ensure prescribed first year survival of planted or natural seedlings. This will often involve more than one treatment on more than one competing species prior to planting. It may involve a variety of techniques including fire, mechanical bunching and shredding, discing, and pesticides. Pest management will be considered as necessary. Seed stock - Maintain a seed inventory meeting the

Practices	General Direction	Standards and Guidelines
		Base Level Standards outlined in the Tree Improvement Master Plan for the California Region. Incorporate seed from the High Level Program as it becomes available. Utilize direction provided in the Tree Improvement Master Plan to mark stands using cutting methods that rely on natural regeneration. Tree species - Natural seeding or planting will be done with tree species, seed zones, and elevations determined to be appropriate through a silvicultural examination and prescription. Stocking levels in reforestation efforts will be directed toward obtaining the recommended number of trees per acre outlined in R-5 supplement to FSM 2472.03.
Release and Weeding (15-K)	Reduce the effect of competing vegetation on the growth and development of desired species on lands available, capable, and suitable for timber production. (36 CFR 219.27(b)(2), 219.27(c)(4))	Release efforts will only be done after appropriate stand examination and prescription. The objective will be to treat stands before brush or undesired hardwood densities reach 10,000 cubic feet per acre. Ideally, competing vegetation will be treated while seedlings and sprouts from this vegetation are small and easily treated by a variety of techniques. Often this will be within two or three years after site preparation. On plantations five years or older where conifers are established over most of the site, the objective will be to treat competing vegetation based on the actual growth and development of the tree stand. Brush and undesired vegetation will be treated where the conifer stand is not meeting site objectives for growth and it is apparent that competing vegetation is the cause. A variety of techniques including mechanical piling, shredding, hand grubbing and herbicides may be used.
Precommercial Thinning (15-L)	Remove surplus trees on available, capable, and suitable lands with excess stocking. This will be done to favor growth and development of potential crop trees, prevent disease and insect outbreaks, or meet other resource objectives. (36 CFR 219.27 (c) (4)).	Precommercial thinning will only be done after stand examination, prescription, and approval by a qualified silviculturist. It will be done in wild and managed stands of all forest types and follow the guidelines outlined in FSM 2476.42 and R5 Supplement as a minimum. Precommercial thinning is a tool that will be used to maintain diversity by improving species composition in many stands. Posts, fuelwood, Christmas trees, and other product sales should be used where possible to meet precommercial thinning needs. A variety of techniques may be used including mechanical, crushing, piling, shredding, hand cutting, and pesticides. Mechanical crushing, piling, and shredding will normally not be used where slopes exceed 35%.
Fuelwood and Miscellaneous Forest Products (15-M)	Permit or make available fuelwood and other forest products on all available lands where not needed for spotted owl or Sensitive furbearer habitat requirements.	Fuelwood and other forest products will be made available through sale, administrative use, and personal use where such uses do not conflict with other resource objectives.
Transportation and Facilities		
Transportation Management, Roads - Subject to Highway Safety Act (16-B)	Manage traffic for unrestricted public use and permitted commercial use for safe and efficient mixed use.	Roads subject to the Highway Safety Act are maintained at Maintenance Levels 3, 4, or 5, suitable for passenger cars. Signing standards on unrestricted roads are planned for public traffic safety and convenience. Public use is not restricted except by seasonal closures which may be imposed to protect resources.

Practices	General Direction	Standards and Guidelines
Transportation Management, Roads - Excluded from Highway Safety Act (16-C)	Manage traffic to provide for traffic safety and protect resource values on roads which are not open to unrestricted traffic and roads which are not maintained for travel by passenger car. Emphasize closure of roads to minimize disturbance to wildlife. Manage the Forest transportation system within this Management Area to give major consideration to the needs of the spotted owl and Sensitive furbearers. Close or restrict non-essential roads to public use as needed to lower road density to that needed for the target habitat capability.	Traffic management is used to control types of traffic to provide for traffic safety, to protect resource values or to reduce road maintenance costs. Passenger car traffic may be restricted by regulatory order (36 CFR 261), may be discouraged by warning signs or maintenance practices, or may be eliminated by barriers closing the road to all traffic. Commercial traffic is controlled by permit. Maintenance standards are planned primarily for resource management traffic use. Maintenance Level 2 may be used. Roads may be closed seasonally or year-round to all traffic as needed to protect wildlife or other resources. Road signing is planned as needed for the intended use of the road. The need for safety signing is reduced by lower design speed and traffic management.
Visual Resource		
VQO - Retention (17-B-2)	Maintain the visual character of the VQO Retention for the pleasure of the viewing public. Design land and vegetation disturbing projects to meet Retention.	Manage to a VQO of Retention. Base size, shape and dispersion of harvest units, road construction, and other resource disturbance on meeting Retention. This is the adopted VQO level for Wildlife, as shown on the VQO Map.
VQO – Partial Retention (17-B-3)	Design land and vegetation disturbing projects to meet Partial Retention, in middleground distance zones where this is the VQO.	Base size, shape, and dispersion of harvest units, road construction and other resource disturbances on meeting middleground Partial Retention. This is the adopted VQO level for those Wildlife areas as shown on the VQO Map.
Wild and Scenic Rivers		
Alternate Management (19-D)	Protect Wild and Scenic River values of eligible river segments proposed for Wildlife Alternate Management (see Appendix E (EIS) Wild and Scenic River Study).	Manage to Wildlife guidelines all or portions of the following segments that are within Wildlife: Bell Creek, Lily Creek, Clavey Segments 3 and 4, and Pacific Creek.

Special Interest Areas

Management Emphasis

Management emphasis for these areas is to protect and manage unique geological, scenic, historical, archaeological, botanical and memorial features, to make educational opportunities available and preserve the integrity of the special interest feature for which the areas were established. No timber harvests are scheduled; however, a wide range of resource activities is permitted, provided the unique features of each area are protected.

Description

Special Interest Areas (SIAs) may contain unique geologic, scenic, historic, archaeological, botanic and memorial features. They occur throughout the entire Forest and vary in size from less than 1/2 acre to approximately 2,960 acres. Special Interest Area maps are included at the end of this section.

Trumbull Peak Historic and Botanic Area

Located on the Groveland Ranger District in T.2S., R.19E., Sections 3, 9, 10, 15, 16 and 22. The area includes the upper slopes of Trumbull Peak, the Trumbull Peak Lookout, a railroad spur and two logging inclines. The entire area covers 150 acres, of which 120 acres are unsuitable for timber management. The historical features date back to the 1920's. The abandoned inclines total about 1-3/4 miles in length. A railroad spur to the longest incline, overlooking the Merced River Canyon, is about 4,000 feet long. The abandoned Trumbull Peak Lookout is located on a ridge south of Trumbull Peak at the end of a 1/4 mile trail. The area includes populations of three sensitive plants: Allium yosemitense, Eriophyllum congdonii, and Lewisia congdonii.

Pacific Madrone Botanic Area

This 15-acre area contains the two southernmost known groves of Pacific Madrone (Arbutus menziesii). The area is located in T.1S., R.18E., SE1/4, Section 33 along the slopes of an unnamed drainage on the Groveland Ranger District. The two groves together contain 20 mature and sapling trees, and some seedlings surrounded by riparian vegetation. The two groves are 1/10 mile apart.

Windeler Cave Geologic Area

This area consists of a limestone cave thought to be over 2,500 feet long. It contains a variety of stalactite and stalagmite formations.

Niagara Creek and Falls Scenic and Geologic Area

This area is located adjacent to Donnells Reservoir on the Summit Ranger District, within T.6N., R.19E., Sections 30 and 31 and T.6N., R.18E., Section 36. The area includes a "hanging valley" waterfall over 900 feet high. It is the highest waterfall on the Forest and is the Forest's only true hanging valley waterfall. The area is approximately 320 acres in size, encompassing the falls and a proposed vista point to the north. This portion of Niagara Creek is also a proposed Wild and Scenic River.

Columns of the Giants Scenic and Geologic Area

This area includes a unique formation of columnar basalt. A National Recreation Trail accesses the area. It is a miniature "Devil's Postpile" approximately 21 miles northeast of Strawberry along Highway 108. The area is 105 acres in size and is located in T.6N., R.20E, Section 20.

Bull Run Scenic and Geologic Area

Located on the Summit Ranger District, with access from Herring Creek Road, this area consists of a rugged lava-capped ridge of horseshoe shape enclosing a forested bowl. It contains a variety of unique rock formations formed through volcanic and glacial action. The area is approximately 340

acres in size and is located in the S1/2 of Section 25 and N1/2 of Section 35, T.5N., R.18E. It contains 230 acres of land unsuitable for timber management.

Sonora-Mono Toll Road Historic Area

This old trans-Sierra road roughly follows Highway 108 from Sonora Pass to Forest Road 5N01. Other segments of the historic road are thought to exist west of 5NG1, but their exact location is unknown.

Emigrant Road and the Big Trees-Carson Valley Road Historic Areas

These are segments of two of the historical routes over the Sierra in the 1800s. The Emigrant Road runs parallel and south of Highway 4 from Mosquito Lakes to Lake Alpine. The Big Trees-Carson Valley Road goes from Lake Alpine south and west to Alpine Station. The total length of the segments is approximately 7 miles.

Bourland Creek Trestle Historic Area

This is a large, curved, wooden trestle that once supported rails for the Westside Railroad logging system. It was built in the early 1920s. It is 315 feet long and 76 feet above Bourland Creek. The trestle has 22 bents that are spaced 14 feet on center. It is anchored by rough aggregate concrete abutments and piers. It is completely standing and represents the last standing trestle on the Stanislaus. It covers less than 1/2 acre, and is at the 5,200 foot elevation. This portion of Bourland Creek was identified as eligible for Wild and Scenic River status. It was not included as a proposed Wild and Scenic River; however, Special Interest Area management will protect those values.

Jordan Creek Bower Cave Cultural and Geologic Area[1]

This SIA encompasses approximately 1600 acres. It includes the former Linkletter Ranch property (826 acres) which was acquired through a land exchange in December, 1990. It is situated in a botanically diverse location due to several geological features. Three prominent drainages cut through the area allowing for a wide variety of slope aspects as well as riparian and meadow habitats. Outcrops of limestone/marble and areas of differing soil depts. Also contribute to the wide variety of plant life. Six plant communities are represented within the SIA: freshwater marsh; mixed-conifer forest; lower montane meadow; streamside riparian; foothill woodland; and chaparral. Some of the wildflowers found in the area include paintbrush, twining brodiaea, Sierra onion an d California poppy. Due to this wide variety of plant communities, over 320 species of plants exist in the SIA. Some of these species are interesting and unusual (although not considered rare) such as trillium, scarlet fritillary and the giant helleborine orchid. The presence of six plant communities in this relatively small area offers opportunities for educational and interpretive uses. Bower Cave is an unique limestone cavern that was a popular recreation attraction in the early 1900s and has Native American sacred values. It is located in the southwest portion of the Forest along the North Fork Merced River. The North Fork Merced was identified as eligible for Wild and Scenic River status. It was not included as a proposed Wild and Scenic River; however, Special Interest Area management will protect its values.

Jawbone Falls Heritage Area[2]

Designated as a Special Interest Area for heritage resources, this area is located on Jawbone Creek, between Jawbone Falls and Jawbone Meadow, on the Groveland Ranger District in Township 2 North, Range 18 East, Section 23. It consists of 47 acres.

Five other SIAs are discussed in an administratively confidential Appendix H, in order to protect location information for non-renewable resources subject to vandalism.

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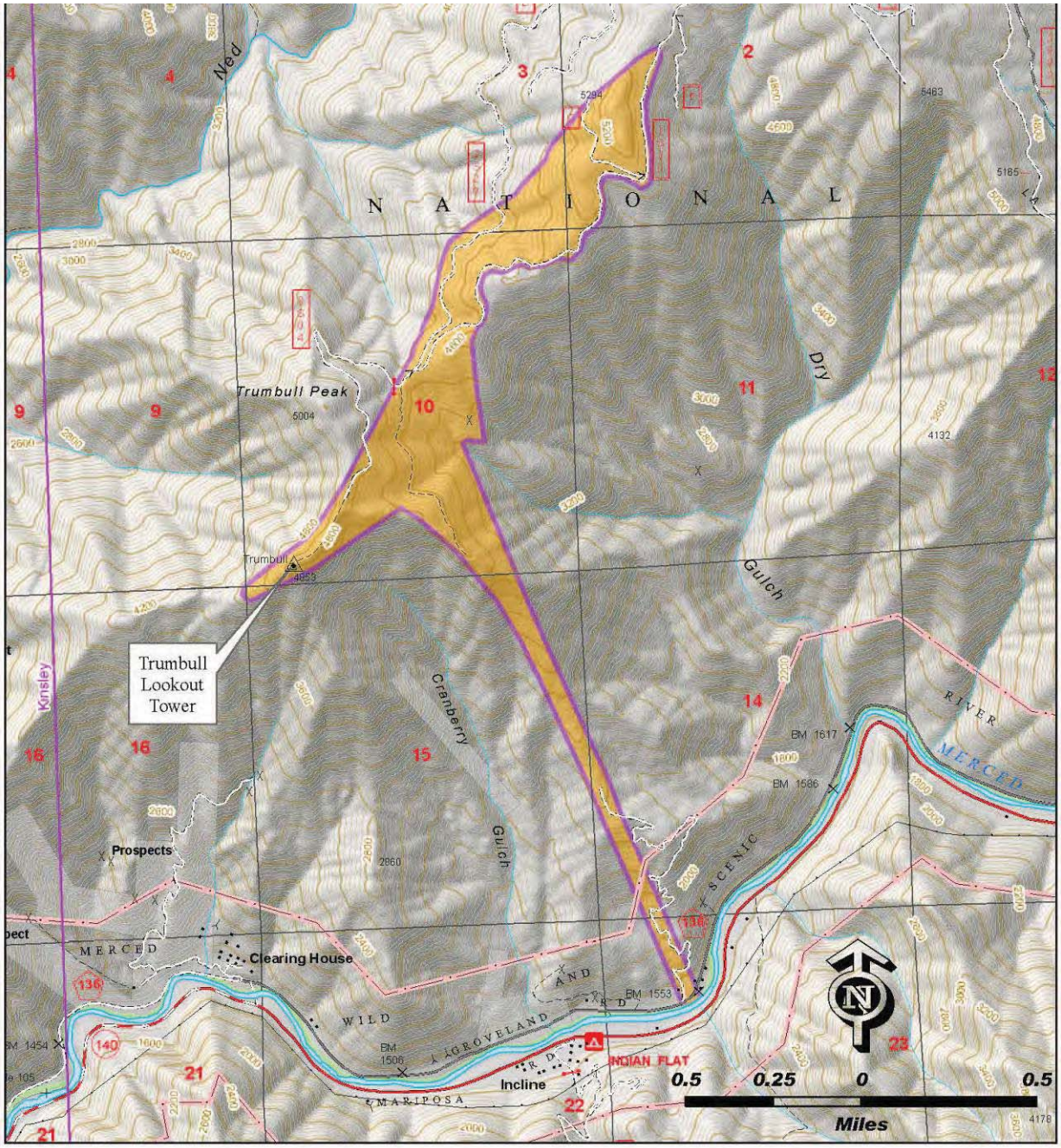
[1] Jordan Creek/Bower Cave Special Interest Area Management Guidelines, Forest Plan Amendment, USDA Forest Service 1993
[2] Jawbone Falls Special Interest Area, Forest Plan Amendment, USDA Forest Service 2000

Practices	General Direction	Standards and Guidelines
Fire and Fuels		
Fuels Management (4-B) **JCBC**		For Jordan Creek Bower Cave SIA: 1. Conduct prescribed burning for wildlife enhancement and fuel reduction. 2. Reduce fire hazards around all structures; maintain road access and construct the minimum fuel modification zones according to the Strategic Fire Plan. 3. Develop a moderate network of fuel modification zones including helispot for emergency evacuation.
Fish And Wildlife		
Fish and Wildlife Habitat Administration (5-A) **JCBC**		Monitor effects on wildlife resulting from increased public use in the Jordan Creek Bower Cave SIA
Structural Habitat Improvement and Maintenance (5-K) **JCBC**		Develop wildlife habitat improvements for sensitive wildlife species in the Jordan Creek Bower Cave SIA
Recovery Species Administrative Management (5-L) **JCBC**		Prevent access to the cavity behind the former band stand in Bower Cave in order to allow re-establishment of a maternity roost and a hibernation roost for Townsend Big-eared Bats
Geology And Minerals		
Locatable Minerals (7-A) **JCBC**		Request withdrawal of the Jordan Creek Bower Cave SIA from mineral entry.
Range		
Allotment Management - Extensive or Maintenance (9-A-2 and 9-A-3)	Grazing management will be specified in management plans for the area and the surrounding allotment. Management is designed to protect the areas' special characteristics.	
Range Improvements - Structural (9-C) **JCBC**		For Jordan Creek Bower Cave SIA: 1. Maintain fences to keep allotment cattle out of meadows, Jordan Creek pond, riparian zones and other non-permitted areas; construct and maintain fences for a permittee gathering pasture. 2. Maintain fences and corrals for Forest Service animals.
Grazing Permit Administration (9-D) **JCBC**		For Jordan Creek Bower Cave SIA: 1. According to the requirements for Great Grey Owls, allow livestock and pack stock grazing only after August 15; limit to retain a 5” stubble of grasses.
Range Studies (9-E) **JCBC**		For Jordan Creek Bower Cave SIA: 1. Monitor for overuse by cattle in the pastures
Recreation		
ROS Primitive (10-B-1) ROS Semi-primitive Non-motorized (10-B-2) ROS Semi-primitive Motorized (10-B-3) ROS Roaded Natural	Maintain a range of recreation experiences, since classes vary between identified Special Interest Areas. Keep Recreation Opportunity Spectrum (ROS) levels at the adopted class.	Manage dispersed recreation in these areas to maintain or improve the adopted ROS classes, as shown on the ROS Map, consistent with Special Interest Area values and implementation plans.

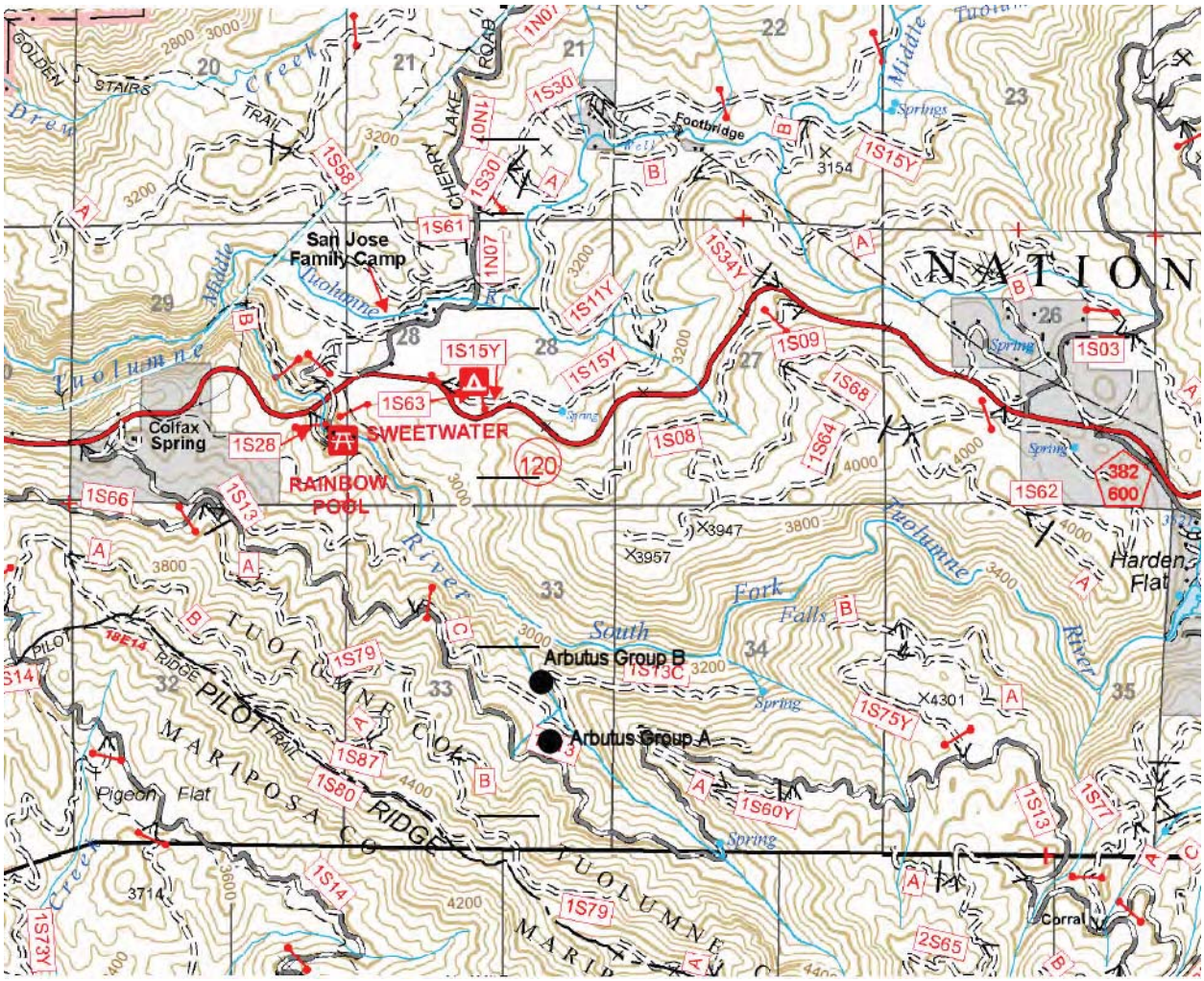
Practices	General Direction	Standards and Guidelines
(10-B-4)		
Developed Recreation and Interpretive Services Site Construction or Rehabilitation (10-C)	Construct or rehabilitate sites to meet the demand for Recreation Visitor Days (RVDs) of developed recreation.	Meet site planning and design criteria outlined in Forest Service Manual 2331. Follow priorities shown in the Recreation Development Schedule at the end of this section. Provide for barrier free access in all developments
Developed Recreation and Interpretive Services Site Construction or Rehabilitation (10-C) **JCBC**		In the Jordan Creek Bower Cave SIA: 1. Develop campground (100 PAOT maximum); day use sites (150 PAOT maximum) and interpretive sites. 2. Develop a stairway and viewing platform part way down into Bower Cave 3. Secure the cave rim with chain link fencing or similar structure 4. Install interpretive signs in the cave.
Developed Recreation Site Management, Public Sector (10-D)	Operate and maintain existing sites.	Limit development to Levels III or IV. Incorporate interpretation of cultural, natural, or resource management themes into rehabilitation plans. Prepare vegetative management plans for all sites.
Developed Recreation Site Management, Private Sector (10-E)	Permit operation and management of developed recreation facilities by private concessionaires and special use permittees.	Issue a prospectus after assessment indicates that operation or construction of facilities is best served by private sector management.
Dispersed Recreation Management (10-F)	Provide for recreation activities that are consistent with Special Interest Areas.	Favor recreation activities that do not require extensive facilities and are designed for short stays.
Closed Motor Vehicle Travel Management (10-G-1) **MVTM**	Closed to motorized use.	Manage to Forestwide S&Gs for Closed Motor Vehicle Travel Management: ▪ Emigrant Road and Big Trees-Carson Valley Road Conduct surveys, observe conditions and carry out rehabilitation, as needed, to eliminate evidence of, and access by, unauthorized motorized use.
Restricted Motor Vehicle Travel Management (10-G-2) **MVTM**	Provide opportunities for motorized recreation compatible with SIA values.	Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect SIA values: ▪ Column of the Giants ▪ Sonora Mono Toll Road ▪ Jordan Creek/Bower Cave ▪ Pacific Madrone ▪ Trumbull Peak ▪ Windelar Cave ▪ Bourland Trestle ▪ Bull Run ▪ Niagara Creek ▪ Jawbone Falls Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to SIA values caused by motorized use.
Restricted Mountain Bicycle Management (10-H-1)	Make travel compatible with Special Interest Areas.	Use restricted access as a means of protection. Close routes. where impacts are unacceptable, to uses causing the damage.
Closed Mountain Bicycle Management (10-H-2)	Prevent use of certain Special Interest Areas because of their ecologic value or national policy.	Close the following Special Interest Areas: ▪ Emigrant Road and Big Trees-Carson Valley Road

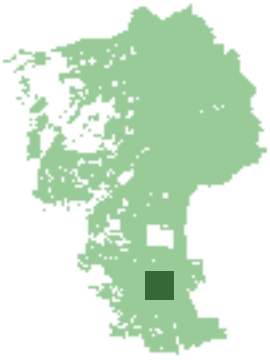
Practices	General Direction	Standards and Guidelines
Interpretive Services Planning (10-L)	Develop and update plans for Special Interest Areas.	Identify and give priority to projects based on Special Interest Area evaluations and nominations for establishment. Identify objectives, audiences, interpretive messages, communication methods, and facility requirements for each.
Interpretive Services Management (10-M)		Prepare maps, brochures, signs and other interpretive devices to explain special features and reduce area damage.
Interpretive Services Facilities not on Interpretive Services sites (10-N)	Construct interpretive facilities for Special Interest Areas.	
Trail Construction and Reconstruction (10-J) **JCBC**		In the Jordan Creek Bower Cave SIA: Develop trails (7.4 miles maximum) in the most suitable locations based on topography, obstructions, soils, slopes and other environmental concerns.
Sensitive Plants		
Sensitive Plants Interim and Recovery Management (12-A)	Provide for education and interpretation of sensitive plants In a way which assures protection of the plants and their habitat.	Complete population surveys for Allium yosemitense, Eriophyllum congdonii and Lewisia congdonii before any type of new activity. Conduct interpretive or education activities in a way which fully protect sensitive plants and their habitat.
Special Areas		
Special Interest (SIA) Management (14-D)	Complete SIA nominations as necessary.	Establish and post accurate boundaries for protection and maintenance of each area.
SIA Management (14-D) **JCBC**		In the Jordan Creek Bower Cave SIA: 1. Consider bonafide scientific exploration on a case by case basis in all portions of Bower Cave. 2. Authorize administrative use of the property for a fire station. 3. Utilize hosts, volunteers or concessionaires to assist with the management of facilities as appropriate. 4. Coordinate with Mariposa County to reduce the effects of increased use on County roads, bridges and law enforcement.
Timber		
Special Cutting – Other (15-I)	Design special cutting methods to attain specific Special Interest Area management objectives (36 CFR 219.15, 219.7(b)).	Special cutting methods will be used to salvage mortality or improve the quality of resources other than the timber resource.
Fuelwood and Miscellaneous Forest Products (15-M)	Permit or make available fuelwood and other forest products on all available lands where Special Interest Area values can be protected.	Fuelwood and other forest products will be made available through sale, administrative use, and personal use where such uses do not conflict with other resource objectives.
Transportation and Facilities		
Road Construction and Reconstruction (16-A)	Construct and reconstruct roads to standards which meet resource management and resource protection needs.	In the Trumbull Peak Historic and Botanic Area, prevent disturbance to the railroad grade, abutments and site of the tramway. In the Windeler Cave Geologic Area, no blasting on the surface for road construction or other purposes will be allowed within 1/4 mile of the cave without an approved plan providing adequate protection for the cave. In the Sonora-Mono Toll Road Historic Area, the Emigrant Road Historic Area and the Big Trees-Carson Valley Road Historic Area, preserve the designated segments of the historic roads to their construction limits. Minimize impacts to the road by limiting road crossings and other developments.

