

**STATE OF CALIFORNIA
SIERRA NEVADA CONSERVANCY**

**Sierra Nevada Conservancy Grant Program
Safe Drinking Water, Water Quality and Supply, Flood Control,
River and Coastal Protection Bond Act of 2006 (Proposition 84)**

Applicant: Sierra Institute for Community and Environment

Project Title: Plumas Community Energy Wood Processing Facility

Subregion: North Central

County: Plumas

SNC Funding: \$350,000.00

Total Project Cost: \$350,000.00

Application Number: 780

Final Score: 85

PROJECT SCOPE

The project will implement a wood processing facility that will convert forest biomass into conditioned wood chip fuel for boilers in Plumas County. This support will allow Sierra Institute, in partnership with Wisewood, Inc., to launch the implementation of a central facility that will enable the rapid development and implementation of a larger woody renewables boiler network. The construction of the wood processing facility will include all components needed to create woodchip fuel to serve multiple institutional boiler systems, including: raw material receiving and storage, chipping, screening, conditioned fuel storage, and loading for distribution. The facility will also be designed to accommodate the future construction of a 3mw combined heat and power biomass facility on-site.

Deliverables for this grant include: site preparation, excavation and concrete work, construction of a building to store processed chips, and purchase and installation of the necessary mechanical equipment (a metering hopper, a "wood hog" chipper, a chip screen, storage bins, a conveyor system, and conveyor motors) to process the chips. Grant funds will also be used to pay for all engineering and labor costs to construct and install equipment.

The Sierra Institute's forest biomass project will reduce the use of high cost fossil fuels at public institutions and lower the risk of catastrophic wildfire by integrating the use of woody biomass from thinning and hazard fuel reduction projects in the surrounding forests to heat existing public buildings and facilities. Additional outcomes of the project include the creation of local jobs and reduced greenhouse gas emissions from the controlled combustion of woodchips in local boilers. Operation of this facility will help

facilitate sustainable forest fuel management projects, thereby resulting in improved health of forests and wildlife habitat, plus improved security of transmission lines and hydroelectric facilities in the forest. By developing a wood processing facility linked to a network of boilers fueled by wood chips, the project will directly facilitate fuels reduction and forest stand improvement treatment of approximately 200-acres per year.

PROJECT SCHEDULE

DETAILED PROJECT DELIVERABLES	TIMELINE
Permitting	June 30 – August 30, 2014
Site Preparation and Construction	June 30 – August 30, 2014
Mechanical and Electrical Installation	July 15, 2014 – April 30, 2015
Six Month Progress Report	December 30, 2014
Chip Stock-Piling Onsite	July 1, 2014 – April 30, 2015
Chip Processing and Delivery begins	April 2015
Six Month Progress Report (Final)	June 30, 2015
FINAL PAYMENT/FINAL PAYMENT REQUEST	August 30, 2015

PROJECT COSTS

PROJECT BUDGET CATEGORIES	TOTAL SNC FUNDING
Direct*	
Permitting, construction, stock-piling	\$333,000.00
Indirect**	\$ 0.00
Administrative***	\$17,000.00
GRAND TOTAL	\$350,000.00

* Direct: Direct costs are expenses necessary to acquire, construct, or to adapt property to a new or different use, or to improve property including land, buildings and equipment. The property/expense must have a useful life longer than one year.

** Indirect: Expenses involve ongoing operations, repair or maintenance costs, regardless of whether the repair or maintenance may last more than one year.

*** Administrative: Expenses associated with the administration of a project and may not exceed 15 percent of the total SNC grant request for direct and indirect costs.

PROJECT LETTERS SUPPORT/OPPOSITION

- Support
 - Plumas County Planning Department
 - Plumas County Office of Education
 - Forest Supervisor, Plumas National Forest
 - Eastern Plumas Health Care
 - Plumas County Fire Safe Council
 - Kelly Holt, Diversified Resources

PROJECT PERFORMANCE MEASURES

There are four Performance Measures common to all grants. In addition, grantees are required to include between one and three project-specific measures. Performance Measures listed here represent those proposed by applicants and may be modified through further discussion with SNC staff.