Practices	General Direction	Standards and Guidelines
Road Construction and Reconstruction (16-A) **JCBC**		In the Jordan Creek Bower Cave SIA: improve roads to provide emergency vehicle access and evacuation simultaneously.
Transportation Management, Roads Subject to the Highway Safety Act (16-B)	Manage traffic for safe and efficient use by unrestricted public traffic including passenger cars and permitted commercial use.	Roads subject to the Highway Safety Act are maintained at Maintenance Levels 3, 4, and 5, suitable for passenger cars. Signing standards on unrestricted roads are planned for public traffic safety and convenience. Public use is not restricted except by seasonal closures which may be imposed to protect resources.
Transportation Management, Roads Excluded from the Highway Safety Act (16-C)	Manage traffic to provide for traffic safety and protect resource values on roads which are not open to unrestricted traffic and roads which are not maintained for travel by passenger car. Emphasize protection of unique features.	Traffic management is used to control types of traffic to provide for traffic safety, to protect resource values or to reduce road maintenance. Passenger car traffic may be restricted by regulatory order (36 CFR 261), may be discouraged by warning signs or maintenance practices, or may be eliminated by barriers closing the road to all traffic. Commercial traffic is controlled by permit. Maintenance standards are planned primarily for resource management traffic use. Maintenance Level 2 may be used. Road signing is planned as needed for the intended use of the road. The need for safety signing is reduced by lower design speed and traffic management. In the Bourland Creek Trestle Historic Area, protect the railroad trestle. Close the site to vehicle travel.
FA&O Facility Operation and Maintenance (16-F) **JCBC**		In the Jordan Creek Bower Cave SIA: 1. Inspect, repair, and maintain all structures, facilities and improvements to meet health and safety requirements. 2. Protect the barn and ranch house from vandalism. 3. Manage developed non-recreation sites according to the direction contained in Developed (Non-Recreation) Sites.
Visual Resource		
VQO Preservation (17-B-1)	Allow ecological changes only.	Manage to a VQO of Preservation. This is the adopted VQO level for Special Interest Areas within Wilderness, as shown on the VQO Map.
VQO Retention (17-B-2)	Maintain a near natural visual character. Provide a high quality visual setting where changes are not readily evident.	Manage to a VQO of Retention. This is the adopted VQO level for Special Interest Areas outside of Wilderness, as shown on the VQO Map.
Wild and Scenic Rivers		
Wild and Scenic River Management (19-B)	Manage SIAs within Wild and Scenic Rivers under dual designation.	Manage to be compatible with Wild and Scenic River guidelines.
Alternate Management (19-D)	Protect Wild and Scenic River values of eligible river segments proposed for SIA Alternate Management (See Appendix E (EIS) Wild and Scenic River Study).	Manage to SIA guidelines, portions of the following segments that are within SIAs: North Fork Merced, Eagle Creek, Long Valley Creek, and Bourland Creek.
Wilderness		
Wilderness Management (20-B)	Manage SIAs within Wilderness under dual designation.	Manage to be compatible with Wilderness guidelines.



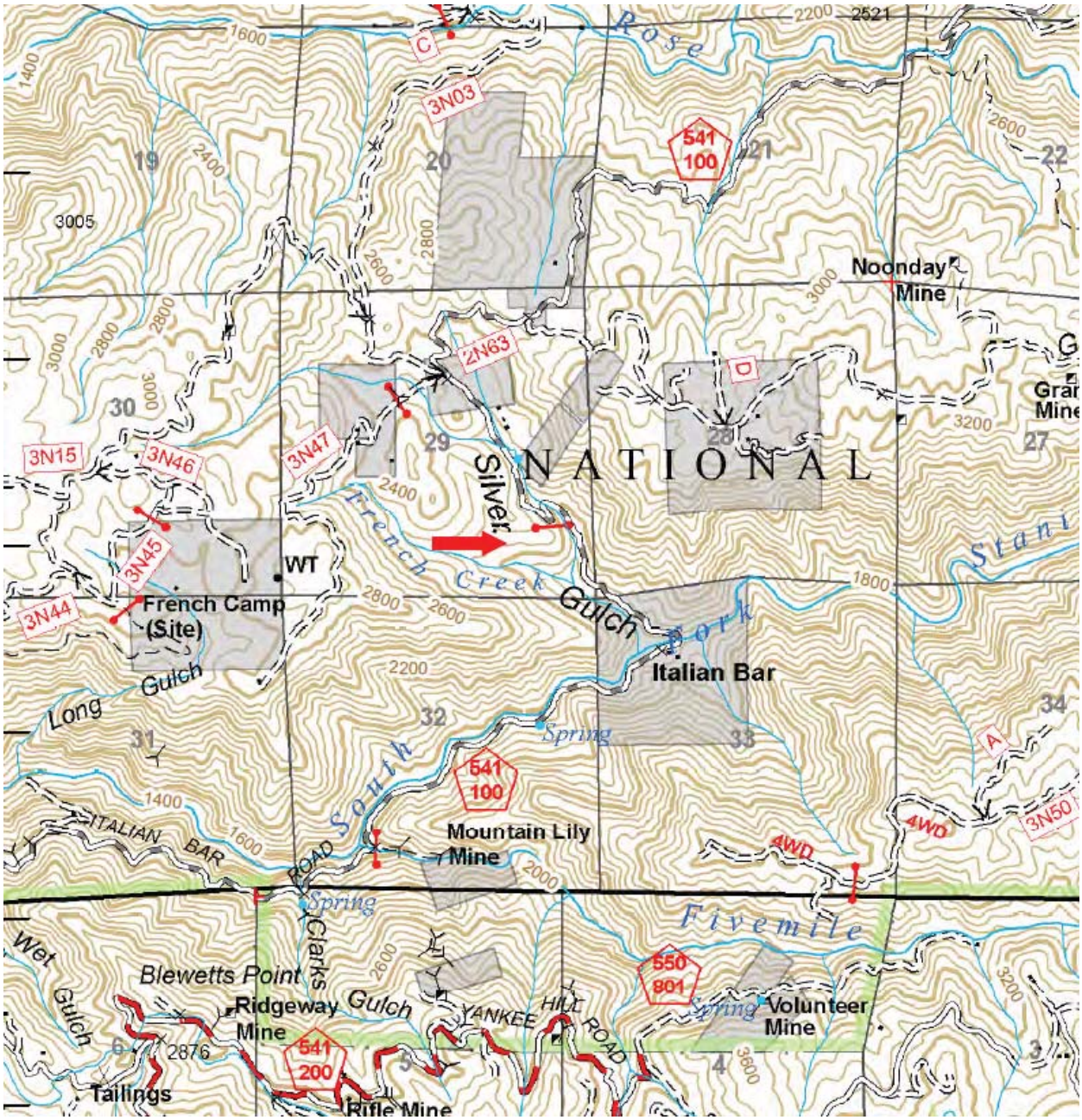
Map 1 Trumbull Peak Historic and Botanic Area
T.3S., R.19E.

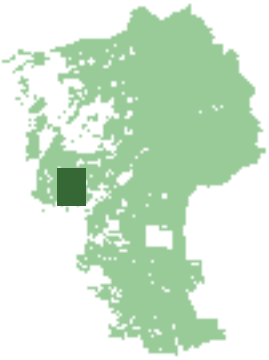




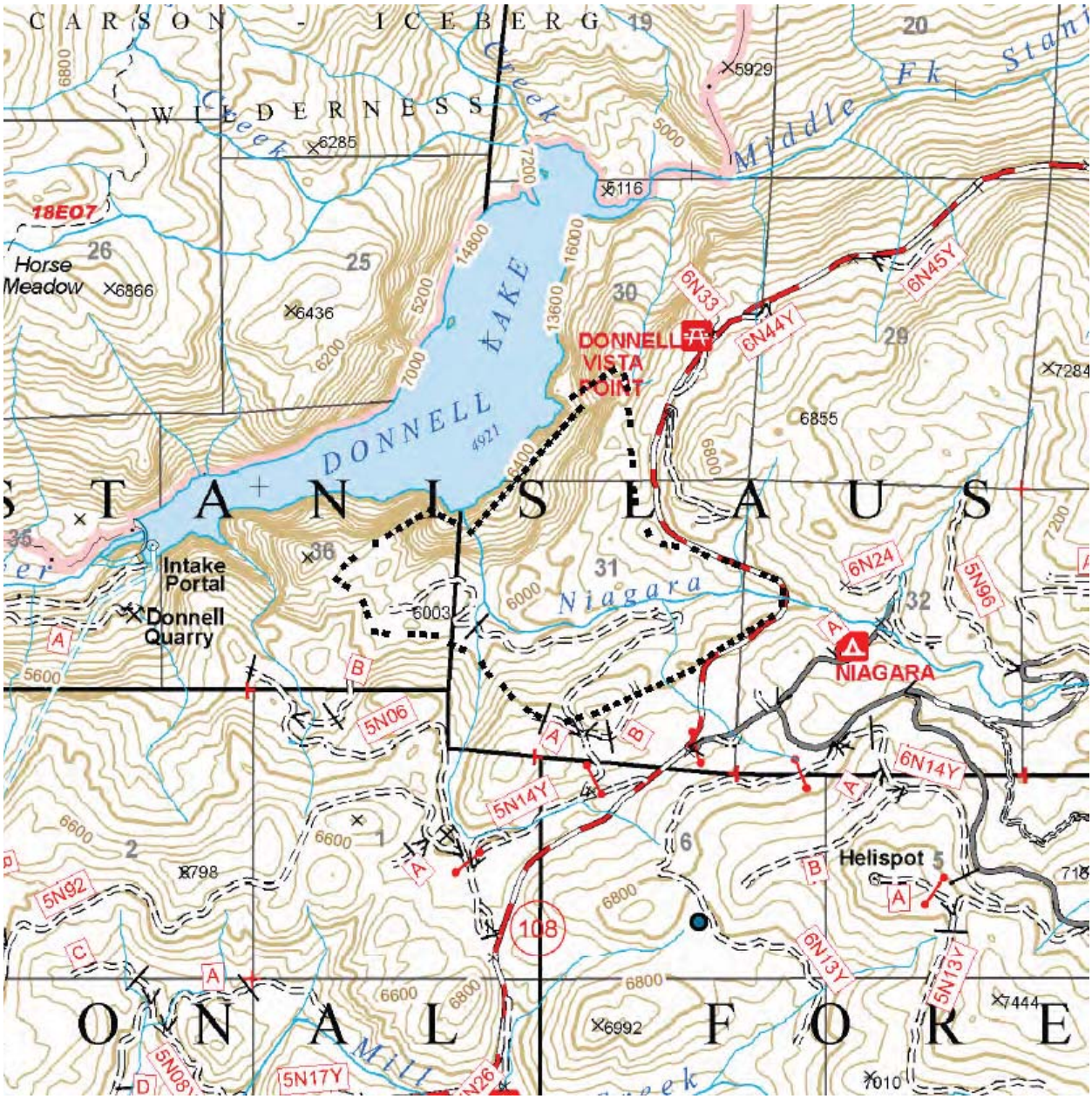
Map 2 Pacific Madrone Botanic Area

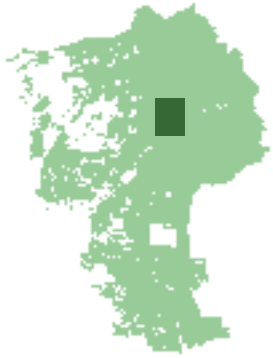
T.1S., R.18E.



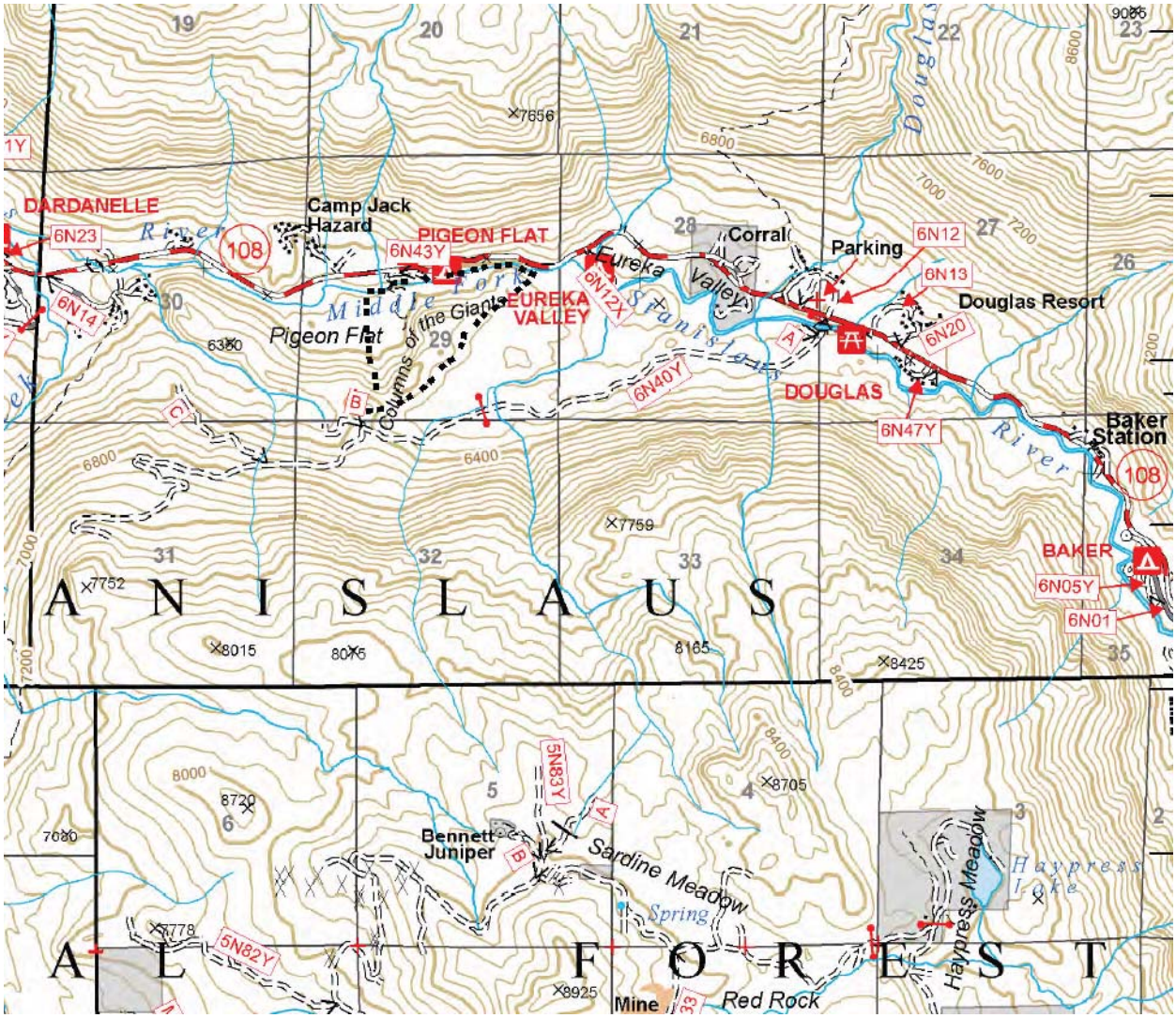


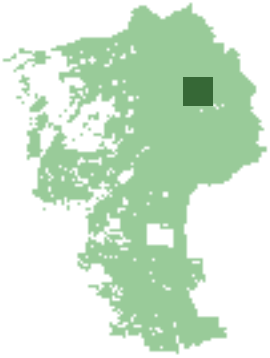
Map 3 Windeler Cave Geologic Area
T.3N., R.15E.



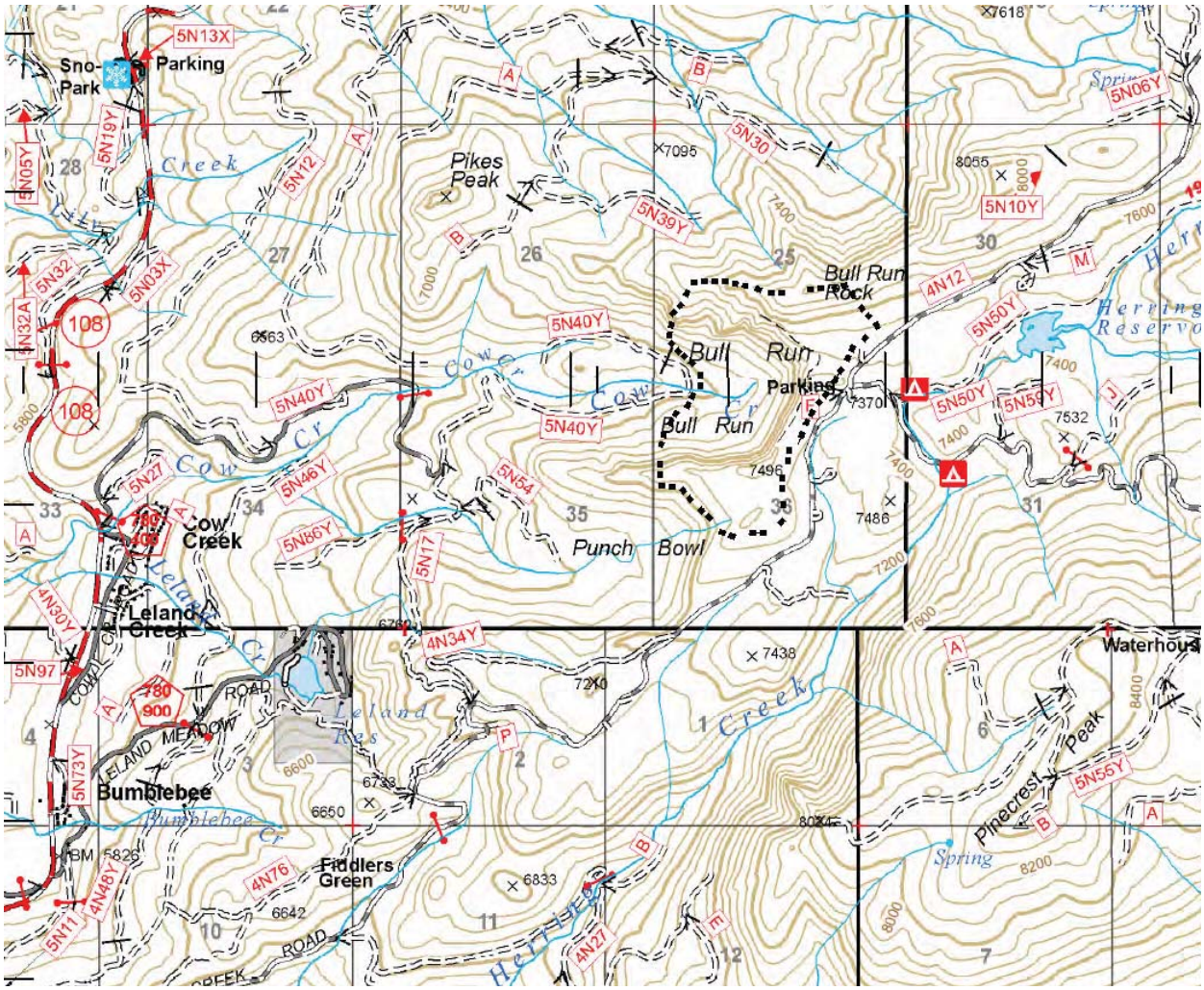


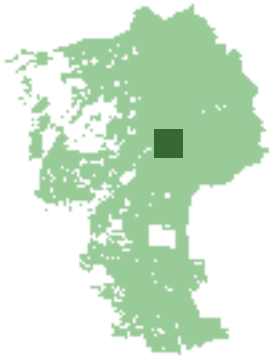
Map 4 Niagara Creek and Falls Scenic and Geologic Area
T.6N., R.18 AND 19E.



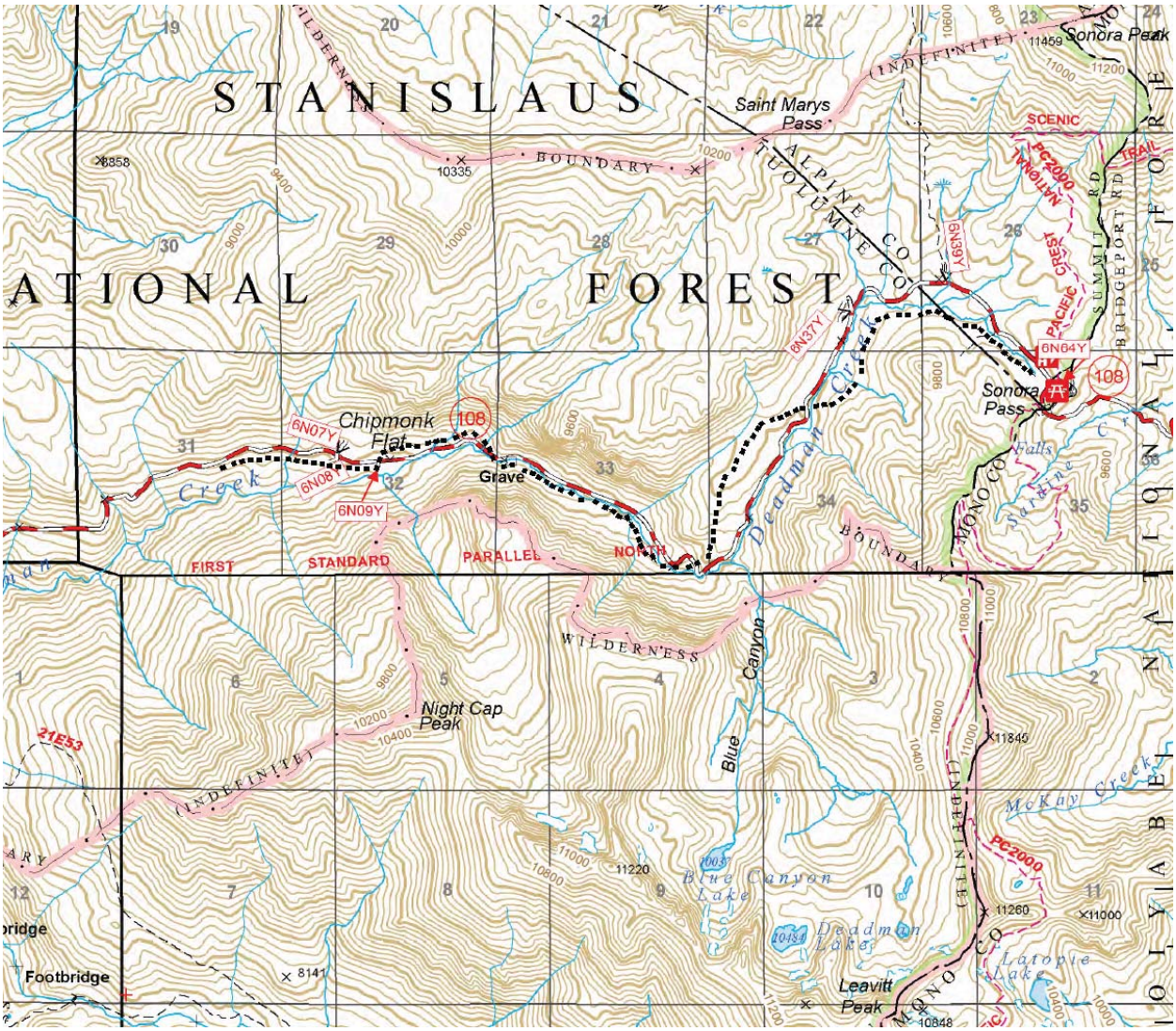


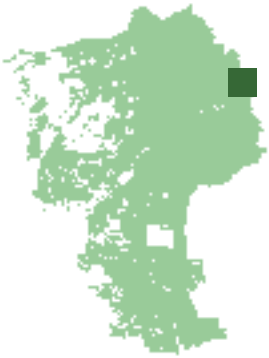
Map 5 Columns of the Giants Geologic Area
T.6N., R.20E.



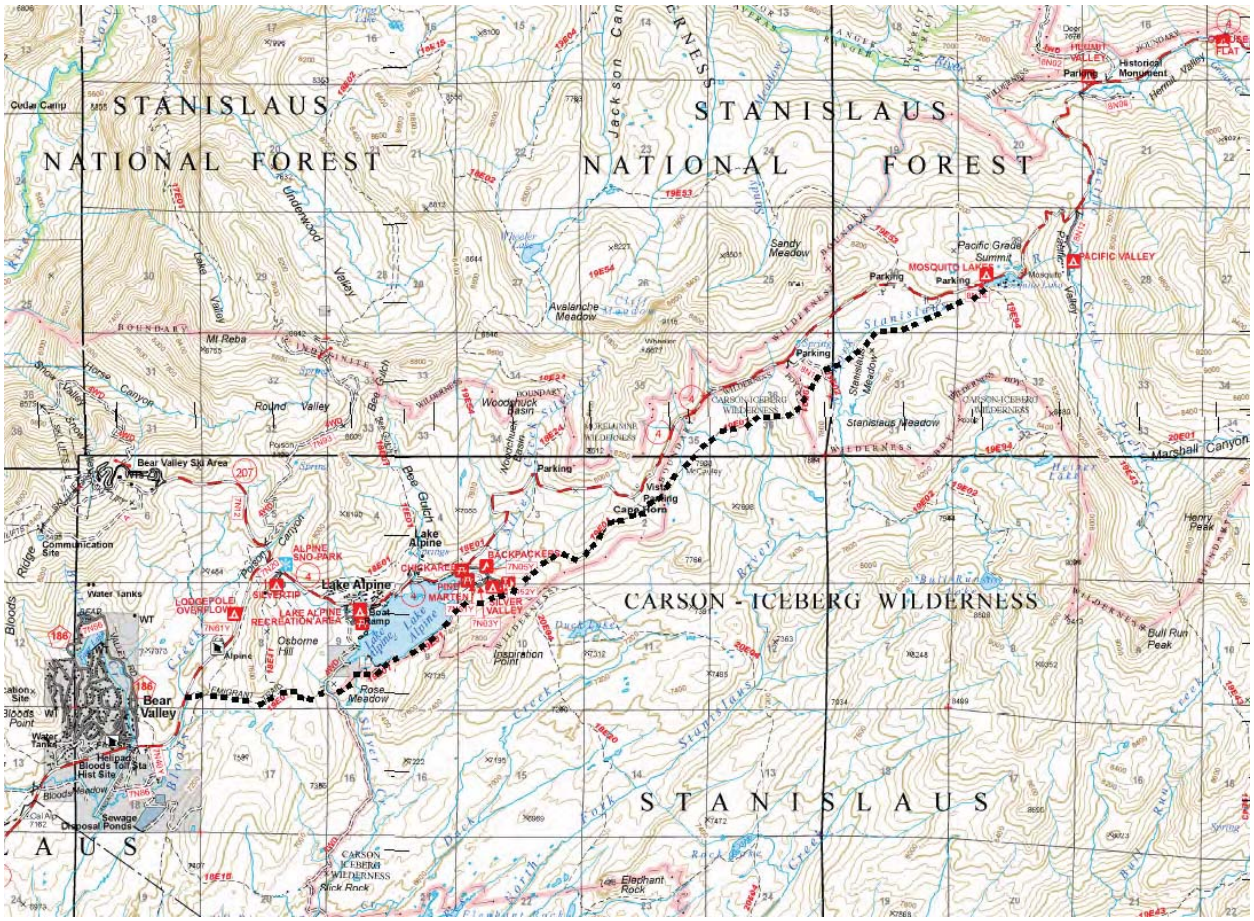


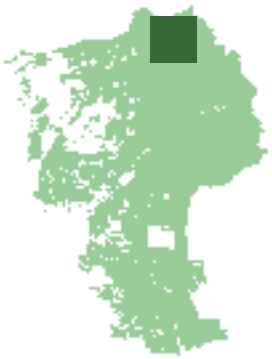
Map 6 Bull Run Geologic Area
T.5N., R.18E.





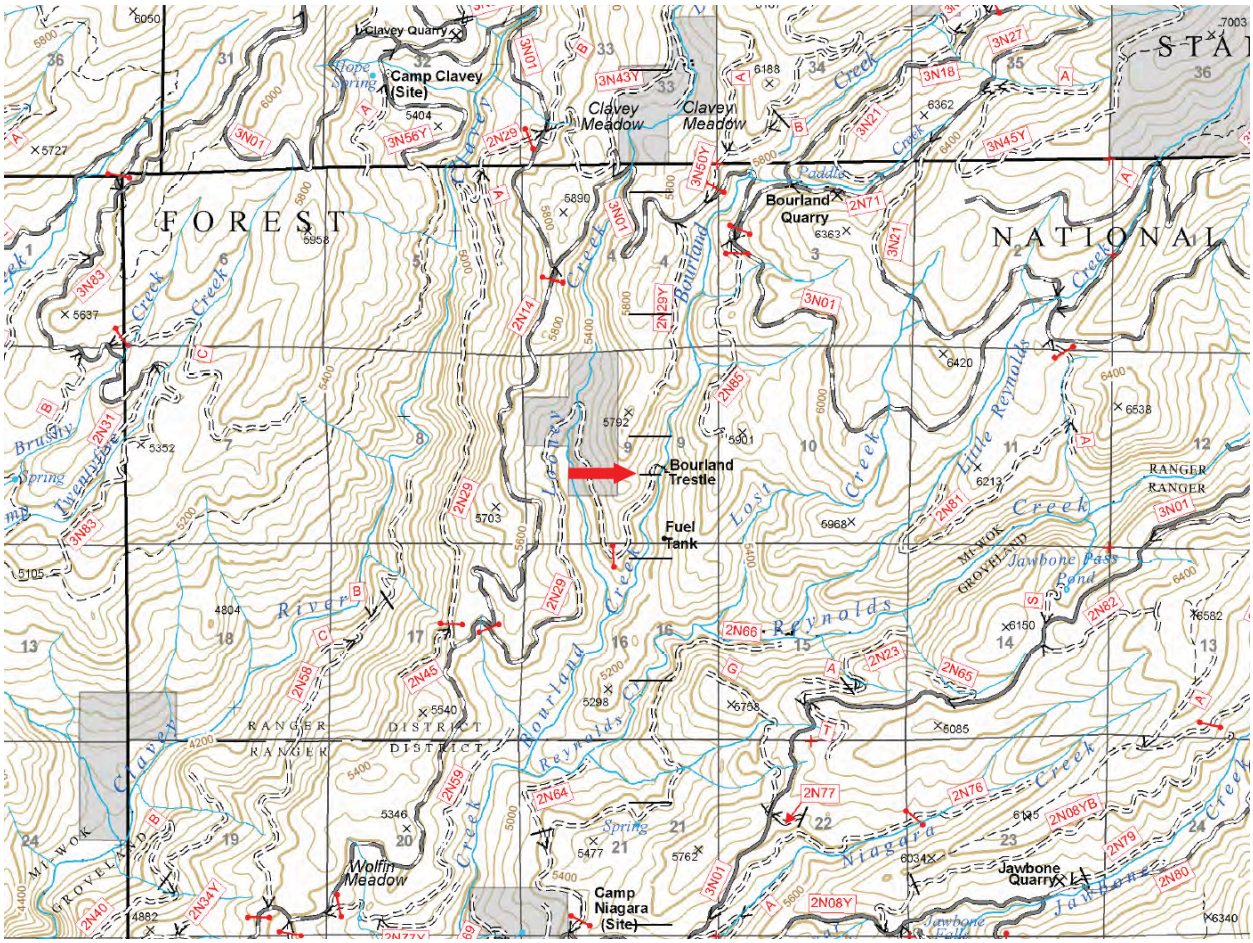
Map 7 Sonora - Mono Toll Road Historic Area
T.6N., R19E. AND 20E.

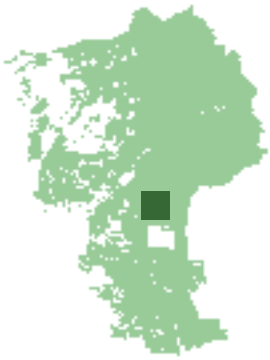




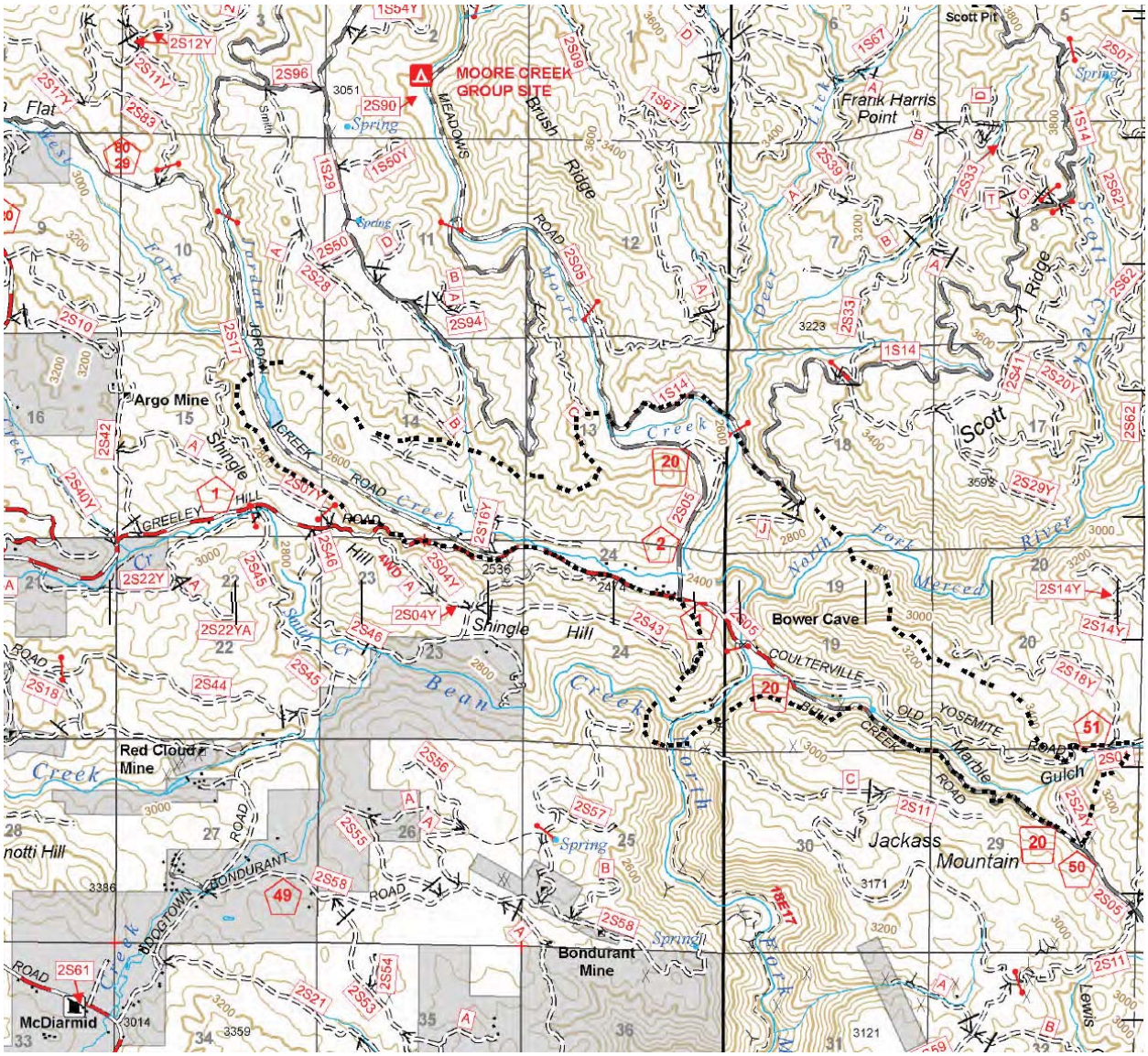
Map 8 Emigrant Road and Big Trees-Carson Valley Road Historic Areas

T.7N., R.18E. and T.8N., R.18 AND 19E.

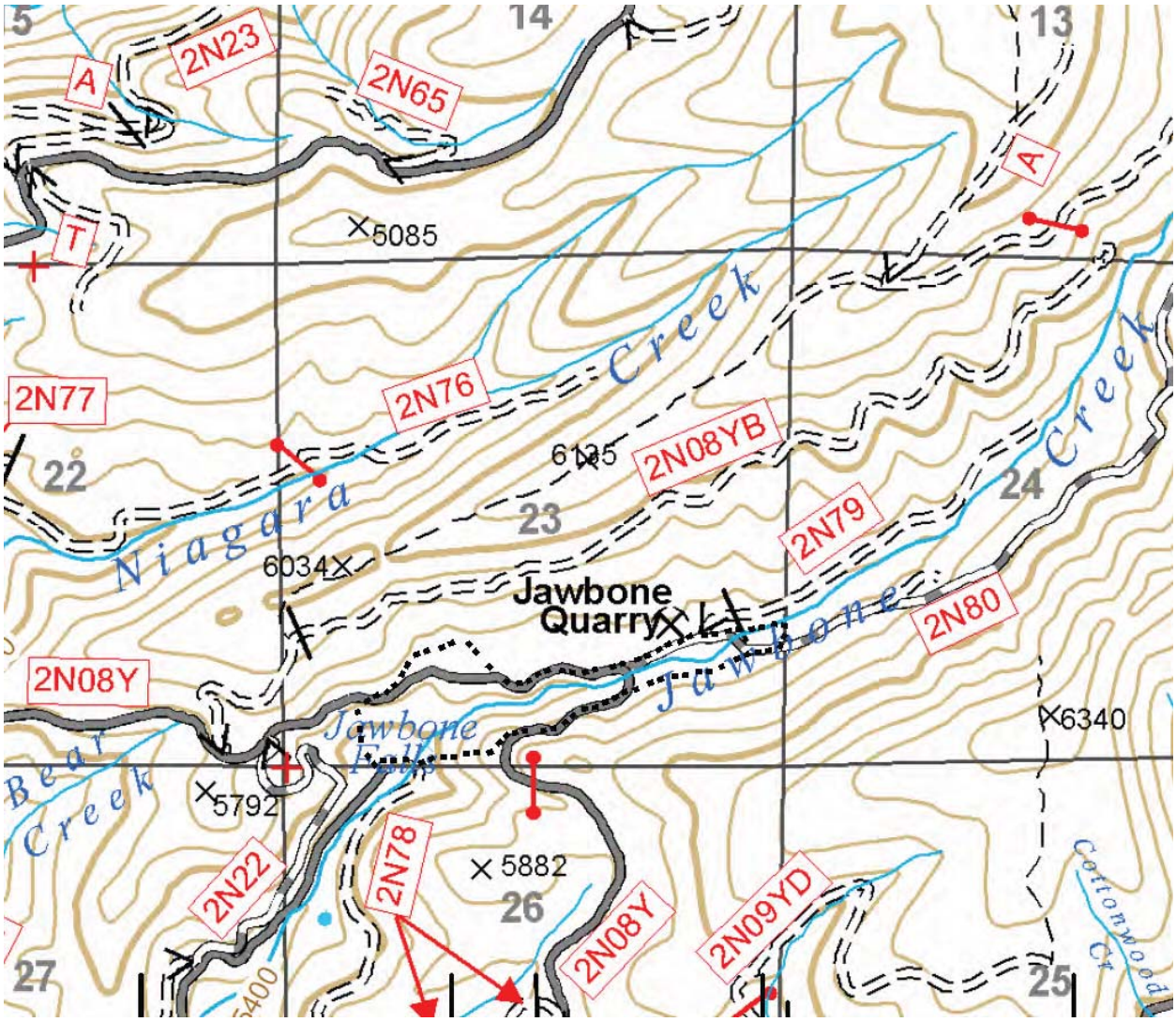


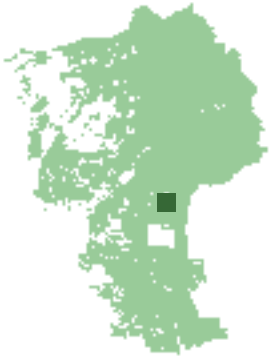


Map 9 Bourland Creek Trestle Cultural Area
T.2N., R18E.



Map 10 Jordan Creek Bower Cave Cultural and Geologic Area
T.2S., R18E.





Map 11 Jawbone Falls Heritage Area

T.2N., R.18E., Section 23

Research Natural Areas

Management Emphasis

Research Natural Areas (RNAs) are managed to maintain select vegetative, aquatic, and/or geologic elements in natural conditions. Protection is provided against any activities that directly or indirectly modify ecological processes. (FSM 4063.3)

Description

A Research Natural Area, established for research and study purposes, is a discrete land area large enough to represent a specific natural ecosystem. Suggestions for candidate areas come from interested publics, Forest personnel who are familiar with Forest and RNA network goals, and other interested Forest Service cooperators. The Chief of the Forest Service establishes RNAs recommended in approved National Forest plans. RNAs are important because they will provide benchmarks for comparison of present and future management of the National Forests and will prove to be an invaluable asset in the future. Research Natural Area Maps are included at the end of this section. Research Natural Areas on the Stanislaus National Forest are:

Bell Meadow Research Natural Area[1]

Located in the east-central portion of the Forest, this area consists of aspen stands in Bell Meadow along with wet mountain meadow and riparian habitat. The area is approximately 490 acres in size, including 110 acres of aspens. It includes examples of the aspen-meadow complex on deep soils. The purpose of this Research Natural Area is aspen research. A portion of Bell Creek was identified as eligible for Wild and Scenic River status. Its values can be protected as a Research Natural Area.

Critchfield (Bourland Meadow) Research Natural Area[2]

Located in the east-central part of the Forest. Vegetation consists of seven major associations. They are red fir, red fir-lodgepole pine, red fir-western white pine-lodgepole pine, red fir-white fir-Jeffrey pine, red fir-white fir, and red fir-aspen. Wet and dry meadows are also present and the area is noted for aquatic bog values. Stages of succession are present in several stands, including meadows. The site is 1,003 acres located near the headwaters of Bourland Creek. The Emigrant Wilderness area borders the southeast boundary. Plant diversity in the wet and dry meadows is considered high. A portion of Bourland Creek was identified as eligible for Wild and Scenic River status. Its values can be protected as a Research Natural Area.

Grizzly Mountain Research Natural Area[3]

Located in the southern part of the Forest, this area consists of 500 acres on the northerly slopes of Little Grizzly and Big Grizzly Mountains. Black oak stands occupy most of the area, interspersed with brush and scattered ponderosa pine. The purpose of this Research Natural Area is black oak research. It was burned by wildfire in 1987.

Clark Fork Candidate Research Natural Area

This area is approximately 460 acres and is located in the northeast part of the Forest southeast of Clark Fork Campground. It includes various mixtures of white fir and other conifers at a range of elevations. Part of the area (250 acres) is within the Bald Peak proposed addition to the Carson-Iceberg Wilderness. The remainder is within the Clark Fork proposed Wild and Scenic River. The purpose of this Research Natural Area is white fir research.

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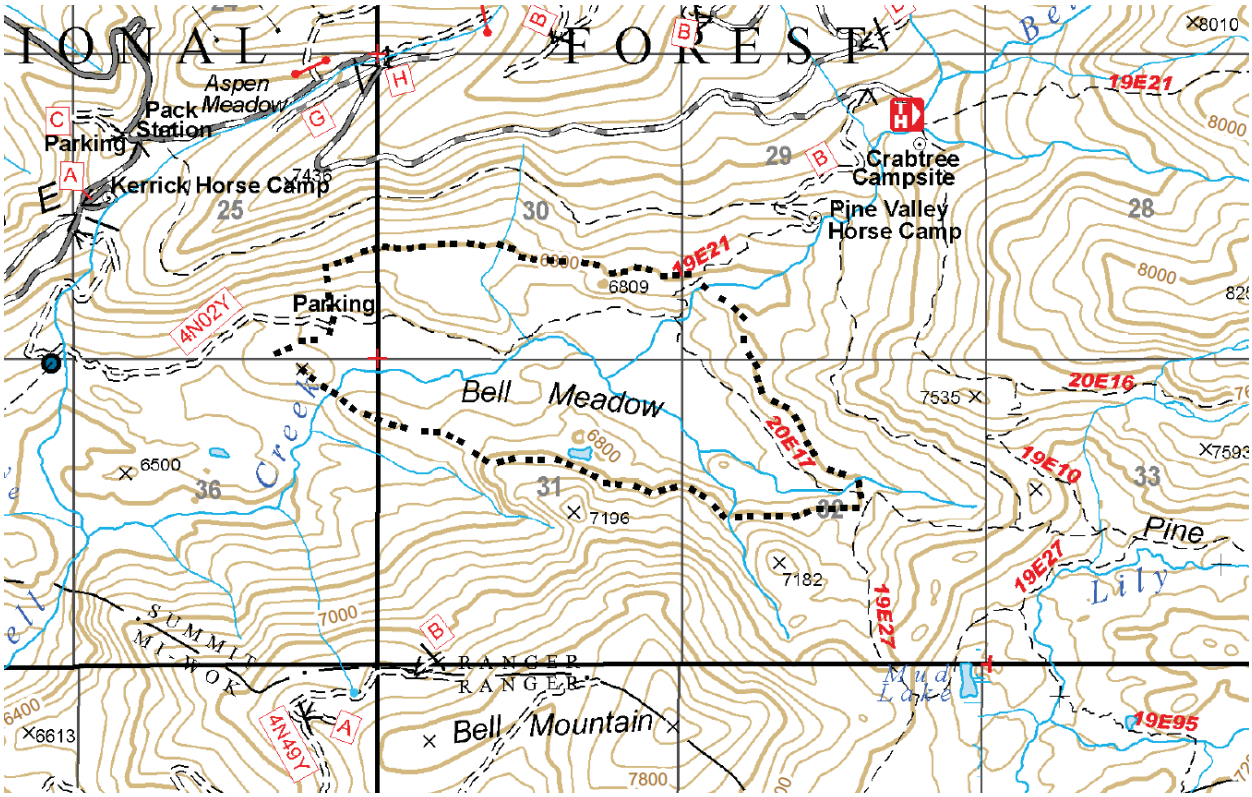
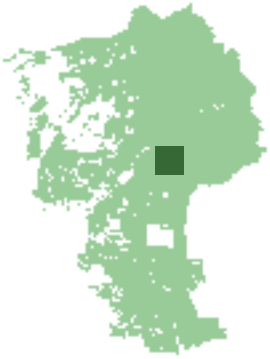
[1] Bell Meadow Research Natural Area Establishment, Forest Plan Amendment, USDA Forest Service 1994
[2] Critchfield Research Natural Area Establishment, Forest Plan Amendment, USDA Forest Service 1994
[3] Grizzly Mountain Research Natural Area Establishment, Forest Plan Amendment, USDA Forest Service 1994

Practices	General Direction	Standards and Guidelines
Range		
Allotment Management - Extensive or Maintenance (9-A-2 and 9-A-3)	Grazing is not permitted in the upper part of the Bell Meadow RNA the Clark Fork Candidate RNA or the Bourland Meadow RNA. If grazing occurs in other RNAs, its management will be specified in management plans for the areas and the surrounding allotments. Management is designed to protect the areas special characteristics.	
Recreation		
ROS Semi-primitive Non-motorized (10-B-2)	Close RNAs to all mechanized use, except wheelchairs needed for barrier free access. Provide for low interaction between visitors with a range of SPNM recreation experiences. Evidence of other uses is unobtrusive.	Manage to ROS class of SPNM. This is the adopted ROS level for RNAs, as shown on the ROS Map.
Dispersed Recreation Management (10-F)	Protect against activities that modify the environment.	Discourage recreation uses such as picnicking, camping, hunting, and fishing, which contribute to modification of the RNA. Expressly prohibit such uses if they threaten serious impairment of research or education values. Exception may be made where threat to life or property dictates otherwise.
Closed Motor Vehicle Travel Management (10-G-1) **MVTM**	Closed to motorized use.	Manage to Forestwide S&Gs for Closed Motor Vehicle Travel Management. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to eliminate evidence of, and access by, unauthorized motorized use.
Closed Mountain Bicycle Management (10-H-2)	Prohibit all mechanized use except wheelchairs needed for barrier-free access.	
Interpretive Services Planning (10-L)	Develop and update Interpretive Services plans for RNAs.	Identify and give priority to projects based on RNA evaluations and nominations for establishment. Identify objective audiences, interpretive messages, communication methods and facility requirements.
Interpretive Services Management (10-M)	Interpret unique features of RNAs.	Prepare maps, brochures, signs and other interpretive devices that explain unique features.
Interpretive Services Facilities not on Interpretive Sites (10-N)	Provide information and education material at trailheads outside of RNAs.	Stress minimum impact and leave-no-trace ethics.
Special Areas		
Research Natural Area (RNA) Management (14-B)	Protect identified RNAs as undisturbed ecosystems for future research.	Coordinate activities with the PSW/R5 RNA Committee.
Visual Resource		
VQO Preservation (17-B-1)	Allow only ecological changes.	Manage to a VQO of Preservation. This is adopted VQO level for RNAs, as shown on the VQO Map

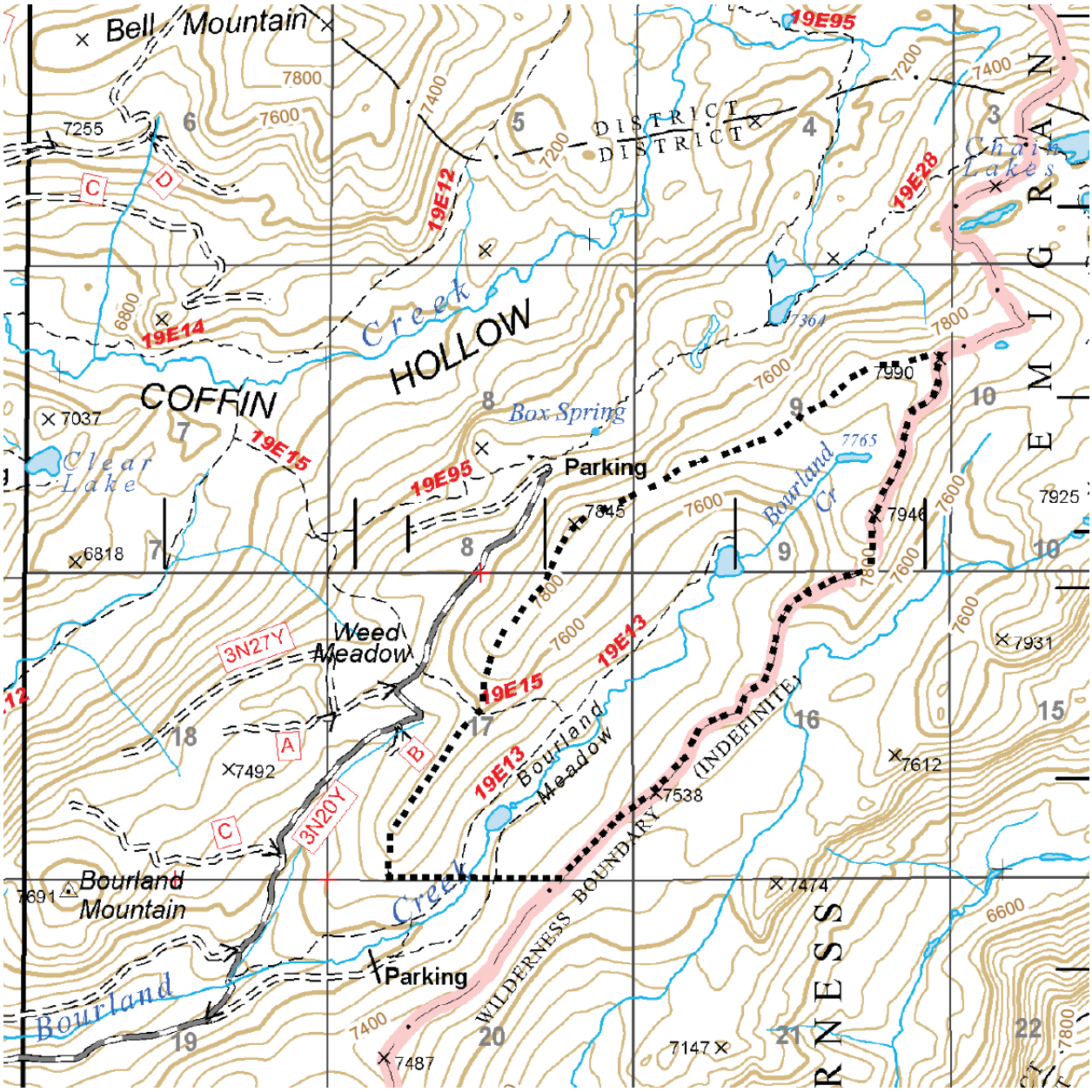
Practices	General Direction	Standards and Guidelines
Wild and Scenic Rivers		
Wild and Scenic River Management (19-B)	Manage RNAs within Wild and Scenic Rivers under dual designation.	Manage to be consistent with application of guidelines for Wild and Scenic Rivers.
Alternate Management (19-D)	Protect Wild and Scenic River values of eligible river segments proposed for RNA Alternate Management (See Appendix E (EIS) Wild and Scenic River Study).	Manage to RNA guidelines, portions of the following segments that are within RNAs: Bourland Creek.
Wilderness		
Wilderness Management (20-B)	Manage RNAs within Wilderness under dual designation	Manage to be consistent with application of guidelines for Wilderness and Proposed Wilderness.