- Kilowatts of Renewable Energy Production Capacity Maintained or Created
- Number and Type of Jobs Created

Notice of Exemption

Appendix E

To: Office of Planning and Research
PO Box 3044, 1400 Tenth Street, Room 212
Sacramento, CA 95812-3044

From: (Public Agency) Sierra Nevada Conservancy
11521 Blocker Drive, Suite 205
Auburn, CA 95603

Project Title: Plumas Community Energy Wood Processing Facility Project (SNC 780)

Project Location – Specific:

The project is comprised of four (4) parcels located at 15690 Highway 89 in the City of Crescent Mills in Plumas County, California. The site is located approximately 0.7 miles east of the Highway 89/Carter Street intersection, approximately four miles northeast of Indian Falls and approximately 3.6 miles southeast of Greenville, California.

Project Location – City: Crescent Mills

Project Location – County: Plumas

Description of Nature, Purpose and Beneficiaries of Project:

The Sierra Institute for Community and Environment requests \$350,000 in funding from the Sierra Nevada Conservancy’s Proposition 84 Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Grant Program for construction and operation of a wood processing facility to convert forest biomass (woody renewables consisting of small diameter wood matter from forest thinning projects in Plumas County) into conditioned wood chips to fuel boilers within the County. Conditioned wood chips are no larger than two inches and have no more than 35 percent moisture content. The project will provide facilities that will use material from forest fuel thinning projects and that will, in turn, protect forest health and wildlife habitat by encouraging sustainable thinning projects that will reduce wildfire risk. The project will create a central processing facility to provide fuel for boilers in the area. The processing facility will include all components needed to create fuel for boiler systems including: raw material receiving and storage, chipping, screening, fuel storage, and load out. The project will provide fuel that could be used in a future combined heat and power facility, if such a facility is constructed onsite. Facilities will include a simple roofed structure capable of storing up to 2,000 bone-dry tons of ground wood and forestry residuals, a concrete slab for raw materials receiving, load out and storage, and an asphalt-based area to be used for stockpiling wood chips. Onsite equipment will include a whole log chipper, a 2-deck vibrating screen, a hammer hog with screens, and drag chain converters to move material onsite.

Name of Public Agency Approving Project: Sierra Nevada Conservancy

Name of Person or Agency Carrying Out Project: Sierra Institute for Community and Environment

Exempt Status: *(check one)*

- Ministerial (Sec. 21080(b)(1); 15285);
- Declared Emergency (Sec 21080(b)(3); 15269(2));
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- Categorical Exemption. State type and section number: Section 15303 (Class 3), “New Construction or Conversion of Small Structures”
- Statutory Exemptions. State code number: _____

Reasons why project is exempt:

The proposed Plumas Community Energy Wood Processing Facility Project is categorically exempt from the provisions of CEQA pursuant to CEQA Guidelines Section 15303, Class 3, “New Construction or Conversion of Small Structures,” which permits construction and location of limited numbers of new, small facilities or structures; and installation of small new equipment and facilities in small structures. The project involves construction and operation of small structures and equipment to receive and convert forest biomass materials into wood chips to

fuel local boilers. The project meets criteria identified in Subsection 15303(d). The project will: 1) Not exceed 10,000 square feet. in floor area in four or fewer buildings; 2) The use is consistent with the existing zoning; 3) The project will not involve the use of significant amounts of hazardous substances; 4) All necessary public services and facilities are available (e.g., utilities, water supply, and waste disposal); and, 5) The surrounding area is not environmentally sensitive. No significant adverse impacts to natural resources will occur as a result of the project.

Lead Agency Contact Person: Matthew Daley
Area Code/Telephone/Extension: (530) 823-4698

Signature: _____ Date: _____ Title: Executive Officer
Jim Branham

Date Received for Filing at OPR:

Revised 2005

**STATE OF CALIFORNIA
SIERRA NEVADA CONSERVANCY**

**Sierra Nevada Conservancy Grant Program
Safe Drinking Water, Water Quality and Supply, Flood Control,
River and Coastal Protection Bond Act of 2006 (Proposition 84)**

Applicant: National Forest Foundation

Project Title: Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project

Subregion: Central

County: Nevada

SNC Funding: \$ 349,140.00

Total Project Cost: \$1,001,640.00

Other Funders: Forest Service; Wildlife Conservation Board; National Forest Foundation

Application Number: 773

Final Score: 90

PROJECT SCOPE

The Sagehen Basin Old Forest Sensitive Species Habitat Restoration project will use SNC grant funds to treat approximately 291-acres of the 2,621-acre project area, located approximately 10 miles north of Truckee. The project is located on the UC Sagehen Experimental Forest on the Tahoe National Forest. The project resulted from a collaborative planning process for which the SNC provided funding for facilitation.

The majority of the project area is currently comprised of thick, homogenous stands of trees and a limited amount of diverse vegetation structure that old forest sensitive species require, particularly foraging habitat. The project will restore stand variability and enhance forest diversity through hand vegetation treatments like small tree cutting, and piling, and tree girdling while preserving larger trees for forest regeneration and standing snags for wildlife habitat.

Specific treatment prescriptions have been designed for use on five different emphasis areas of the forest to optimize desired effects for improved forest health and habitat. The project will implement treatments formulated using USFS General Technical Report 220 recommendations, which account for solar aspect, slope steepness, soil composition, canopy cover, and drainage. Prescribed pile burning followed by prescribed underburn treatments will also help restore the forest to a more natural condition resulting in reduced risks of large catastrophic fire, and a healthier watershed.

PROJECT SCHEDULE

DETAILED PROJECT DELIVERABLES	TIMELINE
Demarcate five unit boundaries toalling 291 acres, Dense Cover Areas on 29 acres, and 87 Tree Girdles (Establish photo points/mapping/records)	6/2014-9/2014
Contract Preparation (Copies of sub-contract(s))	8/2014-10/2014
Contract Implementation (Photos/photo points, other documentation)	10/2014-10/2015
Prescribed Fire Treatments (Photo points, other documentation)	9/2016-12/2016
Six month Progress Reports (7)	12/2014, 6/2015, 12/2015, 6/2016, 12/2016, 6/2017, 12/2017
FINAL PAYMENT/FINAL PAYMENT REQUEST	March 1, 2017

PROJECT COSTS

PROJECT BUDGET CATEGORIES	TOTAL SNC FUNDING
Direct*	
Service Contracts	\$264,000.00
Project Management	\$39,600.00
Indirect**	
N/A	\$0.00
Administrative***	
Operating Costs	\$45,540.00
GRAND TOTAL	\$349,140.00

* Direct: Direct costs are expenses necessary to acquire, construct, or to adapt property to a new or different use, or to improve property including land, buildings and equipment. The property/expense must have a useful life longer than one year.

** Indirect: Expenses involve ongoing operations, repair or maintenance costs, regardless of whether the repair or maintenance may last more than one year.

*** Administrative: Expenses associated with the administration of a project and may not exceed 15 percent of the total SNC grant request for direct and indirect costs.

PROJECT LETTERS- SUPPORT

- Support
 - Truckee River Watershed Council
 - US Fish and Wildlife Service
 - University of California, Berkeley
 - USFS, Tahoe National Forest
 - Nevada County Board of Supervisors

PROJECT PERFORMANCE MEASURES

There are four Performance Measures common to all grants. In addition, grantees are required to include between one and three project-specific measures. Performance Measures listed here represent those proposed by applicants and may be modified through further discussion with SNC Staff.

- Acre Feet per Annum of Streamflow Improved
- Acre Feet per Annum of Water Supply Conserved or Enhanced
- Acres of Land Improved or Restored

**Final
Initial Study/Mitigated Negative Declaration:
Sagehen Basin Old Forest Sensitive
Species Habitat Restoration Project**

Lead Agency

Sierra Nevada Conservancy
11521 Blocker Drive, Suite 205
Auburn, CA 95603
Contact: Matthew Daley, Senior Grants Analyst
530-823-4698

March 2014

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR THE PROPOSED SAGEHEN BASIN OLD FOREST SENSITIVE SPECIES HABITAT RESTORATION PROJECT

Public Notice is hereby given that an Initial Study and Draft Mitigated Negative Declaration (IS/MND) is available for public review for the Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project.

Project Location: The proposed project is located in the Sagehen Basin, Sagehen Experimental Forest, under the management and direction of the Pacific Southwest Research Station, Truckee Ranger District of the Tahoe National Forest, within the Little Truckee River and Middle Truckee River Watersheds, on the west side of State Route (SR) 89, approximately 10 miles north of Truckee, Nevada and Sierra Counties, California. Approximate Latitude / Longitude: 39.444479 / -120.249481.