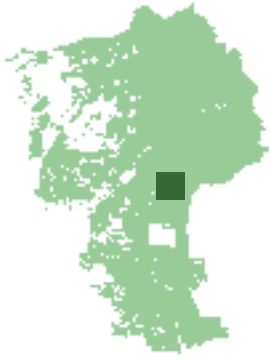




Map 12 Bell Meadow Research Natural Area

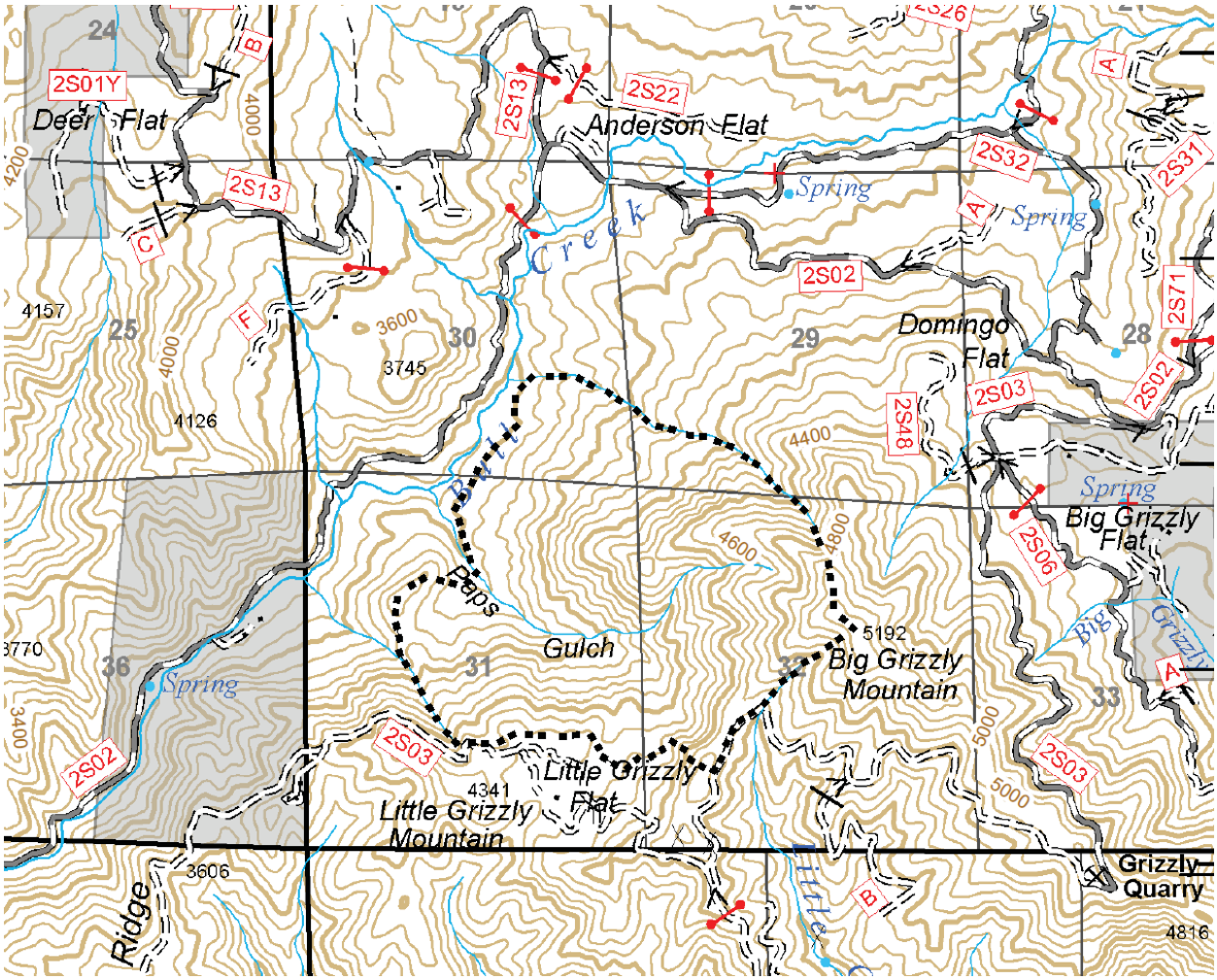
T4N., R.18E. and 19E.





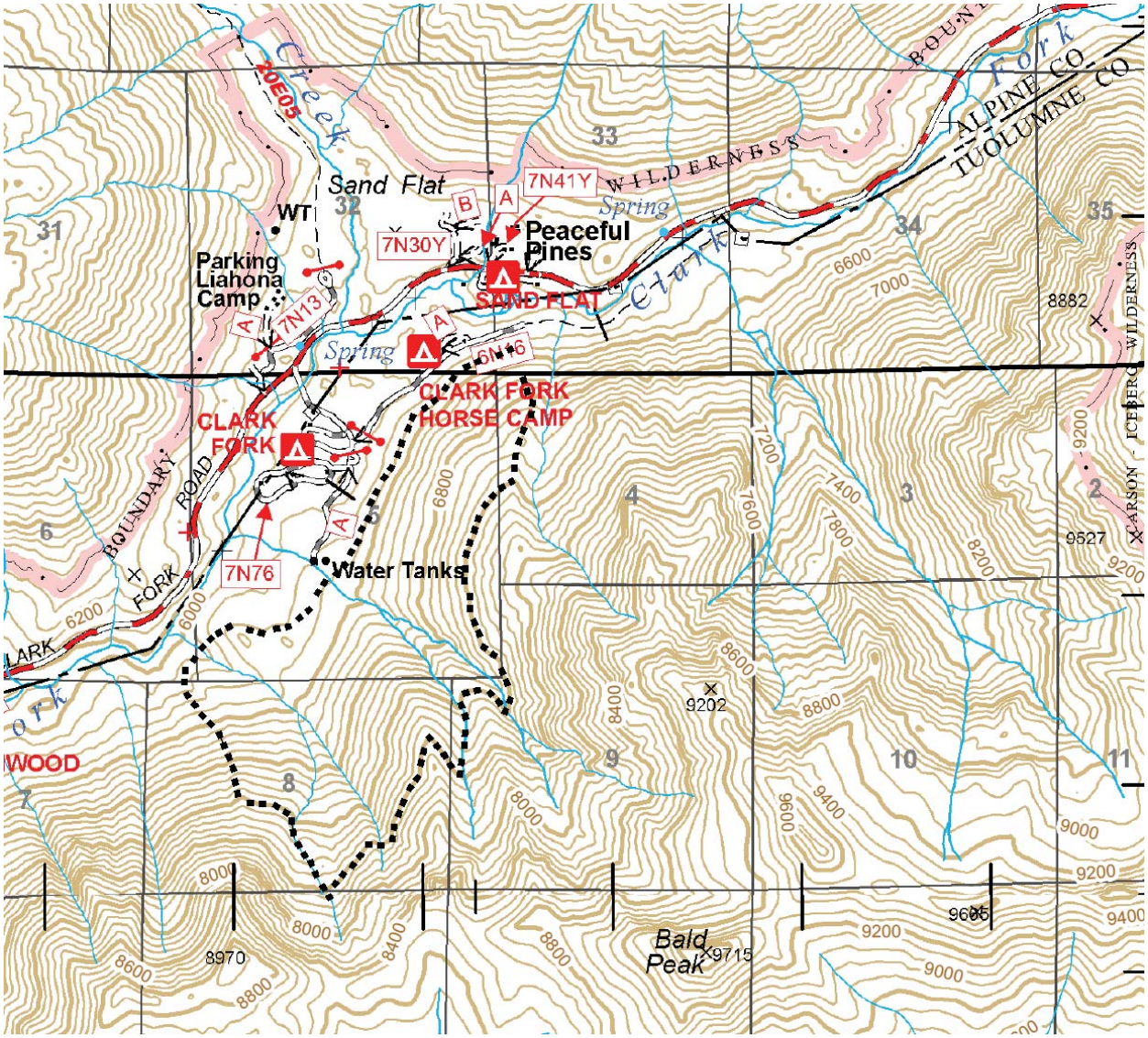
Map 13 Critchfield (Bourland Meadow) Research Natural Area

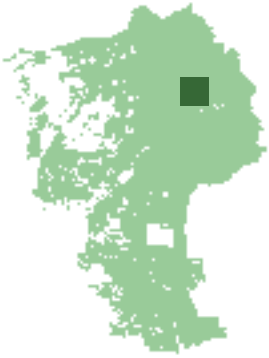
T.3N., R.19E



Map 14 Grizzly Mountain Research Natural Area

T.2S., R.19E





Map 15 Clark Fork Candidate Research Natural Area
T.6N., R.20E.

Experimental Forest[1]

Management Emphasis

This area is managed for forest silvicultural research and experimentation.

Description

This is the Stanislaus-Tuolumne Experimental Forest located in the central part of the Forest near the communities of Pinecrest and Strawberry. It is heavily timbered land reserved for silvicultural research. The area consists of two separate parcels, with a total of 1,700 acres. Elevation ranges from 5300 to 6600 feet. Vegetation is mixed conifer with black oak. The Experimental Forest, designated in 1943, is managed by the Pacific Southwest Forest and Range Experiment Station, Berkeley, California.

Practices	General Direction	Standards and Guidelines
Geology and Minerals		
Saleable Mineral Materials (6-C)	Remove common variety mineral material including sand, gravel, clay, stone and pumice for administrative purposes only.	Identify mineral material sites needed for National Forest purposes and rank each for development. Prepare site development and rehabilitation plans for each site prior to its development and use.
Recreation		
ROS Roaded Natural (10-B-4)	Provide for low to moderate interaction between Forest visitors with a limited range of Roaded Natural recreation experiences. Evidence of other uses is moderate.	Manage to the ROS Class of Roaded Natural. This is the adopted ROS level for the Experimental Forest, as shown on the ROS Map.
Dispersed Recreation Management (10-F)	Provide for recreation activities that are consistent with Experimental Forest values.	Favor recreation activities that do not require extensive facilities and are designed for short stays. Prohibit activities that may modify soil or vegetation.
Restricted Motor Vehicle Travel Management (10-G-2) **MVTM**	Provide opportunities for motorized recreation compatible with Experimental Forest values.	Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Experimental Forest values. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to Experimental Forest values caused by motorized use.
Restricted Mountain Bicycle Management (10-H-1)	Make travel compatible with Experimental Forest values.	Use restricted access as a means to protect Experimental Forest values. Close routes, where impacts are unacceptable, to uses causing the damage.
Interpretive Services Facilities not on Interpretive Services Sites (10-N)	Construct interpretive facilities outside the Experimental Forest. Provide interpretive materials that explain the uses and values of an Experimental Forest.	Blend facilities to complement the natural character of the area.
Transportation and Facilities		
Transportation Management, Roads Excluded from Highway Safety Act (16-C)	Manage traffic with restrictions on public and other classes of traffic to provide for traffic safety, to protect resource values or to reduce road maintenance costs.	Public traffic is prohibited. Commercial traffic is controlled by permit. Maintenance standards are planned primarily for administrative traffic use. Maintenance level 2 may be used.

[1] SNFPA direction does not apply within the Stanislaus-Tuolumne Experimental Forest (SNFPA ROD, p. 15; USDA Forest Service 2004)

Practices	General Direction	Standards and Guidelines
Timber		
Special Cutting - Other (15-I)	Design special cutting methods to obtain specific Experimental Forest management objectives. (36 CFR 219.15, 219.27(b))	Special cutting methods will be used on lands with other resource objectives. Lands in the Experimental Forest will generally use this method. For lands incapable or unsuitable for timber production special cutting will be used to salvage mortality or improve the quality of resources other than the timber resource.
Visual Resource		
VQO Retention (17-B-2) VQO Partial Retention (17-B-3)	Maintain a range of near natural through modified visual conditions, since the VQOs vary within an Experimental Forest. Keep VQOs at the adopted levels.	Manage to the adopted VQO level , as shown on the VQO Map, consistent with Experimental Forest values. Coordinate activities with PSW Forest and Range Experiment Station.

Scenic Corridor

Management Emphasis

Emphasize the scenic and recreation values of major trail, road and highway corridors, developed recreation sites, major rivers and lakes, and other areas of concentrated recreation use.

Description

This Management Area includes National Forest land in the foreground and middleground view zones of major recreation use areas. Management of the area will recognize the values of the viewshed from both developed and dispersed recreation use areas in or on: major trails, roads, and highways, developed recreation sites, major rivers and lakes, privately developed subdivisions and recreation areas, and other areas of concentrated recreation use. Visual Quality Objectives are Retention and Partial Retention. Other portions of these view zones are within other Management Areas which provide a high level of protection for scenic values (Wilderness, Wild and Scenic Rivers, Near Natural, Wildlife, Special Interest Areas and Research Natural Areas). The Scenic Corridors are described below.

Merced River

This area at the southern tip of the Forest includes the viewshed of State Highway 140, a major portal to Yosemite National Park. Portions were burned by wildfire in 1987, but the area still presents outstanding views of the steep canyon of the Merced Wild and Scenic River. A number of both public and private recreation facilities are located on the southern side of the river, within the Sierra National Forest. The east end of the area borders Yosemite National Park.

Highway 120

This area in the southern portion of the Forest includes State Highway 120 from the Forest boundary near Groveland to the entrance of Yosemite National Park. It also includes Highway J20, Mather Road, Evergreen Road and the portion of Cherry Oil Road from Highway 120 to the Tuolumne River. Portions were burned by wildfire in 1987, but the area still presents outstanding views of forested mountains and deep river canyons of the Tuolumne River, South Fork Tuolumne proposed Wild and Scenic River and lower Clavey River. The area contains a number of both public and private recreation facilities. The east end of the area borders Yosemite National Park.

Cherry Lake

This area in the south-east portion of the Forest includes the viewshed of Cherry Lake, the largest body of water on the Forest. The area offers outstanding views of the lake as well as the surrounding mountains and canyons of Cherry Creek, Emigrant Wilderness and Yosemite National Park. The area contains several developed recreation sites with camping, boating, fishing and hiking among the most popular activities. The east end of the area borders Yosemite National Park.

Highway 108

This area in the central portion of the Forest includes State Highway 108 from the Forest boundary near Mi-Wuk Village to Sonora Pass. It also includes Fraser Flat, Beardsley, Pinecrest, Herring Creek, Eagle Meadow, Clark Fork and Kennedy Meadow Roads, which access popular recreation destinations. The area offers outstanding views of forested mountains, meadows, lakes and deep canyons of Beardsley and Donnell Reservoirs as well as those of the Middle Fork Stanislaus, Niagara Creek, and Deadman Creek proposed Wild and Scenic Rivers. The area contains a number of concentrated developed recreation areas including Pinecrest, Clark Fork, Dodge Ridge Ski Area, Brightman, and Kennedy Meadows. Portions of the area border the Emigrant Wilderness to the south and the Carson-Iceberg Wilderness to the north.

Highway 4

This area in the west and north portions of the Forest includes State Highway 4 from the Forest boundary near Hathaway Pines to Ebbetts Pass. It also includes Pacific Valley, Spicer Meadow and Highland Creek Roads, which access popular recreation destinations. The area offers outstanding views of forested mountains, meadows, lakes and deep canyons of Lake Alpine, Spicer, Union and Utica Reservoirs, as well as those of the North Fork Stanislaus Proposed Wild and Scenic River. The area contains a number of concentrated developed recreation areas including Lake Alpine, Spicer, and Bear Valley Ski Area. Portions of the area border the Carson-Iceberg Wilderness to the south and the Mokelumne Wilderness to the north.

North Fork Mokelumne River

This area at the northwest corner of the Forest includes the viewshed of the North Fork Mokelumne River below the Mokelumne Wilderness. The area offers outstanding views of Salt Springs Reservoir and the deep canyon of the lower North Fork, which was found eligible for Wild and Scenic River status by the Eldorado National Forest. The Eldorado manages several developed recreation sites along the river. Camping, fishing and hiking are popular activities.

Practices	General Direction	Standards and Guidelines
Fish and Wildlife		
Stream and Lake Fisheries - Structural Improvements and Maintenance (5-B)	Provide medium to high quality habitat for resident trout species (rainbow, brown and brook trout) according to the habitat capability models for these species.	Implement structural fish habitat improvements as funded and provide maintenance of projects to assure the projects are functional to meet objectives and protect investment.
Structural Habitat Improvement and Maintenance (5-K)	Conduct habitat improvement activities where necessary in the recovery of Threatened, Endangered, or Sensitive species in a way which is consistent with the overall objectives of the management area.	
Geology and Minerals		
Saleable Mineral Materials (7-C)	Conduct a mineral management program which recognizes the scenic values of this Management Area as the primarily resource to be protected and maintained.	Establish fees for recovery of fair market value of sales of minor amounts of mineral material for personal use. Competitively award permits for large quantities of mineral material in accordance with 36 CFR 228, Subpart C. Establish and maintain an inventory of common variety mineral materials sources on the Forest. Identify mineral material sites needed for National Forest purposes and rank each for development. Identify mineral material sites available for public use and rank each for development. Prepare site development and rehabilitation plans for each site prior to its development and use.
Recreation		
ROS - Roaded Natural (10-B-4)	Provide for moderate interaction between visitors with a range of roaded natural recreation experience. Evidence of other use is moderate.	Manage to a ROS Class of Roaded Natural. This is the adopted ROS level for scenic corridors, as shown on the ROS Map.
Dispersed Recreation Management (10-F)	Provide for dispersed recreation activities that are consistent with Scenic Corridor Values.	Favor recreation activities that do not require extensive facilities and are designed for short stays.

Practices	General Direction	Standards and Guidelines
Restricted Motor Vehicle Travel Management (10-G-2) **MVTM**	Provide opportunities for motorized recreation compatible with Scenic Corridor values.	Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Scenic Corridor values. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to Scenic Corridor values caused by motorized use.
Restricted Mountain Bicycle Management (10-H-1)	Manage travel to be compatible with Scenic Corridor values.	Use restrictions to protect resources. Close routes, where impacts are unacceptable, to uses causing the damage.
Installation or Construction of Interpretive Services Facilities not on Interpretive Services Sites (10-N)	Provide information and interpretive material to interpret visual resources and management activities.	Prepare wayside exhibits, interpretive trails, and publications for visitor use that interpret management activities and other benefits.
Special Areas		
Research Natural Area (RNA) Investigations (14-A)	Conduct RNA investigations while protecting Scenic Corridor values.	Coordinate activities with PSW/R5 RNA committee.
Special Interest Area (SIA) Investigations (14-C)	Conduct SIA investigations while protecting Scenic Corridor values.	
Timber		
Timber Program Administration (15-A)	Efficiently and economically extract forest products consistent with the primary wildlife objectives with the least damage to soils, watershed value, and residual trees. (36 CFR 219.27(b)) Identify lands available, capable, and suitable for timber production and harvesting. Control competing vegetation in openings that are to be reforested to the extent that multiple use and timber yield objectives can be met.	A variety of logging systems will be used to harvest forest products consistent with meeting late-successional MIS habitat objectives. Generally ground-based systems such as tractors will be used on slopes of less than 35%, and aerial systems such as high lead or skyline will be used where slopes exceed 35%. Aerial systems may be used on any slope or with any cutting method where economically efficient. Manage lands for timber production that have been identified as available and suitable for that purpose.
Intermediate Cutting - Sanitation and Salvage (15-E)	Design cutting methods to obtain specific management objectives (36 CFR 219.15, 219.27(b))	Even-Aged Systems are further described in FSM 2471.21, R5 Supplements and the Forest Management Practices.
Intermediate Cutting Method - Commercial Thinning (15-F)	Design cutting methods to obtain specific management objectives (36 CFR 219.15, 219.27(b))	Even-Aged Systems are further described in FSM 2471.21, R5 Supplements and the Forest Management Practices.
Special Cutting - Other (15-I)	Design cutting methods to obtain specific management objectives (36 CFR 219.15, 219.27(b))	Even-Aged Systems are further described in FSM 2471.21, R5 Supplements and the Forest Management Practices. Intermediate cutting methods (commercial thinning and sanitation/salvage) in these areas may be used without affecting the number of acres disturbed at one time. Cutting methods used in deer winter and summer ranges will also be designed to maintain hardwoods and browse at levels prescribed in the Standards and Guidelines for these areas. Special cutting methods will be used for available and suitable lands with other resource objectives. For lands incapable or unsuitable for timber production, special cutting will be used to salvage mortality or improve the quality of resources other than timber.

Practices	General Direction	Standards and Guidelines
Reforestation (15-J)	Apply fertilizer where the application will be beneficial and economical. (36 CFR 219.27(b) (2)). Reforest all openings in available, capable, and suitable lands for timber production created by timber harvest, wind, fire, or insect and disease pests (36 CFR 219.27(b) (2)).	A soil analysis will be required for projects that propose the use of fertilizer. The analysis will assess the need, amount and composition of fertilizer required for the specific project. Site preparation - preparation of sites for artificial or natural stand reestablishment will be completed sufficiently in advance of planting or natural seeding to provide control of competing vegetation. Normally, control of competing vegetation will be designed to ensure prescribed first year survival of planted or natural seedlings. This will often involve more than one treatment on more than one competing species prior to planting. It may involve a variety of techniques including fire, mechanical bunching and shredding, discing, and pesticides. Pest management will be considered as necessary. Seed Stock - maintain a seed inventory meeting the Base Level Standards outlined in the Tree Improvement Mast Plan for the California Region. Incorporate seed from the High Level Program as it becomes available. Utilize direction provided in the Tree Improvement Master Plan to mark stands using cutting methods that rely on natural regeneration. Tree species - natural seeding or planting will be done with tree species, seed zones, and elevations determined to be appropriate through a silvicultural examination and prescription. Stocking levels in reforestation efforts will be directed toward obtaining the recommended number of trees per acre outlined in R-5 Supplements to FSM 2472.03.
Release and Weeding (15-K)	To reduce the effect of competing vegetation on the growth and development of desired species on lands available, capable, and suitable for timber production (36 CFR 219.27(b)(2), 219.27(c)(4))	Release efforts will only be done after appropriate stand examination and prescription. The objective will be to treat stands before brush or undesired hardwood densities reach 10,000 cubic feet per acre. Ideally, competing vegetation will be treated while seedlings and sprouts from this vegetation are small and easily treated by a variety of techniques. Often this will be within 2 or 3 years after site preparation. On plantations five years or older, where conifers are established over most of the site, the objective will be to treat competing vegetation based on the actual growth and development of the tree stand. Brush and undesired vegetation will be treated where the conifer stand is not meeting site objectives for growth and it is apparent that competing vegetation is the cause. A variety of techniques including mechanical piling and shredding, hand grubbing, and herbicides may be used.
Precommercial Thinning (15-L)	Remove surplus trees on available, capable, and suitable lands with excess stocking. This will be done to favor growth and development of potential crop trees, prevent disease and insect out or meet other resource objectives (36 CFR 219.27(c) (4)).	Precommercial thinning will only be done after stand examination, prescription, and approval by a qualified silviculturist. It will be done in wild and managed stands of all forest types and follow the guidelines outlined in FSM 2476.42 and R5 Supplement as a minimum. Precommercial thinning is a tool that will be used to maintain diversity by improving species composition in many stands. Posts, fuelwood, Christmas trees, and other product sales should be used where possible to meet precommercial thinning needs. A variety of techniques may be used including mechanical crushing, piling and shredding, hand cutting and pesticides. Mechanical crushing, piling, and shredding will normally not be used where slopes exceed 35%.

Practices	General Direction	Standards and Guidelines
Fuelwood and Miscellaneous Forest Products (15-M)	Permit or make available fuelwood and other forest products on all available lands where not needed for spotted owl or Sensitive furbearer habitat requirements.	Fuelwood and other forest products will be made available through sale, administrative use, and personal use where such uses do not conflict with other resource objectives.
Transportation and Facilities		
Transportation Management, Roads Subject to Highway Safety Act (16-B)	Manage traffic for safe and efficient use by unrestricted passenger cars and permitted commercial use.	Roads subject to the Highway Safety Act are maintained at Maintenance Level 3, 4 or 5, suitable for passenger cars. Signing standards on unrestricted roads are planned for public traffic safety and convenience. Public use is not restricted except by seasonal closures which may be imposed to protect resources.
Transportation Management, Roads Excluded from Highway Safety Act (16-C)	Manage traffic to provide for traffic safety and protect resource values on roads which are not open to unrestricted traffic and roads which are not maintained for travel by passenger cars.	Traffic management is used to restrict types of traffic to provide for traffic safety, to protect resource values or to reduce road maintenance costs. Maintenance standards are planned primarily for resource management traffic use. Maintenance Level 2 may be used. Roads may be closed seasonally or year-round to all traffic as needed to protect wildlife or other resources. Road signing is planned as needed for the intended use of the road. The need for safety signing is reduced by lower design speed and traffic management.
Visual Resource		
Visual Resource Inventory and Planning (17-A)	Provide project level data to aid in meeting visual quality objectives.	Mitigate visual loss resulting from approved major projects such as highway widening or realignment, transmission lines, mining operations, dams, reservoirs, conduits, penstocks, etc. Coordinate closely with proponents. Start mitigation during the planning and design stage.
VQO - Retention (17-B-2)	Maintain the visual character of Foreground Retention areas for the pleasure of the viewing public, where this is the VQO. Design land and vegetation disturbance projects to meet Retention, in Middleground distance zones where these is the VQO.	Manage to a VQO of Retention. Base size, shape, and dispersion of harvest units, road construction, and other resource disturbances on meeting Retention, where this is the adopted VQO as shown on Map I-8.
VQO - Partial Retention (17-B-3)	Design land and vegetation disturbance projects to meet Partial Retention, in Middleground distance zones where this is the VQO.	Base size, shape and dispersion of harvest units, road construction and other resource disturbances on meeting Partial Retention, where this is the adopted VQO as shown on Map I-8.
Visual Resource Improvement (17-C)	Mitigate or restore visual quality reductions.	Allow a short-term reduction from Retention to Partial Retention, when absolutely necessary, on approved major non-timber projects that conflict with the Retention objective. Require detailed grading and revegetation plans from project proponents that return the impacted areas to Retention within a reasonable time.