Project Description: The National Forest Foundation is requesting \$349,140 in funding from the Sierra Nevada Conservancy's Proposition 84 Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Grant Program in order to do work in the Sagehen Experimental Forest to protect and enhance habitat, especially for Pacific marten, restore stand level ecology, and reduce fuel loads in the Sagehen Basin in the Basin Old Forest Sensitive Species Habitat Restoration Project area in the Sagehen Experimental Forest adjacent to the Tahoe National Forest. This project would alter fuel loads to return to the mixed severity fire regime, improve wildlife habitat and foraging grounds, improve watershed conditions, and encourage healthy forest ecological processes.

The proposed project would introduce stand variability and strategically enhance forest health through hand vegetation treatments like small tree cutting and piling as well as tree girdling. Existing pockets of mature cover and decadence will be maintained. Legacy trees, typically greater than 28 inches in diameter at breast height (DBH), would be preserved and trees surrounding a legacy tree would be removed to provide for adequate forest health. Snags and cover for nesting and denning habitat would be maintained for old forest sensitive species. Variable thinning would occur in order to meet canopy cover percentages, tree species composition, fire behavior, and structural heterogeneity. Thinning would occur through hand processes. Fire and fuel prescriptions (prescribed burning, pile burning) would be aimed at reducing hazardous surface and ladder fuels within the treatment units. All of the designations and treatments will vary in intensities depending on their topographic position on the landscape. The proposed project would treat approximately 2,621 acres of the 9,478-acre project area. The project would improve forest health, reduce fuel loading, and maintain and enhance existing old forest sensitive species habitat.

Document Adoption: The public comment period began January 3, 2014 and extended to February 3, 2014. The MND will be considered by the Sierra Nevada Conservancy Governing Board at a public meeting on March 13, 2014 located at the California Department of Food and Agricultural Auditorium, 1220 N Street, Sacramento, CA 95814.

Questions regarding the March 2014 Governing Board meeting may be provided to Matthew Daley, Senior Grants Analyst, at Matthew.Daley@sierranvada.ca.gov or at the following address:

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

MITIGATED NEGATIVE DECLARATION

Project Title: Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project (SNC 773)

Project Location: The proposed project is located in the Sagehen Basin, Sagehen Experimental Forest, under the management and direction of the Pacific Southwest Research Station, Truckee Ranger District of the Tahoe National Forest, within the Little Truckee River and Middle Truckee River Watersheds, on the west side of State Route (SR) 89, approximately 10 miles north of Truckee, Nevada and Sierra Counties, California. Approximate Latitude / Longitude: 39.444479 / -120.249481.

Date: March 13, 2014

Project Applicant: National Forest Foundation

Lead Agency: Sierra Nevada Conservancy

Contact Person: Matthew Daley, Senior Grants Analyst, Sierra Nevada Conservancy, (530) 823-4698

Project Description: The National Forest Foundation is requesting \$349,140 in funding from the Sierra Nevada Conservancy's Proposition 84 Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Grant Program in order to do work in the Sagehen Experimental Forest to protect and enhance habitat, especially for Pacific marten, restore stand level ecology, and reduce fuel loads in the Sagehen Basin in the Basin Old Forest Sensitive Species Habitat Restoration Project area in the Sagehen Experimental Forest adjacent to the Tahoe National Forest. This project would alter fuel loads to return to the mixed severity fire regime, improve wildlife habitat and foraging grounds, improve watershed conditions, and encourage healthy forest ecological processes.

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Declaration: The Sierra Nevada Conservancy has determined that there is no substantial evidence that the above project, as mitigated, may have a significant effect on the environment and adopts a Mitigated Negative Declaration. The determination is based on the attached initial study and the following findings:

- a) *The project will not degrade environmental quality, substantially reduce habitat, cause a wildlife population to drop below self-sustaining levels, reduce the number or restrict the range of special-status species, or eliminate important examples of California history or prehistory.*
- b) *The project does not have the potential to achieve short-term, to the disadvantage of long-term, environmental goals.*
- c) *The project will not have impacts that are individually limited, but cumulatively considerable.*

- d) *The project will not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.*
- e) *No substantial evidence exists that the project will have a negative or adverse effect on the environment.*
- f) *The project incorporates mitigation measures identified in the initial study and the Sagehen Project Environmental Assessment/Finding of No Significant Impact prepared by the Truckee Ranger District of the Tahoe National Forest.*
- g) *This mitigated negative declaration reflects the independent judgment of the lead agency.*