General Forest (GF91)[1]

Management Emphasis

These areas will be managed for wood, water, fish and wildlife, recreation, and range. This includes intensive timber management while providing for wildlife values, dispersed motorized recreation, off-highway vehicle use, and mountain bicycle opportunities. Extensive range management will be employed. Critical deer winter ranges will be protected and enhanced. There will be prescribed burning.

Description

These areas exist throughout the Forest at all elevations and consist of flats, moderate and steep slopes. They include conifer forests, chaparral and hardwood stands. The area is habitat for a wide variety of forest fauna and flora. Dispersed land and water-based recreation occurs. Most of the area is well-roaded. Private landholdings are interspersed with Forest lands in some areas, especially at and near the Forest's western boundary. Most of the area has experienced wildfires of varying sizes in the historic past. A major portion of the 1987 Stanislaus Complex fire, which burned 145,500 acres, is within this area.

Practices	General Direction	Standards and Guidelines
Fish and Wildlife		
Stream and Lake Fisheries - Structural Improvements and Maintenance (5-B)	Provide medium to high quality habitat for resident trout species (rainbow, brown and brook trout) according to the habitat capability models for these species.	Implement structural fish habitat improvements as funded and provide maintenance of projects to assure the projects are functional to meet objectives and protect investments.
Structural Habitat Improvement and Maintenance (5-K)	Conduct structural habitat improvement where necessary to improve or resolve habitats to conditions needed to meet wildlife objectives.	Ensure that structural habitat improvements are compatible with the overall management direction for the area.
Geology and Minerals		
Saleable Mineral Materials (7-C)	Removal of common variety mineral material including sand, gravel clay, stone and pumice by permit, competitive award or in accordance with free use regulations to accommodate public needs.	Establish fees for recovery of fair market value of sales of minor amounts of mineral material for personal use. Competitively award permits for large quantities of mineral material in accordance with 36 CFR 228, Subpart C. Establish and maintain an inventory of common variety mineral materials sources on the Forest. Identify mineral material sites needed for National Forest purposes and rank each for development. Identify mineral material sites available for public use and rank each for development. Prepare site development and rehabilitation plans for each site prior to its development and use.
Recreation		
ROS Roaded Natural (10-B-4)	Provide for moderate interaction between visitors with a range of Roaded Natural recreation experiences. Evidence of other use is moderate.	Manage to an ROS Class of Roaded Natural. This is the adopted ROS level for General Forest (GF91), as shown on the ROS Map

[1] General Forest (GF91) differentiates the 1991 General Forest management area from the 2004 General Forest land allocation.

Practices	General Direction	Standards and Guidelines
Dispersed Recreation Management (10-F)	Provide dispersed recreation activities that are consistent with General Forest (GF91) objectives.	Emphasize activities that do not require extensive facilities.
Restricted Motor Vehicle Travel Management (10-G-2) **MVTM**	Provide opportunities for motorized recreation compatible with General Forest (GF91) values.	Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect General Forest (GF91) values.
Restricted Mountain Bicycle Management (10-H-1)	Manage travel to be compatible with General Forest (GF91) objectives.	Use restrictions to protect resources. Close routes where impacts are unacceptable to uses causing the damage.
Installation or Construction of Interpretive Services Facilities not on Interpretive Services Sites. (10-N)	Provide interpretation of forest management activities.	Develop wayside exhibits, interpretive trails, and publications that explain timber management practices and benefits and are identified in District and Forest-wide interpretive plans.
Special Areas		
Research Natural Area Investigations (14-A)	Conduct RNA investigations while protecting General Forest (GF91) values.	Coordinate activities with PSW/R5 RNA committee.
Special Interest Area Investigations (14-C)	Conduct SIA investigations while protecting General Forest (GF91) values.	
Timber		
Timber Program Administration (15-A)	Efficiently and economically extract forest products consistent with the primary wildlife objectives with the least damage to soils, watershed value, and residual trees. (36 CFR 219.27(b)) Identify lands available, capable, and suitable for timber production and harvesting. Control competing vegetation in openings that are to be reforested to the extent that multiple use and timber yield objectives can be met.	A variety of logging systems will be used to harvest forest products consistent with meeting late-successional MIS habitat objectives. Generally ground-based systems such as tractors will be used on slopes of less than 35%, and aerial systems such as high lead or skyline will be used where slopes exceed 35%. Aerial systems may be used on any slope or with any cutting method where economically efficient.
Intermediate Cutting - Sanitation and Salvage (15-E)	Design cutting methods to obtain specific management objectives. (36 CFR 219.15, 219.27(b))	Even-Aged Systems are further described in FSM 2471.21, R5 supplements, and the Forest Management Practices.
Intermediate Cutting Method - Commercial Thinning (15-F)	Design cutting methods to obtain specific management objectives. (36 CFR 219.15, 219.27(b))	Even-Aged Systems are further described in FSM 2471.21, R5 supplements, and the Forest Management Practices.
Special Cutting - Other (15-I)	Design cutting methods to obtain specific management objectives. (36 CFR 219.15, 219.27(b))	Special cutting methods will be used for available and suitable lands with other resource objectives. For lands incapable or unsuitable for timber production special cutting will be used to salvage mortality or improve the quality of resources other than the timber resource. Even-Aged Systems are further described in FSM 2471.21, R5 supplements, and the Forest Management Practices.

Practices	General Direction	Standards and Guidelines
Reforestation (15-J)	Apply fertilizer where the application will be beneficial and economical. (36 CFR 219.27(b)(2))	A soil analysis will be required for projects that propose the use of fertilizer. The analysis will assess the need, amount and composition of fertilizer required for the specific project.
	Reforest all openings in available, capable, and suitable lands for timber production created by timber harvest, wind, fire, or insect and disease pests. (36 CFR 219.27(b)(2))	Site preparation - Preparation of sites for artificial or natural stand re-establishment will be completed sufficiently in advance of planting or natural seeding to provide control of competing vegetation. Normally control of competing vegetation will be designed to ensure prescribed first year survival of planted or natural seedlings. This will often involve more than one treatment on more than one competing species prior to planting. It may involve a variety of techniques including fire, mechanical bunching and shredding, discing, and pesticides. Pest management will be considered as necessary. Seed stock - Maintain a seed inventory meeting the Base Level Standards outlined in the Tree Improvement Master Plan for the California Region. Incorporate seed from the High Level Program as it becomes available. Utilize direction provided in the Tree Improvement Master Plan to mark stands using cutting methods that rely on natural regeneration. Tree species - Natural seeding or planting will be done with tree species, seed zones, and elevations determined to be appropriate through a silvicultural examination and prescription. Stocking levels in reforestation efforts will be directed toward obtaining the recommended number of trees per acre outlined in R-5 Supplement to FSM 2472.03.
Release and Weeding (15-K)	To reduce the effect of competing vegetation on the growth and development of desired species on lands available, capable, and suitable for timber production. (36 CFR 219.27(b)(2),219.27(c)(4))	Release efforts will only be done after appropriate stand examination and prescription. The objective will be to treat stands before brush or undesired hardwood densities reach 10,000 cubic feet per acre. Ideally competing vegetation will be treated while seedlings and sprouts from this vegetation are small and easily treated by a variety of techniques. Often this will be within two or three years after site preparation. On plantations five years or older where conifers are established over most of the site, the objective will be to treat competing vegetation based on the actual growth and development of the tree stand. Brush and undesired vegetation will be treated where the conifer stand is not meeting site objectives for growth and it is apparent that competing vegetation is the cause. A variety of techniques including mechanical piling, and shredding, hand grubbing and herbicides may be used.
Precommercial Thinning (15-L)	Remove surplus trees on available, capable, and suitable lands with excess stocking. This will be done to favor growth and development of potential crop trees, prevent disease and insect outbreaks, or meet other resource objectives. (36 CFR 219.27(c)(4))	Precommercial thinning will only be done after stand examination, prescription, and approval by a qualified silviculturist. It will be done in wild and managed stands of all forest types and follow the guidelines outlined in FSM 2476.42 and R5 Supplement as a minimum. Precommercial thinning is a tool that will be used to maintain diversity by improving species composition in many stands. Posts, fuelwood, Christmas trees, and other product sales should be used where possible to meet precommercial thinning needs. A variety of techniques may be used including mechanical, crushing, piling, and shredding, hand cutting and pesticides. Mechanical crushing, piling, and shredding will normally not be used where slopes exceed 35%.
Forest Products (15-M)	Permit or make available fuelwood and other forest products on all available lands where not needed for spotted owl or Sensitive	Fuelwood and other forest products will be made available through sale, administrative use, and personal use where such uses do not conflict with other resource objectives.

Practices	General Direction	Standards and Guidelines
	furbearer habitat requirements.	
Transportation and Facilities		
Transportation Management, Roads Subject to Highway Safety Act (16-B)	Manage traffic for safe and efficient use by unrestricted public traffic including passenger cars and permitted commercial use.	Roads subject to the Highway Safety Act are maintained at Maintenance 3, 4, or 5 suitable for passenger cars. Signing standards on unrestricted roads are planned for public traffic safety and convenience. Public use is not restricted except by seasonal closures which may be imposed to protect resources.
Transportation Management, Roads Excluded from the Highway Safety Act (16-C)	Manage traffic to provide for traffic safety and protect resource values on roads which are not open to unrestricted traffic and roads which are not maintained for travel by passenger cars.	Traffic management is used to control types of traffic to provide for traffic safety, to protect resource values or to reduce road maintenance costs. Maintenance standards are planned primarily for resource management traffic use. Maintenance level 2 may be used. Roads may be closed seasonally or year-round to all traffic as needed to protect wildlife or other resources. Road signing is planned as needed for the intended use of the road. The need for safety signing is reduced by lower design speed and traffic management.
Visual Resource		
VQO - Modification (M) (17-B-4)	Management activities may visually dominate the surrounding characteristic landscape, but should borrow the form, line, color and texture of the natural surroundings.	Manage to a VQO of Modification. This is the adopted VQO level for General Forest (GF91), as shown on the VQO Map.

Developed Recreation Sites

Management Emphasis

Provide developed recreation opportunities for the public including: picnic areas, campgrounds, parking areas, boat ramps, visitor information centers, vistas and overlooks, resorts, organization camps and recreation residences. Maintain facilities for the convenience of the user. Protect or improve the natural forest setting surrounding these facilities.

Provide future developed recreation opportunities for the public. Meet increasing demand by setting up an inventory of developable areas and preserving site qualities that make them desirable for recreation use.

Description

This Management Area contains all developed recreation sites. They include existing campgrounds, picnic areas, observation sites, boating sites, interpretive sites and information sites developed and/or operated by the Forest Service, FERC (Federal Energy Regulatory Commission) Licensees, Special Use Permittees, or concessionaires. The individual sites are small, usually five to ten acres.

This Management Area also includes proposed sites considered available for development this decade and into the future. However, some proposed sites may become unavailable in the future due to changes in plans for FERC licenses or other unforeseen events. Change in use patterns and/or future studies may dictate a need for adjustment of uses in some areas. Some sites may become available through land exchange, purchase, recreation plans, future use determinations, or conversion from dispersed status. Some existing sites have the potential to be expanded. Facilities may be developed and/or operated by the Forest Service, FERC licensees, or contract concessionaires. Most sites are concentrated in the following areas:

Bear Valley/Lake Alpine

This area is located in the north-central part of the Forest. It includes summer homes, Bear Valley Ski Area (see also Management Area 11, Winter Sports Sites), and developed recreation sites. It borders the Mokelumne Wilderness to the north. Lake Alpine is a popular summer camping area, with several developed sites. Fishing is also popular. The year-round resort community of Bear Valley (private land) depends heavily on activities centered around this area.

Utica/Union/Spicer Reservoirs

This area is located in the north-central part of the Forest. It includes three reservoirs and three natural lakes, and is otherwise characterized by large areas of granite and a fair amount of suitable timberland. The enlargement of Spicer Meadow Reservoir and development of additional recreation facilities has increased developed recreation opportunities in the area. The area's three reservoirs attract dispersed camping and boating as well as fishing use. Hunting is popular in the fall. Moderate levels of timber harvest and grazing occur.

Herring Creek

This area is located in the north-central portion of the Forest and includes the area around Herring Creek Reservoir. The area includes several existing and potential developed recreation sites. The area receives moderate developed and dispersed camping use, fishing and hunting. Grazing occurs and the meadows are important for deer fawning during the summer.

Pinecrest Lake/Dodge Ridge

Located in the central part of the Forest, this area features recreation residences and developed recreation sites, Dodge Ridge Ski Area, a marina, lodges, stores and a pack station. Pinecrest Lake is the most popular recreation area on the Forest. Major activities are developed camping, picnicking, boating and swimming. Downhill skiing at Dodge Ridge is the major winter activity; cross-country skiing is also popular.

Beardsley Reservoir/Middle Fork Stanislaus River

This area is located in the central part of the Forest. Slopes in the area are steep. It includes bald eagle habitat. There are limited, scattered suitable timberlands. Beardsley Reservoir is a popular recreation area. It receives both dispersed and developed recreation use. Camping, boating and fishing occur at Beardsley and Sand Bar Flat. Timber management occurs on the upper slopes.

Cherry Lake

This area is located in the east-central part of the Forest. It is characterized by suitable timberland, potential bald eagle habitat, and existing as well as potential developed recreation sites. Cherry Lake (also known as Lake Lloyd Reservoir) is the largest lake on the Forest, containing 1800 surface acres. The area borders Yosemite National Park on the east and the Emigrant Wilderness on the north. It serves as a major trailhead for both areas. Cherry Lake is fairly popular for fishing, boating and developed camping. Timber harvest occurs in the west and south portions of the area as does hunting in the fall. Grazing use occurs in part of the area.

Highway 120

This area, in the southern portion of the Forest, includes State Highway 120 from the Forest boundary near Groveland to the entrance of Yosemite National Park. It also includes Mather Road, Evergreen Road and the portion of Cherry Oil Road from Highway 120 to the Tuolumne River. Portions of the area were burned by wildfire in 1987. The area contains a number of both public and private recreation facilities. The east end of the area borders Yosemite National Park.

Practices	General Direction	Standards and Guidelines
Range		
Allotment Management (9-A-2)	Cattle grazing is excluded within all developed recreation sites.	
Recreation		
ROS Roaded Natural (10-B-4)	Provide for moderate interaction between forest visitors with a range of roaded natural recreation experiences. Evidence of other use is moderate. Retain site qualities that will not degrade future development opportunities on proposed sites.	Manage to the ROS Class of Roaded Natural. This is the adopted ROS level for developed recreation sites. Allow dispersed recreation on proposed sites in the interim and perform other multiple use activities that are compatible with preserving or improving site quality.
ROS Rural (10-B-5)	Provide for moderate to high interaction between forest visitors with a range of rural recreation experiences. Evidence of other use is moderate to high	Manage to ROS Class of Rural. This is an acceptable level for certain developed sites. Administer facilities to accommodate large numbers of people for motorized use and parking.
Developed Recreation and Interpretive Services Site Construction or Rehabilitation (10-C)	Construct or rehabilitate sites to meet the demand for Recreation Visitor Days (RVDs) of developed recreation.	Meet site planning and design criteria outlined in Forest Service Manual 2331. Follow priorities shown in the Recreation Development Schedule at the end of this section. Provide for barrier free access in all developments.
Developed Recreation Site Management, Public Sector (10-D)	Operate and maintain existing sites.	Limit development to Levels III or IV. Incorporate interpretation of cultural, natural, or resource management themes into rehabilitation plans. Prepare vegetative management plans for all sites.
Developed Recreation Site Management, Private Sector (10-E)	Permit operation and management of developed recreation facilities by private concessionaires and special use permittees.	Issue a prospectus after assessment indicates that operation or construction of facilities is best served by private sector management.
Restricted Motor Vehicle Travel Management (10-G-2) **MVTM**	Provide opportunities for motorized recreation compatible with Developed Recreation Site values.	Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Developed Recreation Site values. Limit vehicle use to roads and parking areas.

Practices	General Direction	Standards and Guidelines
		Allow administrative use of OHVs and OSVs in connection with operation of the sites. Allow non-street legal vehicle use for the purpose of accessing designated routes from staging areas.
Restricted Mountain Bicycle Management (10-H-1)	Provide for mountain bicycle access on roads and trails.	Close routes, where impacts are unacceptable, to uses causing the damage.
Interpretive Services Planning (10-L)	Update existing interpretive plans. Insure that interpretive services will be provided for proposed developed sites.	Include developed recreation sites in District and Forest-wide interpretive plans. Integrate interpretive services (information, education, and orientation for the visiting public) with preliminary site planning and design.
Interpretive Services Management (10-M)	Provide interpretive services in developed sites.	Develop and maintain incentives to reduce vandalism. Coordinate operation and maintenance of interpretive services facilities with other functions such as fire and engineering.
Interpretive Services Facilities not on Interpretive Services Sites (10-N)	Provide interpretive services facilities in conjunction with developed sites.	Coordinate planning of interpretive services facilities with developed site construction or rehabilitation.
Timber		
Special Cutting - Other (15-I)	Design cutting methods to obtain specific management objectives (36 CFR 219.15, 219.27(b))	Special cutting methods will be used to salvage mortality or improve the quality of resources other than the timber resource.
Fuelwood and Miscellaneous Forest Products (15-M)	Permit or make available fuelwood and other forest products.	Fuelwood and other forest products will be made available through sale, administrative use, and free use where such uses do not conflict with other resource objectives.
Transportation and Facilities		
Transportation Management, Roads Subject to Highway Safety Act (16-B)	Manage traffic for safe and efficient use by unrestricted public traffic including passenger cars and permitted commercial use.	Roads subject to the Highway Safety Act are maintained at Maintenance Level 3, 4, or 5 suitable for passenger cars. Signing standards on unrestricted roads are planned for public traffic safety and convenience. Public use is not restricted except by seasonal closures which may be imposed to protect resources.
Transportation Management, Roads Excluded from the Highway Safety Act (16-C)	Manage traffic to provide for traffic safety and protect resource values on roads which are not open to unrestricted traffic and roads which are not maintained for travel by passenger car.	Traffic management is used to control types of traffic to provide for traffic safety, to protect resource values or to reduce road maintenance costs. Maintenance standards are planned primarily for resource management traffic use. Maintenance Level 2 may be used. Roads may be closed seasonally or year-round to all traffic as needed to protect wildlife or other resources. Road signing is planned as needed for the intended use of the road. The need for safety signing is reduced by lower design speed and traffic management.
Visual Resource		
VQO Partial Retention (17-B-3)	Provide a natural appearing forest setting within the constraints of existing site character and its kind of use.	Manage to a VQO of Partial Retention. This is the adopted VQO for developed recreation sites. Maintain or construct recreation facilities and roads within the site in order to be as obscure as possible when viewed from within or immediately adjacent to the site. Plant and maintain the optimum amount of vegetation in order to keep a natural appearing setting that functionally and aesthetically satisfies visitors when viewed from within or immediately adjacent to the site.
VQO Modification (17-B-4)		This is an acceptable VQO for certain developed sites, but preferably should be upgraded to Partial Retention where physical developments allow, by applying Partial Retention Standards and Guidelines to all areas of the developed site.

Table 12 Recreation Development Schedule 1992-2001

FY	RD	Name of Site	Type of Site	Rehabilitation		Proposed		Estimated	Annual	Cumulative
				Acres	PAOT	Acres	PAOT	Cost ($)	Total ($)	Total ($)
1992	52	Sourgrass	Campground	5	75	10	200	825,000	825,000	825,000
	54	Diamond '0'	Campground/Day	5	200	15	300	1,500,000	2,325,000	2,325,000
1993	53	Kennedy Meadow	Trailhead			10	300	300,000	300,000	2,625,000
	52	Hay Gulch	OHV Staging			15	220	220,000	520,000	2,845,000
	53	Highway 108	Snowmobile Park			5	180	180,000	700,000	3,025,000
	53	Pinecrest	Water System	60	2,000			2,000,000	2,700,000	5,025,000
	54	Tuolumne River	Boater Parking			5	250	250,000	2,950,000	5,275,000
1994	52	Alpine	Water System	40	1,231			131,000	131,000	5,406,000
	53	Clark Fork	Horse Camp			15	300	442,500	573,500	5,848,500
	52	Stanislaus River	Campground	10	185			475,000	1,048,500	6,323,500
	54	Rainbow Pool	Day Use	1	160			228,000	1,276,500	6,551,500
	51	Fraser Flat	Campground	15	190			501,000	1,777,500	7,052,500
	52	Highland Lake	Campground	1	50	5	175	314,000	2,091,500	7,366,500
	54	Lumsden/South Fork	Boat Launches	1	100			100,000	2,191,500	7,466,500
1995	54	Rim of the World	Vista	1	75			100,000	100,000	7,566,500
	51	Box Springs	Trailhead			1	50	50,000	150,000	7,616,500
	53	Sand Flat	Campground	10	200			400,000	550,000	8,016,500
	53	Eureka Valley	Campground	10	150			150,000	700,000	8,166,500
	52	Utica/Union	Campgrounds			15	200	600,000	1,300,000	8,766,500
	54	Tuolumne River	Campgrounds	15	180			300,000	1,600,000	9,066,500
	51	Hull Creek	Campground	5	100	5	125	375,000	1,975,000	9,441,500
	51	Riverside	Day Use	10	100			100,000	2,075,000	9,541,500
	51	Sugar Pine RR	Trailheads			1	100	100,000	2,175,000	9,641,500
	53	Donnell	Vista	5	75			75,000	2,250,000	9,716,500
	53	Column of Giants	Geologic Site	5	110			110,000	2,360,000	9,826,500
	52	Boards Crossing	Campground	5	50			150,000	2,510,000	9,976,500
	52	Woodchuck Basin	Trailhead			1	30	30,000	2,540,000	10,006,500
1996	53	County Line	Trailhead			1	100	100,000	100,000	10,106,500
	53	Ford Niagara Falls	Vista			1	25	40,000	140,000	10,146,500
	52	Bloomfield	Campground	10	125			375,000	515,000	10,521,500
	53	Pinecrest	Campground	40	1,000			1,000,000	1,515,000	11,521,500
	52	Cape Horn	Vista			1	50	50,000	1,565,000	11,571,500
	53	Douglas	Picnic	5	50			50,000	1,615,000	11,621,500
	53	Beardsley Point	Day Use	5	150			150,000	1,765,000	11,771,500
	53	Cottonwood	Picnic	1	30			30,000	1,795,000	11,801,500
	52	Hermit Valley	Campground	5	100			300,000	2,095,000	12,101,500
	52	Pacific Valley	Campground	10	75			225,000	2,320,000	12,326,500
1997	52	Lake Alpine	Campgrounds	30	600			1,200,000	1,200,000	13,526,500
	52	Highlands	Horse Camp			5	50	150,000	1,350,000	13,676,500
	52	Spicer	Snow Parking			1	75	75,000	1,425,000	13,751,500
	51	Coffin Hollow	Trailhead			1	50	50,000	1,475,000	13,801,500
	51	Crandall	OHV Staging			15	250	250,000	1,725,000	14,051,500

FY	RD	Name of Site	Type of Site	Rehabilitation		Proposed		Estimated	Annual	Cumulative
				Acres	PAOT	Acres	PAOT	Cost ($)	Total ($)	Total ($)
	53	Herring Creek	Campground			10	250	750,000	2,475,000	14,801,500
1998	53	Pinecrest	Day Use	40	2,000			2,000,000	2,000,000	16,801,500
	53	Gianneli	Trailhead			1	100	100,000	2,100,000	16,901,500
	53	Cooper	Trailhead			1	100	100,000	2,200,000	17,001,500
	54	Montgomery Gulch	Campground			5	75	225,000	2,425,000	17,226,500
	52	Pines	Campground	5	50			100,000	2,525,000	17,326,500
	52	Lost Claim	Campground	5	50			100,000	2,625,000	17,426,500
	54	Sweetwater	Campground	5	75			150,000	2,775,000	17,576,500
1999	54	Cherry Valley	Campground	10	250			500,000	• 500,000	18,076,500
	52	Candy Rock	Trailhead			1	75	75,000	575,000	18,151,500
	53	Meadowview	Campground	20	500			500,000	1,075,000	18,651,500
	53	Big Pine	Campground			40	1,000	1,500,000	2,575,000	20,151,500
	53	Eagle Meadow	Campground			10	150	125,000	2,700,000	20,276,500
	51	North Fork	Day Use	5	100			100,000	2,800,000	20,376,500
2000	53	Brightman	Campground	10	250			500,000	500,000	20,876,500
	53	Clark Fork	Campground	20	440			440,000	940,000	21,316,500
	53	Pinecrest	Visitor Center			1	50	200,000	1,140,000	21,516,500
	53	Pioneer Trail	Group Camp	5	200			200,000	1,340,000	21,716,500
	53	Hells Half Acre	OHV Staging			5	125	125,000	1,465,000	21,841,500
	53	Fence Creek	Campground	5	100			300,000	1,765,000	22,141,500
	52	Big Meadows	Campground	15	375			750,000	2,515,000	22,891,500
	53	Cascade Creek	Campground	3	35			70,000	2,585,000	22,961,500
	53	Clark Fork	Trailhead			2	150	200,000	2,785,000	23,161,500
2001	54	Anderson Valley	Campground			5	100	300,000	300,000	23,461,500
	54	Moore Creek	OHV Staging			15	250	250,000	550,000	23,711,500
	53	Niagara Creek	Campground	5	50			100,000	650,000	23,811,500
	54	Cherry Creek	Boat Launch	5	250			250,000	900,000	24,061,500
	54	Wards Ferry	Boat Takeout	1	100			500,000	1,400,000	24,561,500
	54	Cherry Lake	Boat Ramp			1	100	100,000	1,500,000	24,661,500
	52	Crescent Cove	Day Use	1	100	1	100	250,000	1,750,000	24,911,500
	52	Lodgepole	Campground			15	150	450,000	2,200,000	25,361,500
	51	Hull/Clayey	OHV Staging			15	250	250,000	2,450,000	25,611,500
	53	Chipmunk #2	Campground			5	50	150,000	2,600,000	25,761,500
	53	Bumblebee	Snow Parking			1	150	150,000	2,750,000	25,911,500
	51	Crandall	OHV Staging			15	250	250,000	3,000,000	26,161,500
		Totals:		**470**	**12,286**	**277**	**6,505**	**26,161,500**		

PAOT = Persons at one time
FY = Fiscal Year
RD = Ranger District
51 = Mi Wok
52 = Calaveras
53 = Summit
54 = Groveland

Pinecrest Basin[1]

The following sections (Management Practices/Desired Conditions; Management Zones; and, Standards and Guidelines) provide management direction for the Pinecrest Basin Management Area. This direction applies in addition to the Forestwide Standards and Guidelines (S&Gs) and management area direction for Developed Recreation Sites and Winter Sports Sites.

Description

This Management Area contains the 7,060 acre Pinecrest Basin, located in Tuolumne County, approximately 30 miles east of Sonora, California. The management area includes the Pinecrest Recreation Area (which contains an extensive recreation complex of campgrounds, picnic/day use area, commercial center, resort, marina, recreation residences and organization camps) and the Dodge Ridge Ski Area.

Desired Conditions

Described below are specific desired conditions for the Pinecrest Basin for management practices listed. Management practices are listed and described in the Forest Plan.

Practices	Desired Conditions
Biological Diversity (3-A) **PBMD**	Native plant habitat is maintained or improved.
Fish and Wildlife Habitat Administration (5-A) **PBMD**	Wildlife remains "wild". Visitors enjoy wildlife experiences and wildlife safely in its natural state. Wildlife forages for natural foods only and are not attracted to garbage and human foods. People are aware of and practice "keeping wildlife wild" philosophies. People do not feed wildlife, and store pet and human food in secure locations. Garbage is disposed of promptly and properly. Wildlife viewing and interpretive opportunities are maximized and enhance the visitor experience.
Developed Recreation Site Management, Public Sector (10-D) **PBMD**	Recreation programs are accessible to all, assuring that a range of services is provided to persons with disabilities. Persons with disabilities are involved in the planning and program delivery for recreation services, both public and permitted. Personal boat mooring is available that does not interfere with day users and people fishing. Recreation services appropriate to the National Forest and Historic District setting are available in the Pinecrest Basin or local communities. The swimming area is appropriately sized and managed for swimming safety. The beach areas have plenty of sand covering them. Dogs are kept on a leash and their scat is picked up and properly disposed of. Boat storage does not interfere with day users. Compliance with rules and regulations is achieved. Winter recreation opportunities are available in a way that maintains visitor safety and avoids user conflicts. Visitors are generally able to find parking within 1/3 mile of the day use area. Parking is in alignment with associated use patterns (e.g. marina, day use, boat launching, and commercial center), with accessible spaces at each area. Pinecrest has a well designed and managed road, pathway and parking network which is easily understood, safe, responsive to peak use times, and provides clear directional indicators that allow visitors to access and enjoy the Pinecrest Basin. Visitors experience a clear sense of "arrival" upon entry into the basin. This will enhance the visitor's recreational experience while protecting natural resources. A comprehensive transportation system analysis and plan is in place and fully implemented. A safe pedestrian/bicycle route system is the preferred mode of transportation within developed portions of the Basin.
Developed Recreation Site Management, Private Sector (10-E) **PBMD**	Recreation programs are accessible to all, assuring that a range of services is provided to persons with disabilities. Persons with disabilities are involved in the planning and program delivery for recreation services, both public and permitted. Facilities incorporate Universal Access design principles.
Trail Management (10-I) **PBMD**	The trail system is safe and universally accessible (where feasible). Routes are available to all facilities and services within the basin as well as destinations outside the Basin. Visitors are able to way-find with ease. Information about trails and destinations is available at

[1] Pinecrest Basin Management Direction, Forest Plan Amendment, USDA Forest Service 2004

Practices	Desired Conditions
	departure points including associated recreation opportunities. Communication of regulations and restrictions is provided.
Interpretive Services Management (10-M) **PBMD**	Interpretive programs and sites are recognized as the benchmark of excellence in conservation education. Information is up-to-date and available in a format that meets the needs of the Pinecrest visitor, regardless of ability socio-economic background, or culture. Forest Service information is available at all existing display boards and kiosks in the Pinecrest Basin. Appropriate information is available in other languages. Through the use of an overall information management system that works in harmony with the infrastructure, visitors are drawn to other areas and attractions in the general area, easing present and future demand. Visitors are encouraged to utilize the basin during off-peak periods.
Facility Construction and Reconstruction (16-E) **PBMD**	Facilities are in stable, functional condition and are appropriately designed for the setting. Facilities (tables, stoves, toilets, pathways, fountains, kiosks, etc.) are located according to a plan that has carefully considered the visitor experience. Facilities incorporate Universal Access design principles. Utility infrastructure is generally unnoticeable. Rivers and streams are free from contamination. Sewer lines and treatment plant capacity is adequate for the population and uses.
Facility Operation and Maintenance (16-F) **PBMD**	Day use facilities are clean, well maintained, appropriately distributed and located in accessible areas near the walkways. All points of interest are connected by walkways. Launching facilities are safe and are accessible to all users. Hand launch areas are provided. All visitors, including those utilizing trails within the Basin have reasonable access to a restroom. Restrooms are all accessible and clean. Restroom facilities and capacity matches use patterns.

Management Zones and Standards and Guidelines

The Pinecrest Basin Management Area is allocated to the six management zones described below (see Pinecrest Basin Management Zone Map). These zones represent land allocations within the Pinecrest Basin Management Area. The tables below show S&Gs for the Pinecrest Basin Management Area as they apply to the individual management zones. These S&Gs apply in addition to the Forestwide S&Gs and management area direction for Developed Recreation Sites and Winter Sports Sites. The following S&Gs apply to all Pinecrest Basin management zones.

Practices	All Zones: Standards and Guidelines
Biological Diversity (3-A) **PBMD**	Limit permits for miscellaneous forest products as needed to conserve resources for all to enjoy (e.g. mushrooms and pine cones).
Fish and Wildlife Habitat Administration (5-A) **PBMD**	Interpretive and education brochures and talks include teaching “keeping wildlife wild” philosophies. Interpretive brochures and talks are updated to include wildlife viewing opportunities and education. Use of animal-resistant trash bins, dumpsters, and food lockers (when provided) is required within the Pinecrest Basin.
Developed Recreation Site Management, Public Sector (10-D) **PBMD**	Parking is limited to designated sites/areas only. Alternative transportation methods (e.g. buses, carpools, and bicycle/pedestrian paths) are actively encouraged, to increase availability of parking.
Trail Management (10-I) **PBMD**	Emphasis for new trail construction will be toward meeting accessibility standards and new routes connecting the Basin with outside destinations. Pathway entry points are recognizable, encouraging use.
Interpretive Services Management (10-M) **PBMD**	Public demand for interpretive services and facilities are identified on a yearly basis. Program content and frequency are adjusted to meet identified needs Innovative programs developed internally and externally are continually incorporated into a program mix that enhances the visitors’ connection to the environment.
Facility Construction and Reconstruction (16-E) **PBMD**	Facilities are rustic and simple in design, are consistent with the forest outdoor setting and experience and are compatible with local historic values. Except where infeasible or costs are extraordinary, all linear utility upgrades and replacements are underground. Utilities will be upgraded to provide for new uses or changes in capacity. Upgrade, maintain, and rehabilitate facilities and trails to reduce and reverse the negative effects of trampling and soil compaction.

1. Day Use (DU)

Provides facilities for short-term (no overnight uses) recreational opportunities and activities (e.g. swimming, boating, picnicking, hiking, and fishing). This zone includes the three beach areas (including the area around the Snack Shack), the picnic area, marina area, and hiking trails around the lake. The following S&Gs apply to the Day Use (DU) management zone.

Practices	Day Use (DU): Standards and Guidelines
Biological Diversity (3-A) **PBMD**	Conduct "urban forestry"[1] type treatments and prescriptions to maintain tree stand health and vigor.
Fish and Wildlife Habitat Administration (5-A) **PBMD**	Animal-resistant trash bins, dumpsters, and food lockers are provided in campgrounds and picnic areas.
Developed Recreation Site Management, Public Sector (10-D) **PBMD**	Adequate personnel are present to inform visitors of rules and, when necessary, to enforce them. Mooring tie-downs are confined to designated areas and are generally limited to sailboats. Overnight shore mooring is permitted in specific locations only. From May 15 to September 15, dogs are not allowed in the Day Use zone between Pinecrest Avenue/Pinecrest Lake Road and the lake, and the Marina and the fishing pier. In conjunction with a traffic flow analysis, identify all available parking within the Pinecrest Basin. There will be no net loss of public parking spaces while maintaining natural vegetation areas. Overflow parking options will be identified and communicated to the public.
Trail Management (10-I) **PBMD**	Obvious on-site controls to guide visitors to destinations and inform visitors of rules and regulations are prevalent.
Facility Construction and Reconstruction (16-E) **PBMD**	Facilities are designed for user comfort and convenience. All major Basin destinations have restroom facilities strategically placed along routes or at destinations. Future facility expansion includes planning for the expected use, more diverse activities that serve the needs of visitors, accessibility standards, and meets all building codes. Facilities and structures are limited to those that provide for and enhance day use activities and services. Moderate to heavy site modifications are allowed for carefully designed facilities.

2. Commercial Use (CU)

Provides visitor services such as lodging, food services, retail services, and organization group camping. This zone includes Pinecrest Lake Resort, organization camps, Dodge Ridge Ski Area and Aspen Meadow Pack Station. All amenities are consistent with Forest Service policy. The following S&Gs apply to the Commercial Use (CU) management zone.

Practices	Commercial Use (CU): Standards and Guidelines
Biological Diversity (3-A) **PBMD**	Conduct "urban forestry" type treatments and prescriptions to maintain tree stand health and vigor. Animal-resistant dumpsters are required within commercial Special Use Permit boundaries.
Developed Recreation Site Management, Public Sector (10-D) **PBMD**	Adequate personnel are present to inform visitors of rules and, when necessary, to enforce them. In conjunction with a traffic flow analysis, identify all available parking within the Pinecrest Basin. There will be no net loss of public parking spaces while maintaining natural vegetation areas. Overflow parking options will be identified and communicated to the public.
Developed Recreation Site Management, Private Sector (10-E) **PBMD**	Additional services are encouraged first on private land in surrounding communities. New ski area facilities will be allowed consistent with an approved Master Development Plan. Commercial permittees will ensure adequate parking for their customers without interfering with public parking availability.
Trail Management (10-I) **PBMD**	Obvious on-site controls to guide visitors to destinations and inform visitors of rules and regulations are prevalent.
Facility Construction and Reconstruction (16-E) **PBMD**	Facilities are designed for user comfort and convenience. Future facility expansion includes planning for the expected use, more diverse activities that serve the needs of visitors, accessibility standards, and meets all building codes. Moderate to heavy site modifications are allowed for carefully designed facilities.

[1] Urban forestry places an emphasis on the human influence on forest ecosystems. For more information see: http://wcufre.ucdavis.edu/.

3. Recreation Residence/Summer Home Tract (RR)

The Pinecrest recreation residence/summer home tract has been designated as eligible for inclusion in the National Register of Historic Places as a Discontinuous Historic District (letter from State Historic Preservation Officer dated March 16, 1999 on file at the Summit Ranger District). This zone also includes the North Shore cabins. Because of this designation, the rustic cabin-style and feeling will be maintained through specific restoration, rehabilitation and construction guidelines. The following S&Gs apply to the Recreation Residence/Summer Home Tract (RR) management zone.

Practices	Recreation Residence/Summer Home Tract (RR): Standards and Guidelines
Biological Diversity (3-A) **PBMD**	Conduct "urban forestry" type treatments and prescriptions to maintain tree stand health and vigor.
Fish and Wildlife Habitat Administration (5-A) **PBMD**	Feeding pets outdoors is prohibited within cabin special use permit (SUP) boundaries.
Trail Management (10-I) **PBMD**	Obvious on-site controls to guide visitors to destinations and inform visitors of rules and regulations are prevalent.
Facility Construction and Reconstruction (16-E) **PBMD**	Facilities are designed for user comfort and convenience.

4. Public Camping (PC)

This zone includes Meadowview, Pinecrest and Pioneer Trails Campgrounds. These facilities provide overnight camping opportunities for a maximum stay of 14 days. Campsites will remain rustic in nature with few amenities provided. Group and disabled access sites are provided. The following S&Gs apply to the Public Camping (PC) management zone.

Practices	Public Camping (PC): Standards and Guidelines
Biological Diversity (3-A) **PBMD**	Conduct "urban forestry" type treatments and prescriptions to maintain tree stand health and vigor.
Fish and Wildlife Habitat Administration (5-A) **PBMD**	Animal-resistant trash bins, dumpsters, and food lockers are provided in campgrounds and picnic areas.
Developed Recreation Site Management, Public Sector (10-D) **PBMD**	Adequate personnel are present to inform visitors of rules and, when necessary, to enforce them. In conjunction with a traffic flow analysis, identify all available parking within the Pinecrest Basin. There will be no net loss of public parking spaces while maintaining natural vegetation areas. Overflow parking options will be identified and communicated to the public.
Trail Management (10-I) **PBMD**	Obvious on-site controls to guide visitors to destinations and inform visitors of rules and regulations are prevalent.
Facility Construction and Reconstruction (16-E) **PBMD**	Facilities are designed for user comfort and convenience. Future facility expansion includes planning for the expected use, more diverse activities that serve the needs of visitors, accessibility standards, and meets all building codes. Moderate to heavy site modifications are allowed for carefully designed facilities.

5. Open Space/Ecological (OE)

This zone provides visitors and wildlife with refuge areas (e.g. wetlands, wooded areas, and meadows) within the primary development area. No development that would change the natural condition of these areas would be allowed. This zone includes the Experimental Forest and Spotted Owl Protected Activity Center. The following S&Gs apply to the Open Space/Ecological (OE) management zone.

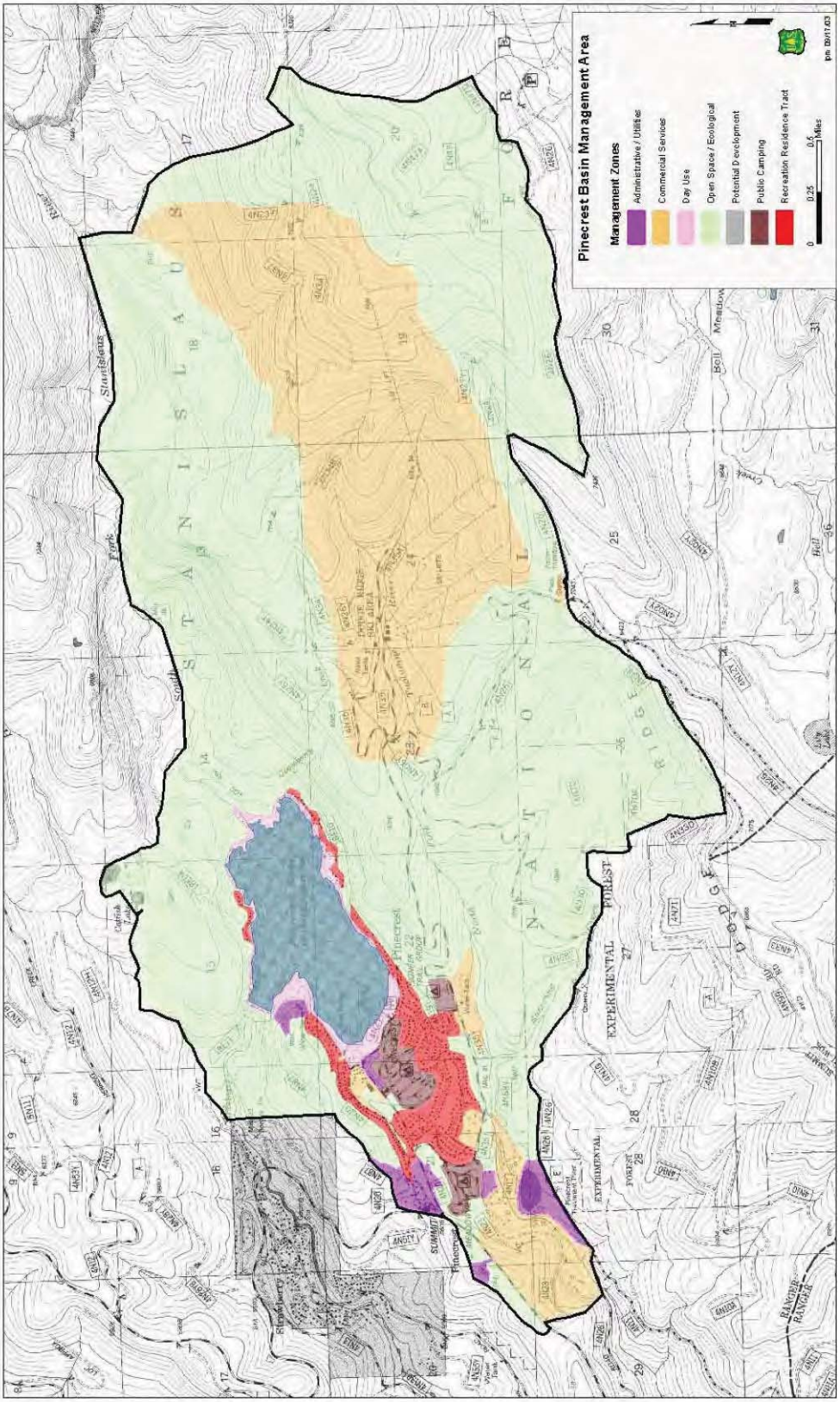
Practices	Open Space/Ecological (OE): Standards and Guidelines
Fish and Wildlife Habitat Administration (5-A) **PBMD**	Interpretive and education brochures and talks include teaching "keeping wildlife wild" philosophies. Interpretive brochures and talks are updated to include wildlife viewing opportunities and education. Animal-resistant dumpsters are required within commercial Special Use Permit boundaries. Feeding pets outdoors is prohibited within cabin special use permit (SUP) boundaries. Use of animal-resistant trash bins, dumpsters, and food lockers (when provided) is required within the Pinecrest Basin. Animal-resistant trash bins, dumpsters, and food lockers are provided in campgrounds and picnic areas.
Developed Recreation Site Management, Public Sector (10-D) **PBMD**	In conjunction with a traffic flow analysis, identify all available parking within the Pinecrest Basin. There will be no net loss of public parking spaces while maintaining natural vegetation areas. Overflow parking options will be identified and communicated to the public.
Trail Management (10-I) **PBMD**	On-site controls and way-finding information are limited and primarily located along major travel routes. Interpretive or educational signing related to natural and heritage resources may be allowed.
Facility Construction and Reconstruction (16-E) **PBMD**	Facilities provide limited comfort and convenience to users. Use of structures within open space must be compatible with preserving or enhancing ecological resources and values, open space, wetlands and meadows will be maintained and enhanced.

6. Administrative/Utilities Infrastructure (AU)

This zone provides support services, which allow for optimal visitor experience. These include Forest Service administration sites, the community center, the county parking lot, the garbage transfer station, the sewage treatment plant, and the old service station site on Pinecrest Lake Road. Linear and site specific infrastructure such as power lines, walk ways, water lines and water tanks are scattered throughout the basin in various other zones. These facilities are not specifically shown or listed here. The following S&Gs apply to the Administrative/Utilities Infrastructure (AU) management zone.

Practices	Administrative/Utilities Infrastructure (AU): Standards and Guidelines
Biological Diversity (3-A) **PBMD**	Conduct "urban forestry" type treatments and prescriptions to maintain tree stand health and vigor.
Fish and Wildlife Habitat Administration (5-A) **PBMD**	Animal-resistant dumpsters are required within commercial Special Use Permit boundaries.
Developed Recreation Site Management, Public Sector (10-D) **PBMD**	Adequate personnel are present to inform visitors of rules and, when necessary, to enforce them. In conjunction with a traffic flow analysis, identify all available parking within the Pinecrest Basin. There will be no net loss of public parking spaces while maintaining natural vegetation areas. Overflow parking options will be identified and communicated to the public.
Trail Management (10-I) **PBMD**	Obvious on-site controls to guide visitors to destinations and inform visitors of rules and regulations are prevalent.
Facility Construction and Reconstruction (16-E) **PBMD**	Facilities are designed for user comfort and convenience. Future facility expansion includes planning for the expected use, more diverse activities that serve the needs of visitors, accessibility standards, and meets all building codes. Moderate to heavy site modifications are allowed for carefully designed facilities.

Map 16 Pinecrest Basin Management Zones


Pinecrest Basin Management Area
Management Zones
Administrative / Utilities
Commercial Services
Day Use
Open Space / Ecological
Potential Development
Public Camping
Recreation Residence Tract
0
0.25
0.5
Miles
STANISLAUS
NATIONAL
FOREST
EXPERIMENTAL
FOREST
Pinecrest
Stanislaus
Fork
South
Fork
Bell
Meadow
Bell
Hill
Cow
Creek
Pinecrest
Lake
Dodge
Ridge
Pinecrest
Campground
Pinecrest
Lake
Resort
Pinecrest
Trailhead
Pinecrest
Trailhead Parking
Pinecrest
Campground
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Lake
Resort
Pinecrest
Lake
Dam
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Dam
Pinecrest
Lake
Resort

Winter Sports Sites

Management Emphasis

Management emphasis for these areas is to provide developed opportunities for winter sports; provide aesthetically pleasing, well maintained, fully equipped facilities for the pleasure and safety of Forest visitors; and to protect proposed winter sports sites for future development. Developed winter sports sites include alpine and nordic ski areas containing vehicle parking areas, lodges and other support facilities, lifts, ski runs and slopes, and intermingled timber stands. This area include existing sites with recommended expansions and proposed sites.

Description

This area contains:

Existing Winter Sports Sites

Dodge Ridge

This winter sports site is located within the heavily used Pinecrest Lake/Dodge Ridge area in the central portion of the Forest. Dodge Ridge is a major alpine ski resort and the site includes areas for expansion of the existing facilities. Alpine skiing and snowboarding are the popular activities occurring within the site. Nordic skiing also occurs in many areas surrounding this site.

Bear Valley

This winter sports site is located within the heavily used Lake Alpine/Mt. Reba area in the northern portion of the Forest. Bear Valley is a major alpine ski resort and the site includes areas for expansion of the existing facilities. It borders the Mokelumne Wilderness to the north and private land at Bear Valley to the south. The resort community of Bear Valley offers a wide range of services to ski area visitors. Alpine skiing is the most popular activity at Bear Valley, with nordic skiing occurring in and around Bear Valley.

Proposed Winter Sports Sites

Bear Valley Nordic

This proposed winter sports site is located within the heavily used Lake Alpine/Mt. Reba area in the northern portion of the Forest. The area currently receives dispersed nordic skiing use originating from developed nordic facilities on private land at Bear Valley. Proposed development of this winter sports site may include trails, warming huts, a lodge and parking on National Forest lands.

Practices	General Direction	Standards and Guidelines
Range		
Allotment Management – Extensive or Maintenance (9-A-2 and 3)	In winter sports sites where allotment management plans permit grazing, the use will be managed according to the range Standards and Guidelines of the surrounding Management Area. Set allowable use levels based on the heaviest grazed or most sensitive vegetation type included in the area, such as a riparian area or ski run. Fence lodges, parking lots and other facilities as needed to minimize livestock/recreation conflicts.	

Practices	General Direction	Standards and Guidelines
Recreation		
Recreation Inventory and Planning (10-A)	Provide a safe, high quality winter sports experience.	Offer technical expertise and coordinate with County and State agencies having jurisdiction over ski lift facilities, water systems, sewage, etc.
ROS Roaded Natural (10-B-4) ROS Rural (10-B-5)	Developed winter sports sites are so large and diverse that a range of ROS classes exist. (See ROS Map I-5) Maintain recreation experience levels at the ROS class of Roaded Natural in outlying portions of the winter sports site.	Maintain lifts and other auxiliary facilities with the least impact on visitor experience. Use existing vehicle routes for permittee maintenance and administration.
Developed Recreation Site Management - Private Sector (10-E)	Work with permittees to complete master plans to designed Persons-at- One-Time (PAOT) capacity.	Prepare environmental analyses that incorporate new or revised practices that will have lesser impact on or will benefit the resources. Encourages permittees to provide barrier free access in all developments and handicapped access to scenic vistas served by lifts.
Dispersed Recreation Management (10-F)	Incorporate compatible off-season use into winter sports site master plans. Provide off-season dispersed recreation activities that have low impact on these sites. Encourage permittees to develop nordic skiing in conjunction with downhill operations.	
Restricted Motor Vehicle Travel Management (10-G-2) **MVTM**	Provide opportunities for motorized recreation compatible with Winter Sports Site values.	Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Winter Sports Site values. Limit vehicle use to roads and parking areas. Allow administrative use of OHVs and OSVs in connection with operation of the sites.
Restricted Mountain Bicycle Management (10-H-1)	Provide off-season opportunities for mountain bicycles that are compatible with winter sports values.	Confine travel to existing roads, parking areas and service routes. Close routes where impacts are unacceptable, to uses causing the damage. Close winter sports sites to all mountain bicycle use during the winter season.
Interpretive Services Planning (10-L)	Incorporate interpretive services into winter sports site master plans.	Coordinate interpretive services needs with any future development or improvements.
Interpretive Services Facilities Not On Interpretive Sites (10-N)	Install informal interpretation facilities that explain on-site features and management of winter sports sites.	Develop and maintain information and interpretation facilities at each winter sports sites.
Timber		
Special Cutting – Other (15-I)	Design special cutting methods to obtain specific winter sports site management objectives (36 CFR 219.15, 219.27(b)).	Special cutting methods will be used to salvage mortality or improve the quality of resources other than timber.
Fuelwood and Miscellaneous Forest Products (15-M)	Permit or make available fuelwood and other forest products.	Fuelwood and other forest products will be made available through sale, administrative use, and personal use where such uses do not conflict with other resource objectives.
Transportation and Facilities		
Transportation Management, Roads Subject to Highway Safety Act (16-B)	Manage traffic for safe and efficient use by unrestricted public traffic including passenger cars and permitted commercial use.	Roads subject to the Highway Safety Act are maintained at Maintenance Levels 3, 4, or 5 suitable for passenger cars. Signing standards on unrestricted roads are planned for public traffic safety and convenience. Public use is not restricted except by seasonal closures which may be imposed to protect resources.