Submit questions to:

Matthew Daley

Senior Grants Analyst

Sierra Nevada Conservancy

11521 Blocker Drive, Suite 205

Auburn, CA 95603

(530) 823-4698

Matthew.Daley@sierranevada.ca.gov

Jim Branham, Executive Officer

(530) 823-4670

Phone #

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Appendix A	Standard Management Requirements
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1.0 INTRODUCTION

1.1 PROJECT INFORMATION

1. Project Title:

Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project (SNC 773)

2. Lead Agency Name and Address:

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

3. Contact Person and Phone Number:

Matthew Daley, Program Coordinator (530) 823-4698

4. Project Location:

The proposed project is located in the Sagehen Basin, Sagehen Experimental Forest, under the management and direction of the Pacific Southwest Research Station, Truckee Ranger District of the Tahoe National Forest, within the Little Truckee River and Middle Truckee River Watersheds, on the west side of State Route (SR) 89, approximately 10 miles north of Truckee, Nevada and Sierra Counties, California. Approximate Latitude / Longitude: 39.444479 / -120.249481.

5. Project Sponsor's Name and Address:

National Forest Foundation
803 2nd Street, Suite 800
Davis, CA 95616

6. General Plan Designation:

Nevada County: Forest 160 Acres (FOR-160; 160-acre minimum parcel size);
Forest 640 Acres (FOR-640; 640-acre minimum parcel size)
Sierra County: Forest

7. Zoning:

Nevada County: FOR-160; FOR-640
Sierra County: FR (Forest)

8. Description of Project:

The National Forest Foundation is requesting \$349,140 in funding from the Sierra Nevada Conservancy's Proposition 84 Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Grant Program in order to do work in the Sagehen Experimental Forest to protect and enhance habitat, especially for Pacific marten, restore stand level ecology, and reduce fuel loads in the Sagehen Basin in the Basin Old Forest Sensitive Species Habitat Restoration Project area in the Sagehen Experimental Forest adjacent to the Tahoe National Forest. This proposed project would alter fuel loads to return to the mixed severity fire regime, improve wildlife habitat and foraging grounds, improve watershed conditions, and encourage healthy forest ecological processes.

The proposed project would introduce stand variability and strategically enhance forest health through hand vegetation treatments like small tree cutting and piling as well as tree girdling. Existing pockets of mature cover and decadence will be maintained. Legacy trees, typically greater than 28 inches in diameter at breast height (DBH), would be preserved and trees surrounding a legacy tree would be removed to provide for adequate forest health. Snags and cover for nesting and denning habitat would be maintained for old forest sensitive species. Variable thinning would occur in order to meet canopy cover percentages, tree species composition, fire behavior, and structural heterogeneity. Thinning would occur through hand processes, depending on site location and area sensitivity. Fire and fuel prescriptions (prescribed burning, pile burning) would be aimed at reducing hazardous surface and ladder fuels within the treatment units. All of the designations and treatments will vary in intensities depending on their topographic position on the landscape. The proposed project would treat approximately 2,621 acres of the 9,478-acre project area. The proposed project would improve forest health, reduce fuel loading, and maintain and enhance existing old forest sensitive species habitat. Refer to Section 2.0, below, for a detailed project description.

9. Surrounding Land Uses and Setting:

The proposed project is within the Sagehen Basin adjacent to the Tahoe National Forest. Several creeks are within the project area as well. The proposed project is primarily surrounded by forest land. The proposed project is in close proximity to the wildland urban interface where human habitation is mixed within areas of flammable wildland vegetation that extends out from private developed land into land under private, state, and federal jurisdictions. Nearby communities include Truckee, Sierraville, and Loyalton. There are also nearby recreational facilities such as campgrounds as well as Prosser Creek Reservoir, Boca Reservoir, Stampede Reservoir, and Independence Lake. The Sierra County General Plan also identifies a deer migration corridor west of the proposed project.