Practices	General Direction	Standards and Guidelines
Transportation Management, Roads Excluded from the Highway Safety Act (16-C)	Manage traffic to provide for traffic safety and protect resource values on roads which are not open to unrestricted traffic and roads which are not maintained for travel by passenger car.	Traffic management is used to control types of traffic to provide for traffic safety, to protect resource values or to reduce road maintenance costs. Maintenance standards are planned primarily for resource management traffic use. Maintenance Level 2 may be used. Roads may be closed seasonally or year-round to all traffic as needed to protect wildlife or other resources.
Visual Resource		
VQO Partial Retention (17-B-3)	Provide a natural appearing forest setting within the context of developed winter sports sites.	Through the master plan process, mitigate impacts to insure optimum visual quality after construction of facilities. Model expanded lifts, runs, and other improvements with potential impacts by computer graphic simulations and field checks. Prepare vegetative management plans for these sites. Manage to a VQO of Partial Retention. This is the adopted VQO level for developed winter sports sites, as shown on the VQO Map.
VQO Modification (17-B-4)		This is an acceptable VQO, but preferably should be upgraded to Partial Retention, where physical developments allow, by applying Partial Retention Standards and Guidelines to all areas of the winter sports sites.

Developed (Non-Recreation) Sites

Management Emphasis

Management emphasis for these areas is to provide sites necessary for the administration and special uses of the National Forest. Forest resources will be managed to meet administrative objectives. Buildings and facilities will be designed to be compatible with the surrounding landscape, energy efficient, and functionally suitable for both employees and the visiting public. These areas will be managed to maintain compatibility between users and forest resources to reduce impacts on the surrounding environment. New utility sites and new uses proposed at existing sites will be evaluated individually for compatibility with the existing uses and all environmental concerns associated with the proposal.

Description

This Management Area consists of Forest Service existing and planned administrative sites including ranger stations, lookouts, warehouses and guard stations, designated electronic sites, and licensed hydro-electric project facilities.

Practices	General Direction	Standards and Guidelines
Geology And Minerals		
Saleable Mineral Materials (7-C)	Removal of common variety mineral material including sand, gravel, clay, stone for administrative purposes only.	Identify mineral material sites needed for public and National Forest purposes and rank each for development.
Range		
Allotment Management – Extensive or Maintenance (9-A-2 and 9-A-3)	Commercial livestock grazing does not occur in developed (non-recreation) sites, except as may be needed to achieve specific goals and as approved by the District Ranger. Forest Service owned stock may be grazed in administrative sites. Any livestock grazing that occurs on these sites will be managed according to the range Standards and Guidelines of the surrounding Management Area.	
Recreation		
ROS Rural (10-B-5)	Provide for moderate to high interaction between visitors with a range of Rural recreation experience.	Manage to the ROS class of Rural. This is the adopted ROS level for developed (non-recreation) sites, as shown on the ROS Map.
Restricted Motor Vehicle Travel Management (10-G-2) **MVTM**	Provide opportunities for motorized recreation compatible with Developed (Non-Recreation) Site value.	Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Developed (Non-Recreation) Site values. Limit vehicle use to roads and parking areas. Allow administrative use of OHVs and OSVs in connection with operation of the sites.
Restricted Mountain Bicycle Management (10-H-1)	Provide for mountain bicycle access in those portions of each site where public access is allowed.	Close routes, where impacts are unacceptable, to uses causing the damage.
Interpretive Services Facilities not on Interpretive Sites (10-N)	Construct interpretive facilities on certain developed (non-recreation) sites. Provide after-hours information at Supervisor's Office and all Ranger District main offices.	Blend facilities to complement the character of each site. Provide for barrier free access at all improvements.

Practices	General Direction	Standards and Guidelines
Timber		
Special Cutting - Other (15-1)	Design special cutting methods to obtain specific management objectives (36 CFR 219.15, 219.27 (b)).	Special cutting methods will be used to salvage mortality or improve the quality of resources other than the timber resources.
Fuelwood and Miscellaneous Forest Products (15-M)	Permit or make available fuelwood and other forest products.	Fuelwood and other forest products will be made available through sale, administrative use, and personal use where such uses do not conflict with other resource objectives.
Transportation and Facilities		
Transportation Management, Roads Subject to Highway Safety Act (16-B)	Manage traffic for safe and efficient use by unrestricted public traffic including passenger cars and permitted commercial use.	Roads subject to the Highway Safety Act are maintained at Maintenance Levels 3, 4, or 5, suitable for passenger cars. Signing standards on unrestricted roads are planned for public traffic safety and convenience. Public use is not restricted except by seasonal closures which may be imposed to protect resources.
Transportation Management, Roads Excluded from the Highway Safety Act (16-C)	Manage traffic to provide for traffic safety and protect resource values on roads which are not open to unrestricted traffic and roads which are not maintained for travel by passenger car.	Traffic management is used to control types of traffic to provide for traffic safety, to protect resource values or to reduce road maintenance costs. Maintenance standards are planned primarily for resource management traffic use. Maintenance Level 2 may be used. Roads may be closed seasonally or year round to all traffic as needed to protect wildlife or other resources. Road signing is planned as needed for the intended use of the road. The need for safety signing is reduced by lower design speed and traffic management.
FA&O Facilities Construct and Reconstruction (16-E)	Plan, design, inspect and construct capital improvements to support fire, administrative, and other (FA&O) multi-functional activities.	Ensure that construction is based on a thorough needs assessment. Consider energy conservation opportunities in facility design. Provide for barrier free access at all facilities.
FA&O Facility Operation and Maintenance (16-F)	Operate and maintain structures and other facilities to serve fire protection, administration and other management needs. Discourage dispersed recreation uses of sites.	Eliminate inventoried facility maintenance backlog. Retrofit all buildings for energy conservation if energy surveys indicate a favorable Savings Investment Ratio. Place highest priority on maintenance required to protect health and safety. Close utility sites to all mechanized use by the recreating public.
Visual Resource		
VQO Modification (17-B-4)	Structures may visually dominate the characteristic landscapes, but should borrow the form, line, color and texture of the natural surroundings.	Manage to the VQO of Modification. This is the adopted VQO level for developed (non-recreation) sites.

Land Allocations[1]

A network of land allocations relies on an associated set of desired conditions, management intents, and management objectives. These three elements provide direction to land managers for designing and developing fuels and vegetation management projects. In designing the strategic layout of treatments, managers ensure that treatment area patterns and prescriptions are consistent with desired conditions, management intents, and management objectives for the relevant land allocations.

Desired condition is a statement describing a common vision for a specific land area. These statements are made in the present tense indicating a condition that management will be designed to maintain or move toward in each land allocation. Statements of desired condition take into account the natural range of variability typical for the Sierra Nevada landscape, the uncertainty of natural disturbances, effects of past management, unique features or opportunities that the Sierra Nevada national forests can contribute, and human desires and uses of the land.

Wilderness and Wild and Scenic Rivers

Designation

Wilderness and Wild and Scenic River areas exist as designated by Congress.

Desired Condition

Wilderness is a unique and vital resource. It is an area where the earth and its community of life are untrammeled by humans, where humanity itself is a visitor who does not remain. It retains its primeval character and influence, without permanent improvements or human habitation. Natural conditions are protected and preserved. Consistent with the National Fire Plan's goal for restoring fire-adapted ecosystems, fire is restored as a natural process through wildland fire use. The area generally appears to have been affected primarily by the forces of nature, with the imprint of humanity's work substantially unnoticeable. It offers outstanding opportunities for solitude, or a primitive and unconfined type of recreation. Human influence does not impede or interfere with natural succession in the ecosystems.

The outstandingly remarkable values for which wild and scenic rivers have been established, are candidates for designation, or are under study, are protected and preserved for the benefit and enjoyment of present and future generations. Free-flowing conditions of wild and scenic rivers, candidate or study rivers, are preserved. Human influence may be evident, but does not interfere with, or impede the natural succession of river ecosystems.

California Spotted Owl and Northern Goshawk Protected Activity Centers

Designation (California Spotted Owl PACs)

California spotted owl protected activity centers (PACs) are delineated surrounding each territorial owl activity center detected on National Forest System lands since 1986. Owl activity centers are designated for all territorial owls based on: (1) the most recent documented nest site, (2) the most recent known roost site when a nest location remains unknown, and (3) a central point based on repeated daytime detections when neither nest or roost locations are known.

PACs are delineated to: (1) include known and suspected nest stands and (2) encompass the best available 300 acres of habitat in as compact a unit as possible. The best available habitat is selected

[1] Sierra Nevada Forest Plan Amendment, USDA Forest Service 2004. SNFPA direction does not apply within the Stanislaus-Tuolumne Experimental Forest (SNFPA ROD, p. 15)

for California spotted owl PACs to include: (1) two or more tree canopy layers; (2) trees in the dominant and co-dominant crown classes averaging 24 inches dbh or greater; (3) at least 70 percent tree canopy cover (including hardwoods); and (4) in descending order of priority, CWHR classes 6, 5D, 5M, 4D, and 4M and other stands with at least 50 percent canopy cover (including hardwoods). Aerial photography interpretation and field verification are used as needed to delineate PACs.

As additional nest location and habitat data become available, boundaries of PACs are reviewed and adjusted as necessary to better include known and suspected nest stands and encompass the best available 300 acres of habitat.

When activities are planned adjacent to non-national forest lands, available databases are checked for the presence of nearby California spotted owl activity centers on non-national forest lands. A 300-acre circular area, centered on the activity center, is delineated. Any part of the circular 300-acre area that lies on national forest lands is designated and managed as a California spotted owl PAC.

PACs are maintained regardless of California spotted owl occupancy status. However, after a stand-replacing event, evaluate habitat conditions within a 1.5-mile radius around the activity center to identify opportunities for re-mapping the PAC. If there is insufficient suitable habitat for designating a PAC within the 1.5-mile radius, the PAC may be removed from the network.

Designation (Northern Goshawk PACs)

Northern goshawk protected activity centers (PACs) are delineated surrounding all known and newly discovered breeding territories detected on National Forest System lands. Northern goshawk PACs are designated based upon the latest documented nest site and location(s) of alternate nests. If the actual nest site is not located, the PAC is designated based on the location of territorial adult birds or recently fledged juvenile goshawks during the fledgling dependency period.

PACs are delineated to: (1) include known and suspected nest stands and (2) encompass the best available 200 acres of forested habitat in the largest contiguous patches possible, based on aerial photography. Where suitable nesting habitat occurs in small patches, PACs are defined as multiple blocks in the largest best available patches within 0.5 miles of one another. Best available forested stands for PACs have the following characteristics: (1) trees in the dominant and co-dominant crown classes average 24 inches dbh or greater; (2) in westside conifer and eastside mixed conifer forest types, stands have at least 70 percent tree canopy cover; and (3) in eastside pine forest types, stands have at least 60 percent tree canopy cover. Non-forest vegetation (such as brush and meadows) should not be counted as part of the 200 acres.

As additional nest location and habitat data become available, PAC boundaries are reviewed and adjusted as necessary to better include known and suspected nest stands and to encompass the best available 200 acres of forested habitat.

When activities are planned adjacent to non-national forest lands, available databases are checked for the presence of nearby northern goshawk activity centers on non-national forest lands. A 200-acre circular area, centered on the activity center, is delineated. Any part of the circular 200-acre area that lies on national forest lands is designated and managed as a northern goshawk PAC.

PACs are maintained regardless of northern goshawk occupancy status. PACs may be removed from the network after a stand-replacing event if the habitat has been rendered unsuitable as a northern goshawk PAC and there are no opportunities for re-mapping the PAC in proximity to the affected PAC.

Desired Conditions, Intent and Objectives

Desired Conditions	Management Intent	Management Objectives
Stands in each PAC have: (1) at least two tree canopy layers; (2) dominant and co-dominant trees with average diameters of at least 24 inches dbh; (3) at least 60 to70 percent canopy cover; (4) some very large snags (greater than 45 inches dbh); and (5) snag and down woody material levels that are higher than average.	Maintain PACs so that they continue to provide habitat conditions that support successful reproduction of California spotted owls and northern goshawks.	Avoid vegetation and fuels management activities within PACs to the greatest extent feasible. Reduce hazardous fuels in PACs in defense zones when they create an unacceptable fire threat to communities. Where PACs cannot be avoided in the strategic placement of treatments, ensure effective treatment of surface, ladder, and crown fuels within treated areas. If nesting or foraging habitat in PACs is mechanically treated, mitigate by adding acreage to the PAC equivalent to the treated acreage wherever possible. Add adjacent acres of comparable quality wherever possible.

Standards and Guidelines

Within the assessment area or watershed, locate fuels treatments to minimize impacts to PACs. PACs may be re-mapped during project planning to avoid intersections with treatment areas, provided that the re-mapped PACs contain habitat of equal quality and include known nest sites and important roost sites. Document PAC adjustments in biological evaluations.

When treatment areas must intersect PACs and choices can be made about which PACs to enter, use the following criteria to preferentially avoid PACs that have the highest likely contribution to owl productivity.

- lowest contribution to productivity: PACs presently unoccupied and historically occupied by territorial singles only.
- PACs presently unoccupied and historically occupied by pairs,
- PACs presently occupied by territorial singles,
- PACs presently occupied by pairs,
- highest contribution to productivity: PACs currently or historically reproductive.

Historical occupancy is considered occupancy since 1990. Current occupancy is based on surveys consistent with survey protocol (March 1992) in the last 2-3 years prior to project planning. These dates were chosen to encompass the majority of survey efforts and to include breeding pulses in the early 1990s when many sites were found to be productive. When designing treatment unit intersections with PACs, limit treatment acres to those necessary to achieve strategic placement objectives and avoid treatments adjacent to nest stands whenever possible.

If nesting or foraging habitat in PACs is mechanically treated, mitigate by adding acreage to the PAC equivalent to the treated acres using adjacent acres of comparable quality wherever possible.

Mechanical treatments may be conducted to meet fuels objectives in protected activity centers (PACs) located in WUI defense zones. In PACs located in WUI threat zones, mechanical treatments are allowed where prescribed fire is not feasible and where avoiding PACs would significantly compromise the overall effectiveness of the landscape fire and fuels strategy. Mechanical treatments should be designed to maintain habitat structure and function of the PAC.

While mechanical treatments may be conducted in protected activity centers (PACs) located in WUI defense zones and, in some cases, threat zones, they are prohibited within a 500-foot radius buffer around a spotted owl activity center within the designated PAC. Prescribed burning is allowed within the 500-foot radius buffer. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches dbh), may be conducted prior to burning as needed to protect

important elements of owl habitat. Treatments in the remainder of the PAC use the forest-wide standards and guidelines for mechanical thinning.

In PACs located outside the WUI, limit stand-altering activities to reducing surface and ladder fuels through prescribed fire treatments. In forested stands with overstory trees 11 inches dbh and greater, design prescribed fire treatments to have an average flame length of 4 feet or less. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches dbh), may be conducted prior to burning as needed to protect important elements of owl habitat.

For California spotted owl PACs: Maintain a limited operating period (LOP), prohibiting vegetation treatments within approximately ¼ mile of the activity center during the breeding season (March 1 through August 31), unless surveys confirm that California spotted owls are not nesting. Prior to implementing activities within or adjacent to a California spotted owl PAC and the location of the nest site or activity center is uncertain, conduct surveys to establish or confirm the location of the nest or activity center.

For northern goshawk PACs: Maintain a limited operating period (LOP), prohibiting vegetation treatments within approximately ¼ mile of the nest site during the breeding season (February 15 through September 15) unless surveys confirm that northern goshawks are not nesting. If the nest stand within a protected activity center (PAC) is unknown, either apply the LOP to a ¼- mile area surrounding the PAC, or survey to determine the nest stand location.

The LOP may be waived for vegetation treatments of limited scope and duration, when a biological evaluation determines that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing and specific location. Where a biological evaluation concludes that a nest site would be shielded from planned activities by topographic features that would minimize disturbance, the LOP buffer distance may be modified.

Breeding season limited operating period restrictions may be waived, where necessary, to allow for use of early season prescribed fire in up to 5 percent of California spotted owl PACs per year on a forest.

Breeding season limited operating period restrictions may be waived, where necessary, to allow for use of early season prescribed fire in up to 5 percent of northern goshawk PACs per year on a forest.

For California spotted owl PACs: Conduct vegetation treatments in no more than 5 percent per year and 10 percent per decade of the acres in California spotted owl PACs in the 11 Sierra Nevada national forests. Monitor the number of PACs treated at a bioregional scale.

For northern goshawk PACs: Conduct mechanical treatments in no more than 5 percent per year and 10 percent per decade of the acres in northern goshawk PACs in the 11 Sierra Nevada national forests.

Mitigate impacts where there is documented evidence of disturbance to the nest site from existing recreation, off highway vehicle route, trail, and road uses (including road maintenance). Evaluate proposals for new roads, trails, off highway vehicle routes, and recreational and other developments for their potential to disturb nest sites.

Great Gray Owl Protected Activity Centers (PACs)

Designation

Protected activity centers (PACs) are established and maintained to include the forested area and adjacent meadow around all known great gray owl nest stands. The PAC encompasses at least 50 acres of the highest quality nesting habitat (CWHR types 6, 5D, and 5M) available in the forested area surrounding the nest. The PAC also includes the meadow or meadow complex that supports the prey base for nesting owls.

Desired Conditions

Meadow vegetation in great gray owl PACs supports a sufficiently large meadow vole population to provide a food source for great gray owls through the reproductive period.

Standards and Guidelines

Apply a limited operating period, prohibiting vegetation treatments and road construction within ¼ mile of an active great gray owl nest stand, during the nesting period (typically March 1 to August 15). The LOP may be waived for vegetation treatments of limited scope and duration, when a biological evaluation determines that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing and specific location. Where a biological evaluation concludes that a nest site would be shielded from planned activities by topographic features that would minimize disturbance, the LOP buffer distance may be reduced.

In meadow areas of great gray owl PACs, maintain herbaceous vegetation at a height commensurate with site capability and habitat needs of prey species. Follow regional guidance to determine potential prey species and associated habitat requirements at the project level.

Forest Carnivore Den Site Buffers

Designation

Fisher den sites are 700-acre buffers consisting of the highest quality habitat (CWHR size class 4 or greater and canopy cover greater than 60 percent) in a compact arrangement surrounding verified fisher birthing and kit rearing dens in the largest, most contiguous blocks available.

Marten den sites are 100-acre buffers consisting of the highest quality habitat in a compact arrangement surrounding the den site. CWHR types 6, 5D, 5M, 4D, and 4M in descending order of priority, based on availability, provide highest quality habitat for the marten.

Desired Conditions

Areas surrounding fisher den sites include at least two large (greater than 40 inches dbh) conifers per acre, and one or more oaks (greater than 20 inches dbh) per acre with suitable denning cavities. Canopy closure exceeds 80 percent.

Areas surrounding marten den sites have (1) at least two conifers per acre greater than 24 inches dbh with suitable denning cavities, (2) canopy closures exceeding 60 percent, (3) more than 10 tons per acre of coarse woody debris in decay classes 1 and 2, and (4) an average of 6 snags per acre on the westside and 3 per acre on the eastside.

Standards and Guidelines

Fisher Den Sites

Protect fisher den site buffers from disturbance with a limited operating period (LOP) from March 1 through June 30 for vegetation treatments as long as habitat remains suitable or until another

Regionally-approved management strategy is implemented. The LOP may be waived for individual projects of limited scope and duration, when a biological evaluation documents that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing, and specific location.

Avoid fuel treatments in fisher den site buffers to the extent possible. If areas within den site buffers must be treated to achieve fuels objectives for the urban wildland intermix zone, limit treatments to mechanical clearing of fuels. Treat ladder and surface fuels to achieve fuels objectives. Use piling or mastication to treat surface fuels during initial treatment. Burning of piled debris is allowed. Prescribed fire may be used to treat fuels if no other reasonable alternative exists.

Mitigate impacts where documented evidence of disturbance to the den site from existing recreation, off highway vehicle route, trail, and road uses (including road maintenance). Evaluate proposals for new roads, trails, off highway vehicle routes, and recreation and other developments for their potential to disturb dens.

Marten Den Sites

Protect marten den site buffers from disturbance from vegetation treatments with a limited operating period (LOP) from May 1 through July 31 as long as habitat remains suitable or until another Regionally-approved management strategy is implemented. The LOP may be waived for individual projects of limited scope and duration, when a biological evaluation documents that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing, and specific location.

Mitigate impacts where there is documented evidence of disturbance to the den site from existing recreation, off highway vehicle route, trail, and road uses (including road maintenance). Evaluate proposals for new roads, trails, off highway vehicle routes, and recreational and other developments for their potential to disturb den sites.

California Spotted Owl Home Range Core Areas (HRCAs)

Designation

A home range core area is established surrounding each territorial spotted owl activity center detected after 1986. The core area amounts to 20 percent of the area described by the sum of the average breeding pair home range plus one standard error. Home range core area sizes are as follows: 2,400 acres on the Hat Creek and Eagle Lake Ranger Districts of the Lassen National Forest, 1,000 acres on the Modoc, Inyo, Humboldt-Toiyabe, Plumas, Tahoe, Eldorado, Lake Tahoe Basin Management Unit and Stanislaus National Forests and on the Almanor Ranger District of Lassen National Forest, and 600 acres of the Sequoia and Sierra National Forests.

Aerial photography is used to delineate the core area. Acreage for the entire core area is identified on national forest lands. Core areas encompass the best available California spotted owl habitat in the closest proximity to the owl activity center. The best available contiguous habitat is selected to incorporate, in descending order of priority, CWHR classes 6, 5D, 5M, 4D and 4M and other stands with at least 50 percent tree canopy cover (including hardwoods). The acreage in the 300-acre PAC counts toward the total home range core area. Core areas are delineated within 1.5 miles of the activity center.

When activities are planned adjacent to non-national forest lands, circular core areas are delineated around California spotted owl activity centers on non-national forest lands. Using the best available habitat as described above, any part of the circular core area that lies on national forest lands is designated and managed as a California spotted owl home range core area.

Desired Conditions, Intent and Objectives

Desired Conditions	Management Intent	Management Objectives
HRCAs consist of large habitat blocks that have: (1) at least two tree canopy layers; (2) at least 24 inches dbh in dominant and co-dominant trees; (3) a number of very large (greater than 45 inches dbh) old trees; (4) at least 50 to 70 percent canopy cover; and (5) higher than average levels of snags and down woody material.	Treat fuels using a landscape approach for strategically placing area treatments to modify fire behavior. Retain existing suitable habitat, recognizing that habitat within treated areas may be modified to meet fuels objectives. Accelerate development of currently unsuitable habitat (in non-habitat inclusions, such as plantations) into suitable condition. Arrange treatment patterns and design treatment prescriptions to avoid the highest quality habitat (CWHR types 5M, 5D, and 6) wherever possible	Establish and maintain a pattern of fuels treatments that is effective in modifying wildfire behavior. Design treatments in HRCAs to be economically efficient and to promote forest health where consistent with habitat objectives.

Wildland Urban Intermix: Defense Zones

Designation

The wildland urban intermix zone (WUI) is an area where human habitation is mixed with areas of flammable wildland vegetation. It extends out from the edge of developed private land into Federal, private, and State jurisdictions. The WUI is comprised of two zones: the defense zone and the threat zone.

The WUI defense zone is the buffer in closest proximity to communities, areas with higher densities of residences, commercial buildings, and/or administrative sites with facilities. Defense zones generally extend roughly ¼ mile out from these areas; however, actual defense zone boundaries are determined at the project level following national, regional and forest policy. In particular, the Healthy Forest Restoration Act of 2003 identifies areas to be included in the WUI. Local fire management specialists determine the extent, treatment orientation, and prescriptions for the WUI based on historical fire spread and intensity, historical weather patterns, topography, access. Defense zones should be of sufficient extent that fuel treatments within them will reduce wildland fire spread and intensity sufficiently for suppression forces to succeed in protecting human life and property.

Desired Conditions, Intent and Objectives

Desired Conditions	Management Intent	Management Objectives
Stands are fairly open and dominated primarily by larger, fire tolerant trees. Surface and ladder fuel conditions are such that crown fire ignition is highly unlikely. The openness and discontinuity of crown fuels, both horizontally and vertically, result in very low probability of sustained crown fire.	Protect communities from wildfire and prevent the loss of life and property. WUI defense zones have highest priority for treatment (along with threat zones). The highest density and intensity of treatments are located within the WUI.	Create defensible space near communities, and provide a safe and effective area for suppressing fire. Design economically efficient treatments to reduce hazardous fuels.

Wildland Urban Intermix: Threat Zones

Designation

The WUI threat zone typically buffers the defense zone; however, a threat zone may be delineated in the absence of a defense zone under certain conditions, including situations where the structure density and location do not provide a reasonable opportunity for direct suppression on public land, but suppression on the private land would be enhanced by fire behavior modification on the adjacent public land.

Threat zone boundaries are determined at the project level following national, regional and forest policy. Threat zones generally extend approximately 1¼ miles out from the defense zone boundary; however, actual extents of threat zones are based on fire history, local fuel conditions, weather, topography, existing and proposed fuel treatments, and natural barriers to fire. Fuels treatments in these zones are designed to reduce wildfire spread and intensity. Strategic landscape features, such as roads, changes in fuels types, and topography may be used in delineating the physical boundary of the threat zone.

Desired Conditions, Intent and Objectives

Desired Conditions	Management Intent	Management Objectives
Under high fire weather conditions, wildland fire behavior in treated areas within the threat zone is characterized as follows: (1) flame lengths at the head of the fire are less than 4 feet; (2) the rate of spread at the head of the fire is reduced to at least 50 percent of pre-treatment levels; (3) hazards to firefighters are reduced by managing snag levels in locations likely to be used for control of prescribed fire and fire suppression consistent with safe practices guidelines; (4) production rates for fire line construction are doubled from pre-treatment levels; and (5) tree density has been reduced to a level consistent with the site's ability to sustain forest health during drought conditions.	Threat zones are priority area for fuels treatments. ▪ Fuels treatments in the threat zone provide a buffer between developed areas and wildlands. ▪ Fuels treatments protect human communities from wildland fires as well as minimize the spread of fires that might originate in urban areas. ▪ The highest density and intensity of treatments are located within the WUI.	Establish and maintain a pattern of area treatments that is effective in modifying wildfire behavior. Design economically efficient treatments to reduce hazardous fuels.