10. Other public agencies whose approval is required:

Pacific Southwest Research Station, Truckee Ranger District, Tahoe National Forest, United States Forest Service*

Northern Sierra Air Quality Management District (burn approval)

*Approved the Environmental Assessment/Finding of No Significant Impact (NEPA)

1.2 PROJECT BACKGROUND AND PREVIOUS ENVIRONMENTAL DOCUMENTATION

The Truckee Ranger District of the Tahoe National Forest acted as Lead Agency under NEPA in March 2013 and prepared an Environmental Assessment (EA) and adopted a Finding of No Significant Impact (FONSI) in May 2013. This Initial Study and Draft Mitigated Negative Declaration (IS/MND) relies on the *Sagehen Project Environmental Assessment/Finding of No Significant Impact* and the following related technical studies:

- Biological Evaluation, Amphibians, Reptiles, Fish, Invertebrates for the Sagehen Project (December 2012)
- Biological Evaluation for Sensitive Plants, Sagehen Project (October 2012)
- Biological Evaluation/Biological Assessment Terrestrial Wildlife, Sagehen Project (May 2013)
- Silviculture Specialist Report, Sagehen Project (October 2012)
- Weed Risk Assessment, Sagehen Project (October 2012)
- Fire/Fuels Specialist Report, Sagehen Project (February 2013)
- Fire/Fuels Report Addendum, Sagehen Project (April 2013)

- Sagehen Project Hydrology Report (February 2013)
- Soil Specialist Report, Sagehen Project (January 2013)
- Air Quality Report, Sagehen Project (February 2013)
- Economics Report for the Sagehen Project (October 2012)

2.0 PROJECT DESCRIPTION

The Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project (proposed project) is located in the Sagehen Basin, Sagehen Experimental Forest, under the management and direction of the Pacific Southwest Research Station, Truckee Ranger District of the Tahoe National Forest, within the Little Truckee River and Middle Truckee River Watersheds, on the west side of State Route (SR) 89, approximately 10 miles north of Truckee, Nevada and Sierra Counties, California (Figure 2-1). One of the main outcomes of the collaborative process was the designation of a number of emphasis areas within the boundaries of the proposed treatment units. These emphasis areas became subunits within the treatment units where management would be focused and modified depending on the intent of each emphasis area. Emphasis areas 1-7, share the following common objectives: (1) Pacific marten habitat protection and/or enhancement, (2) stand level ecological restoration, and (3) fuels reduction. For emphasis area 8, the objectives were focused on aspen restoration and enhancement (Figure 2-2).

While it is preferred that prescribed and natural fire become two primary management tools over the long term in all the emphasis areas, interim steps are needed so that fuels may be reduced to a more natural level, allowing fire to occur as it would have if fuels had not built up to unnatural levels. In order to facilitate that, near term management goals include the use of silvicultural and fire/fuels prescriptions and treatment methods that can, to a certain extent, mimic the effects of natural fire. Once these treatments have been applied it is hoped that prescribed or natural fire could occur without heavy mortality and uncharacteristically severe effects. These prescriptions and treatment methods and how they apply to emphasis areas (subunits), are detailed in the sections below beginning with Section 2.2, Prescriptions and Treatments. Directly below are sections that explain the overall goals and treatment objectives for each emphasis area.

The Truckee Ranger District analyzed a larger project (Sagehen Project) within the NEPA EA/FONSI. The proposed project is smaller in size and does not include as many prescriptions. Only those prescriptions needed to the proposed project are discussed in Section 2.2, Prescriptions and Treatments, and Section 2.3, Prescription Metrics, below. Appendix A provides Standard Management Requirements (SRMs) for the larger Sagehen Project (Truckee Ranger District, May 2013); however, only the SRMs related to the proposed project, as defined by the Sierra Nevada Conservancy (SNC) for the purposes of the California Environmental Quality Act (CEQA), would be applied.

2.1 EMPHASIS AREAS

Each emphasis area within the proposed project boundary is represented by a different color on Figure 2-2. While the larger Sagehen Project contains seven emphasis areas, the proposed project contains five emphasis areas, as follows: 1 (green), 2 (blue), 4 (fuchsia), 5 (gray), and 6 (orange). These colors translate into subunits within the proposed treatment unit boundaries. For example, in treatment unit 282 is comprised of emphasis areas 2 (blue) and 6 (orange). It therefore has subunits 282-2 and 282-6.

For emphasis areas 1-7, a common set of metric categories were identified by the Truckee Ranger District to assess different post-treatment stand conditions, which would reflect the primary treatment objectives of that area. The metric categories used by the Truckee Ranger District include: (a) basal area retention, especially in trees greater than 20 inches diameter at breast height (DBH), (b) canopy cover, (c) snag density, (d) large and small down woody material, (e) short snag (or high stump) densities, (f) tree species composition, (g) dense cover areas (DCAs) with multiple tree ages, and early seral openings (ESOs), and (h) fire behavior modeled values under 90th percentile weather conditions, including flame lengths and predicted crown fire and associated larger tree mortality. Specific metrics are provided in details in Section 2.3, Prescription Metrics.