Old Forest Emphasis Areas

Designation

Old forest emphasis areas are a mapped land allocation. Minor adjustments are allowed to correct the boundaries of old forest emphasis areas.

Desired Conditions, Intent and Objectives

Desired Conditions	Management Intent	Management Objectives
Forest structure and function across old forest emphasis areas generally resemble pre-settlement conditions. High levels of horizontal and vertical diversity exist at the landscape-scale (roughly 10,000 acres). Stands are composed of roughly even-aged vegetation groups, varying in size, species composition, and structure. Individual vegetation groups range from less than 0.5 to more than 5 acres in size. Tree sizes range from seedlings to very large diameter trees. Species composition varies by elevation, site productivity, and related environmental factors. Multi-tiered canopies, particularly in older forests, provide vertical heterogeneity. Dead trees, both standing and fallen, meet habitat needs of old-forest-associated species. Where possible, areas treated to reduce fuel levels also provide for the successful establishment of early seral stage vegetation.	Maintain or develop old forest habitat in: ▪ areas containing the best remaining large blocks or landscape concentrations of old forest and/or ▪ areas that provide old forest functions (such as connectivity of habitat over a range of elevations to allow migration of wide-ranging old-forest-associated species). Establish and maintain a pattern of area treatments that is effective in: ▪ modifying fire behavior. ▪ culturing stand structure and composition to generally resemble pre-settlement conditions. ▪ reducing susceptibility to insect/pathogen drought-related tree mortality. Focus management activities on the short-term goal of reducing the adverse effects of wildfire. Acknowledge the need for a longer-term strategy to restore both the structure and processes of these ecosystems.	Establish and maintain a pattern of area treatments that is effective in modifying wildfire behavior. Maintain and/or establish appropriate species composition and size classes. Reduce the risk of insect/pathogen drought-related mortality by managing stand density levels. Design economically efficient treatments to reduce hazardous fuels.

General Forest

Designation

The general forest is a mapped land allocation. Minor adjustments are allowed to correct the boundaries of the general forest allocation.

Desired Conditions, Intent and Objectives

Desired Conditions	Management Intent	Management Objectives
Same as Old Forest Emphasis Areas	Actively manage general forest areas to maintain, and enhance a variety of vegetative conditions. Strategically place fuels treatments to modify wildfire behavior. Reduce hazardous fuels in key areas to lessen the threat of high severity fire.	Establish and maintain a pattern of area treatments that is effective in modifying wildfire behavior. Reduce the risk of insect/pathogen drought-related mortality by managing stand density levels. Design economically efficient treatments to reduce hazardous fuels.

Riparian Conservation Areas

Designation

Riparian Conservation Area (RCA) widths are described below. RCA widths may be adjusted at the project level if a landscape analysis has been completed and a site-specific Riparian Conservation Objectives (RCO) analysis demonstrates a need for different widths.

Perennial Streams: 300 feet on each side of the stream, measured from the bank full edge of the stream.

Seasonally Flowing Streams (includes intermittent and ephemeral streams): 150 feet on each side of the stream, measured from the bank full edge of the stream.

Streams in Inner Gorge[1]: top of inner gorge.

Special Aquatic Features[2] **or Perennial Streams with Riparian Conditions extending more than 150 feet from edge of streambank or Seasonally Flowing streams with riparian conditions extending more than 50 feet from edge of streambank**: 300 feet from edge of feature or riparian vegetation, whichever width is greater.

Other hydrological or topographic depressions without a defined channel: RCA width and protection measures determined through project level analysis.

Desired Conditions

Water quality meets the goals of the Clean Water Act and Safe Drinking Water Act; it is fishable, swimmable, and suitable for drinking after normal treatment.

Habitat supports viable populations of native and desired non-native plant, invertebrate, and vertebrate riparian and aquatic-dependent species. New introductions of invasive species are prevented. Where invasive species are adversely affecting the viability of native species, the appropriate State and Federal wildlife agencies have reduced impacts to native populations.

Species composition and structural diversity of plant and animal communities in riparian areas, wetlands, and meadows provide desired habitat conditions and ecological functions.

[1] Inner gorge is defined by stream adjacent slopes greater than 70 percent gradient
[2] Special Aquatic Features include: lakes, wet meadows, bogs, fens, wetlands, vernal pools, and springs

The distribution and health of biotic communities in special aquatic habitats (such as springs, seeps, vernal pools, fens, bogs, and marshes) perpetuates their unique functions and biological diversity.

Spatial and temporal connectivity for riparian and aquatic-dependent species within and between watersheds provides physically, chemically and biologically unobstructed movement for their survival, migration and reproduction.

The connections of floodplains, channels, and water tables distribute flood flows and sustain diverse habitats.

Soils with favorable infiltration characteristics and diverse vegetative cover absorb and filter precipitation and sustain favorable conditions of stream flows.

In-stream flows are sufficient to sustain desired conditions of riparian, aquatic, wetland, and meadow habitats and keep sediment regimes as close as possible to those with which aquatic and riparian biota evolved.

The physical structure and condition of stream banks and shorelines minimizes erosion and sustains desired habitat diversity.

The ecological status of meadow vegetation is late seral (50 percent or more of the relative cover of the herbaceous layer is late seral with high similarity to the potential natural community). A diversity of age classes of hardwood shrubs is present and regeneration is occurring.

Meadows are hydrologically functional. Sites of accelerated erosion, such as gullies and headcuts are stabilized or recovering. Vegetation roots occur throughout the available soil profile. Meadows with perennial and intermittent streams have the following characteristics: (1) stream energy from high flows is dissipated, reducing erosion and improving water quality, (2) streams filter sediment and capture bedload, aiding floodplain development, (3) meadow conditions enhance floodwater retention and groundwater recharge, and (4) root masses stabilize stream banks against cutting action.

Standards and Guidelines

Designate riparian conservation area (RCA) widths as described above. The RCA widths displayed may be adjusted at the project level if a landscape analysis has been completed and a site-specific RCO analysis demonstrates a need for different widths.

Evaluate new proposed management activities within CARs and RCAs during environmental analysis to determine consistency with the riparian conservation objectives at the project level and the AMS goals for the landscape. Ensure that appropriate mitigation measures are enacted to (1) minimize the risk of activity-related sediment entering aquatic systems and (2) minimize impacts to habitat for aquatic- or riparian-dependent plant and animal species.

Identify existing uses and activities in CARs and RCAs during landscape analysis. At the time of permit reissuance, evaluate and consider actions needed for consistency with RCOs.

As part of project-level analysis, conduct peer reviews for projects that propose ground-disturbing activities in more than 25 percent of the RCA or more than 15 percent of a CAR.

RCO	Standards and Guidelines
Riparian Conservation Objective 1: Ensure that identified beneficial uses for the water body are adequately protected. Identify the specific beneficial uses for the project area, water quality goals from the Regional Basin Plan, and the manner in which the standards and guidelines will protect the beneficial uses.	For waters designated as "Water Quality Limited" (Clean Water Act Section 303(d)), participate in the development of Total Maximum Daily Loads (TMDLs) and TMDL Implementation Plans. Execute applicable elements of completed TMDL Implementation Plans. Ensure that management activities do not adversely affect water temperatures necessary for local aquatic- and riparian-dependent species assemblages. Limit pesticide applications to cases where project level analysis indicates that pesticide applications are consistent with riparian conservation objectives. Within 500 feet of known occupied sites for the California red-legged frog, Cascades frog, Yosemite toad, foothill yellow-legged frog, mountain yellow-legged frog, and northern leopard frog, design pesticide applications to avoid adverse effects to individuals and their habitats. Prohibit storage of fuels and other toxic materials within RCAs and CARs except at designated administrative sites and sites covered by a Special Use Authorization. Prohibit refueling within RCAs and CARs unless there are no other alternatives. Ensure that spill plans are reviewed and up-to-date.
Riparian Conservation Objective 2: Maintain or restore: (1) the geomorphic and biological characteristics of special aquatic features, including lakes, meadows, bogs, fens, wetlands, vernal pools, springs; (2) streams, including in stream flows; and (3) hydrologic connectivity both within and between watersheds to provide for the habitat needs of aquatic-dependent species.	Maintain and restore the hydrologic connectivity of streams, meadows, wetlands, and other special aquatic features by identifying roads and trails that intercept, divert, or disrupt natural surface and subsurface water flow paths. Implement corrective actions where necessary to restore connectivity. Ensure that culverts or other stream crossings do not create barriers to upstream or downstream passage for aquatic-dependent species. Locate water drafting sites to avoid adverse effects to in stream flows and depletion of pool habitat. Where possible, maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows, wetlands, and other special aquatic features. Prior to activities that could adversely affect streams, determine if relevant stream characteristics are within the range of natural variability. If characteristics are outside the range of natural variability, implement mitigation measures and short-term restoration actions needed to prevent further declines or cause an upward trend in conditions. Evaluate required long-term restoration actions and implement them according to their status among other restoration needs. Prevent disturbance to streambanks and natural lake and pond shorelines caused by resource activities (for example, livestock, off-highway vehicles, and dispersed recreation) from exceeding 20 percent of stream reach or 20 percent of natural lake and pond shorelines. Disturbance includes bank sloughing, chiseling, trampling, and other means of exposing bare soil or cutting plant roots. This standard does not apply to developed recreation sites, sites authorized under Special Use Permits and designated off-highway vehicle routes. In stream reaches occupied by, or identified as "essential habitat" in the conservation assessment for, the Lahonton and Paiute cutthroat trout and the Little Kern golden trout, limit streambank disturbance from livestock to 10 percent of the occupied or "essential habitat" stream reach. Cooperate with State and Federal agencies to develop streambank disturbance standards for threatened, endangered, and sensitive species. Use the regional streambank assessment protocol. Implement corrective action where disturbance limits have been exceeded. At either the landscape or project-scale, determine if the age class, structural diversity, composition, and cover of riparian vegetation are within the range of natural variability for the vegetative community. If conditions are outside the range of natural variability, consider implementing mitigation and/or restoration actions that will result in an upward trend. Actions could include restoration of aspen or other riparian vegetation where conifer encroachment is identified as a problem. Cooperate with Federal, Tribal, State and local governments to secure in stream flows needed to maintain, recover, and restore riparian resources, channel conditions, and aquatic habitat. Maintain in stream flows to protect aquatic systems to which species are uniquely adapted. Minimize the effects of stream diversions or other flow modifications from hydroelectric projects on threatened, endangered, and sensitive species. For exempt hydroelectric facilities on national forest lands, ensure that special use permit language provides adequate in stream flow requirements to maintain, restore, or recover favorable ecological conditions for local riparian- and aquatic-dependent species.

RCO	Standards and Guidelines
Riparian Conservation Objective 3: Ensure a renewable supply of large down logs that: (1) can reach the stream channel and (2) provide suitable habitat within and adjacent to the RCA.	Determine if the level of coarse large woody debris (CWD) is within the range of natural variability in terms of frequency and distribution and is sufficient to sustain stream channel physical complexity and stability. Ensure proposed management activities move conditions toward the range of natural variability.
Riparian Conservation Objective 4: Ensure that management activities, including fuels reduction actions, within RCAs and CARs enhance or maintain physical and biological characteristics associated with aquatic- and riparian-dependent species.	Within CARs, in occupied habitat or "essential habitat" as identified in conservation assessments for threatened, endangered, or sensitive species, evaluate the appropriate role, timing, and extent of prescribed fire. Avoid direct lighting within riparian vegetation; prescribed fires may back into riparian vegetation areas. Develop mitigation measures to avoid impacts to these species whenever ground-disturbing equipment is used. Use screening devices for water drafting pumps. (Fire suppression activities are exempt during initial attack.) Use pumps with low entry velocity to minimize removal of aquatic species, including juvenile fish, amphibian egg masses and tadpoles, from aquatic habitats. Design prescribed fire treatments to minimize disturbance of ground cover and riparian vegetation in RCAs. In burn plans for project areas that include, or are adjacent to RCAs, identify mitigation measures to minimize the spread of fire into riparian vegetation. In determining which mitigation measures to adopt, weigh the potential harm of mitigation measures, for example fire lines, against the risks and benefits of prescribed fire entering riparian vegetation. Strategies should recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management actions could be damaging to habitat or long-term function of the riparian community. Post-wildfire management activities in RCAs and CARs should emphasize enhancing native vegetation cover, stabilizing channels by non-structural means, minimizing adverse effects from the existing road network, and carrying out activities identified in landscape analyses. Post-wildfire operations shall minimize the exposure of bare soil. Allow hazard tree removal within RCAs or CARs. Allow mechanical ground disturbing fuels treatments, salvage harvest, or commercial fuelwood cutting within RCAs or CARs when the activity is consistent with RCOs. Utilize low ground pressure equipment, helicopters, over the snow logging, or other non-ground disturbing actions to operate off of existing roads when needed to achieve RCOs. Ensure that existing roads, landings, and skid trails meet Best Management Practices. Minimize the construction of new skid trails or roads for access into RCAs for fuel treatments, salvage harvest, commercial fuelwood cutting, or hazard tree removal. As appropriate, assess and document aquatic conditions following the Regional Stream Condition Inventory protocol prior to implementing ground disturbing activities within suitable habitat for California red-legged frog, Cascades frog, Yosemite toad, foothill and mountain yellow-legged frogs, and northern leopard frog. During fire suppression activities, consider impacts to aquatic- and riparian-dependent resources. Where possible, locate incident bases, camps, helibases, staging areas, helispots, and other centers for incident activities outside of RCAs or CARs. During pre-suppression planning, determine guidelines for suppression activities, including avoidance of potential adverse effects to aquatic- and riparian-dependent species as a goal. Identify roads, trails, OHV trails and staging areas, developed recreation sites, dispersed campgrounds, special use permits, grazing permits, and day use sites during landscape analysis. Identify conditions that degrade water quality or habitat for aquatic and riparian-dependent species. At the project level, evaluate and consider actions to ensure consistency with standards and guidelines or desired conditions.

RCO	Standards and Guidelines
Riparian Conservation Objective 5: Preserve, restore, or enhance special aquatic features, such as meadows, lakes, ponds, bogs, fens, and wetlands, to provide the ecological conditions and processes needed to recover or enhance the viability of species that rely on these areas.	Assess the hydrologic function of meadow habitats and other special aquatic features during range management analysis. Ensure that characteristics of special features are, at a minimum, at Proper Functioning Condition, as defined in the appropriate Technical Reports (or their successor publications): (1) "Process for Assessing PFC" TR 1737-9 (1993), "PFC for Lotic Areas" USDI TR 1737-15 (1998) or (2) "PFC for Lentic Riparian-Wetland Areas" USDI TR 1737-11 (1994). Prohibit or mitigate ground-disturbing activities that adversely affect hydrologic processes that maintain water flow, water quality, or water temperature critical to sustaining bog and fen ecosystems and plant species that depend on these ecosystems. During project analysis, survey, map, and develop measures to protect bogs and fens from such activities as trampling by livestock, pack stock, humans, and wheeled vehicles. Criteria for defining bogs and fens include, but are not limited to, presence of: (1) sphagnum moss (Spagnum spp.), (2) mosses belonging to the genus Meessia, and (3) sundew (Drosera spp.) Complete initial plant inventories of bogs and fens within active grazing allotments prior to re-issuing permits. Locate new facilities for gathering livestock and pack stock outside of meadows and riparian conservation areas. During project-level planning, evaluate and consider relocating existing livestock facilities outside of meadows and riparian areas. Prior to re-issuing grazing permits, assess the compatibility of livestock management facilities located in riparian conservation areas with riparian conservation objectives. Under season-long grazing: ▪ For meadows in early seral status: limit livestock utilization of grass and grass-like plants to 30 percent (or minimum 6-inch stubble height). ▪ For meadows in late seral status: limit livestock utilization of grass and grass-like plants to a maximum of 40 percent (or minimum 4-inch stubble height). Determine ecological status on all key areas monitored for grazing utilization prior to establishing utilization levels. Use Regional ecological scorecards and range plant list in regional range handbooks to determine ecological status. Analyze meadow ecological status every 3 to 5 years. If meadow ecological status is determined to be moving in a downward trend, modify or suspend grazing. Include ecological status data in a spatially explicit Geographical Information System database. Under intensive grazing systems (such as rest-rotation and deferred rotation) where meadows are receiving a period of rest, utilization levels can be higher than the levels described above if the meadow is maintained in late seral status and meadow-associated species are not being impacted. Degraded meadows (such as those in early seral status with greater than 10 percent of the meadow area in bare soil and active erosion) require total rest from grazing until they have recovered and have moved to mid- or late seral status. Limit browsing to no more than 20 percent of the annual leader growth of mature riparian shrubs and no more than 20 percent of individual seedlings. Remove livestock from any area of an allotment when browsing indicates a change in livestock preference from grazing herbaceous vegetation to browsing woody riparian vegetation.
Riparian Conservation Objective 6: Identify and implement restoration actions to maintain, restore or enhance water quality and maintain, restore, or enhance habitat for riparian and aquatic species.	Recommend restoration practices in: (1) areas with compaction in excess of soil quality standards, (2) areas with lowered water tables, or (3) areas that are either actively down cutting or that have historic gullies. Identify other management practices, for example, road building, recreational use, grazing, and timber harvests that may be contributing to the observed degradation.

Critical Aquatic Refuges

Designation

Critical aquatic refuges (CARs) are subwatersheds, generally ranging between 10,000 to 40,000 acres, with some as small 500 acres and some as large as 100,000 acres, that contain either:

- known locations of threatened, endangered, or sensitive species,
- highly vulnerable populations of native plant or animal species, or
- localized populations of rare native aquatic- or riparian-dependent plant or animal species.

Critical aquatic refuges are shown on maps in Volume 4, Appendix I of the SNFPA FEIS (January 2001), beginning on page I-53. The boundaries of CARs may be refined during landscape analysis based on the findings from conservation assessments or verification of the presence and condition of habitat for threatened, endangered, and sensitive species. Additional CARs may be added by individual national forests.

Desired Conditions

Critical aquatic refuges provide habitat for native fish, amphibian and aquatic invertebrate populations. Remnant plant and animal populations in aquatic communities are maintained and restored.

Streams in meadows, lower elevation grasslands, and hardwood ecosystems have vegetation and channel bank conditions that approach historic potential.

Water quality meets State stream standards.

Standards and Guidelines

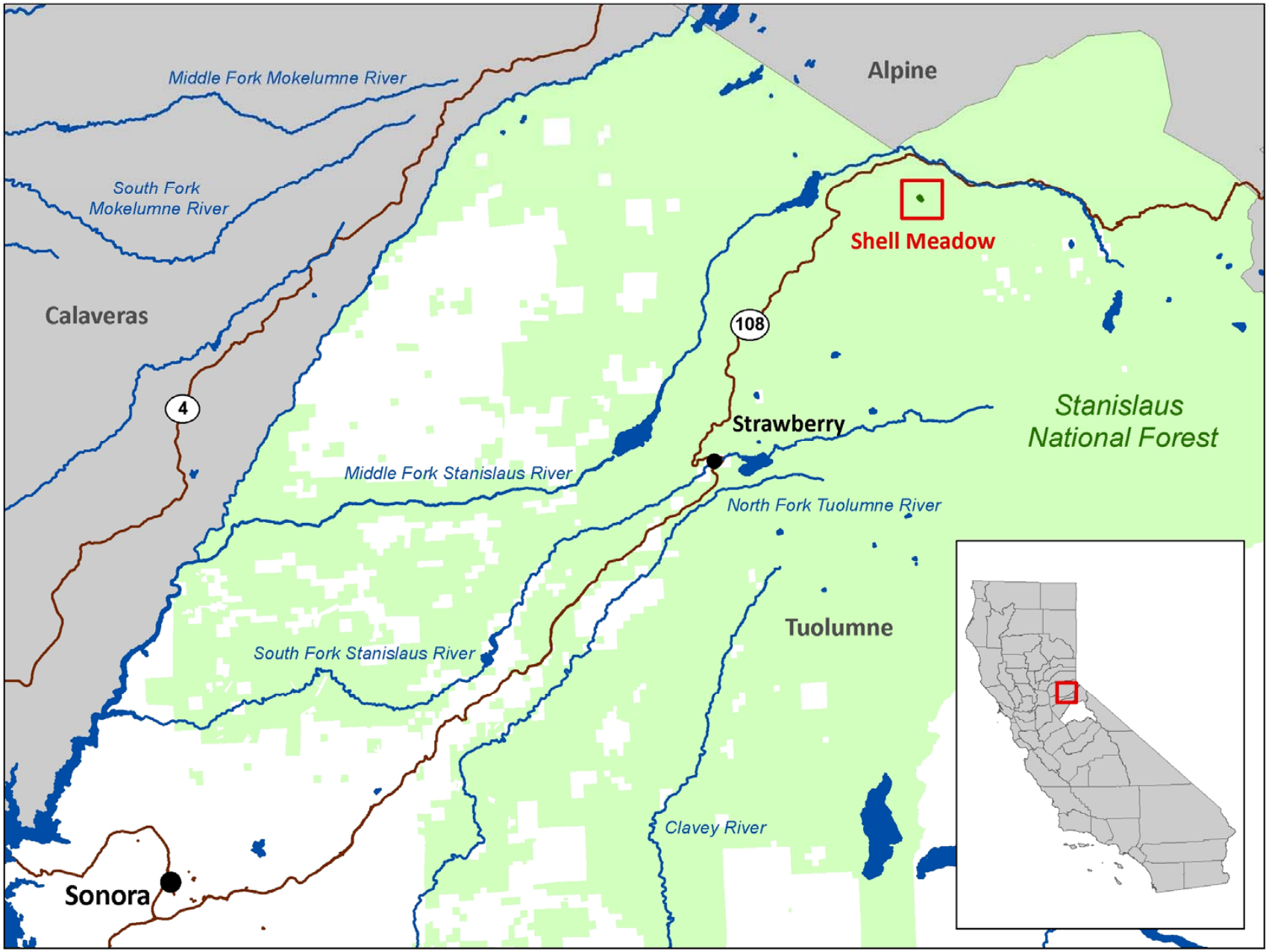
Same as for Riparian Conservation Areas.

In addition:

Determine which critical aquatic refuges or areas within critical aquatic refuges are suitable for mineral withdrawal. Propose these areas for withdrawal from location and entry under U.S. mining laws, subject to valid existing rights, for a term of 20 years.

Approve mining-related plans of operation if measures are implemented that contribute toward the attainment or maintenance of aquatic management strategy goals.

Project Location Map

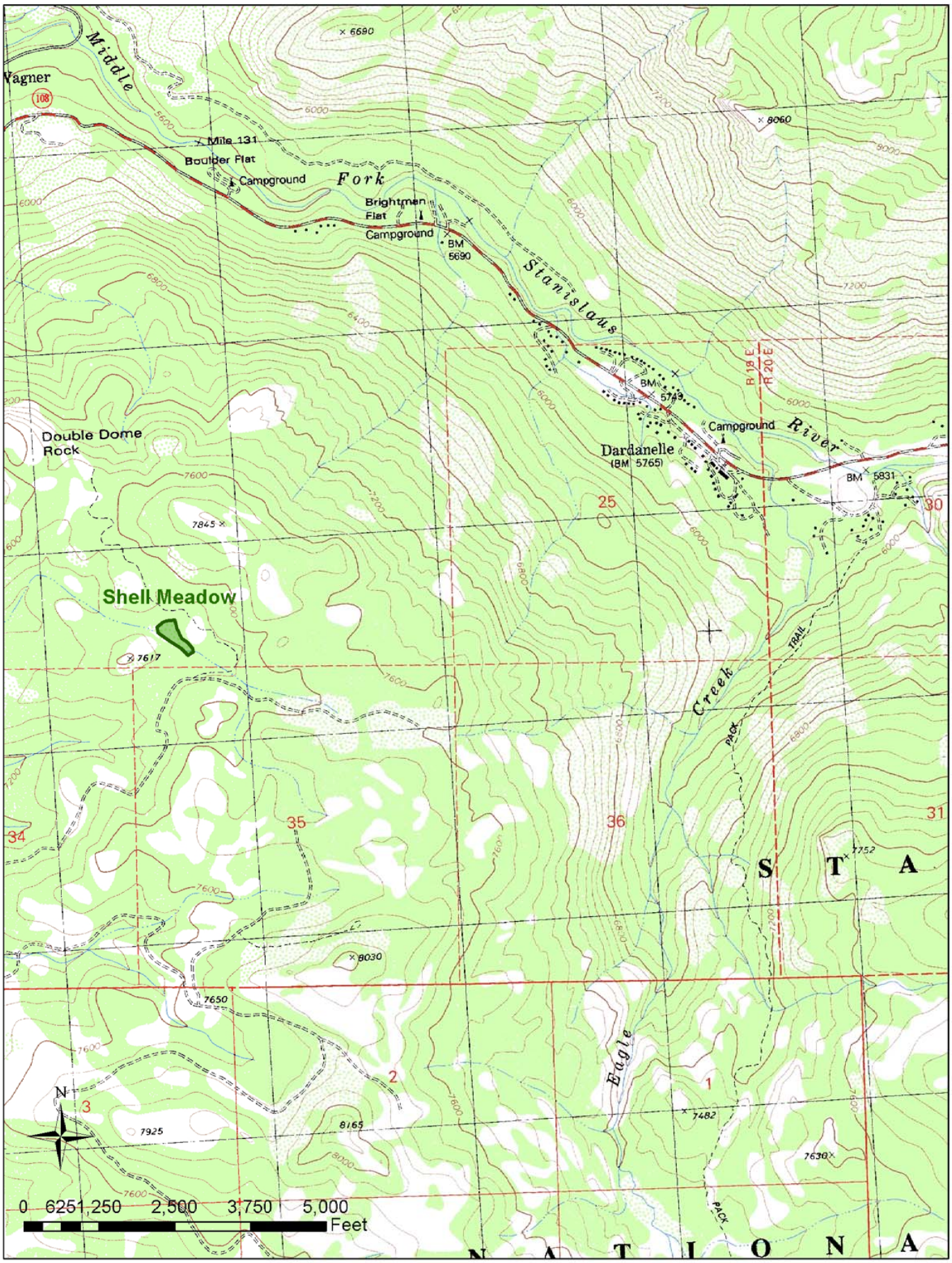


Parcel Map Replacement

As this project is located on US Forest Service lands, there are no parcel numbers associated with the site. Thus, we have provided a map showing the outline of the project area and its location instead.

Site Map
(Replacement for Parcel Map)

Topographic Map



Photos of the Project Site

Photos of the Project Site