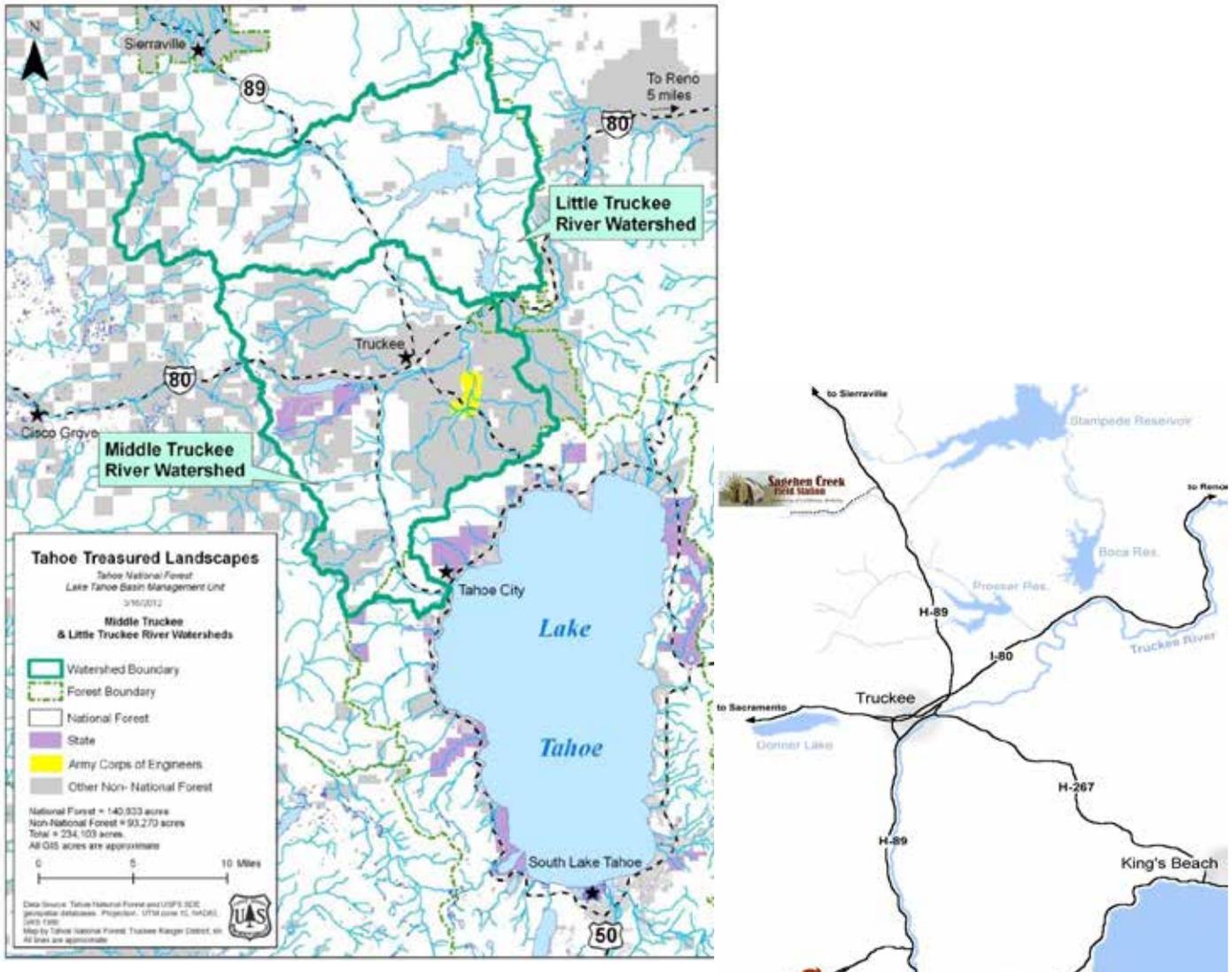


Figure 2-1. Project Vicinity and Location Maps
 (Source: National Forest Foundation and Tahoe National Forest)

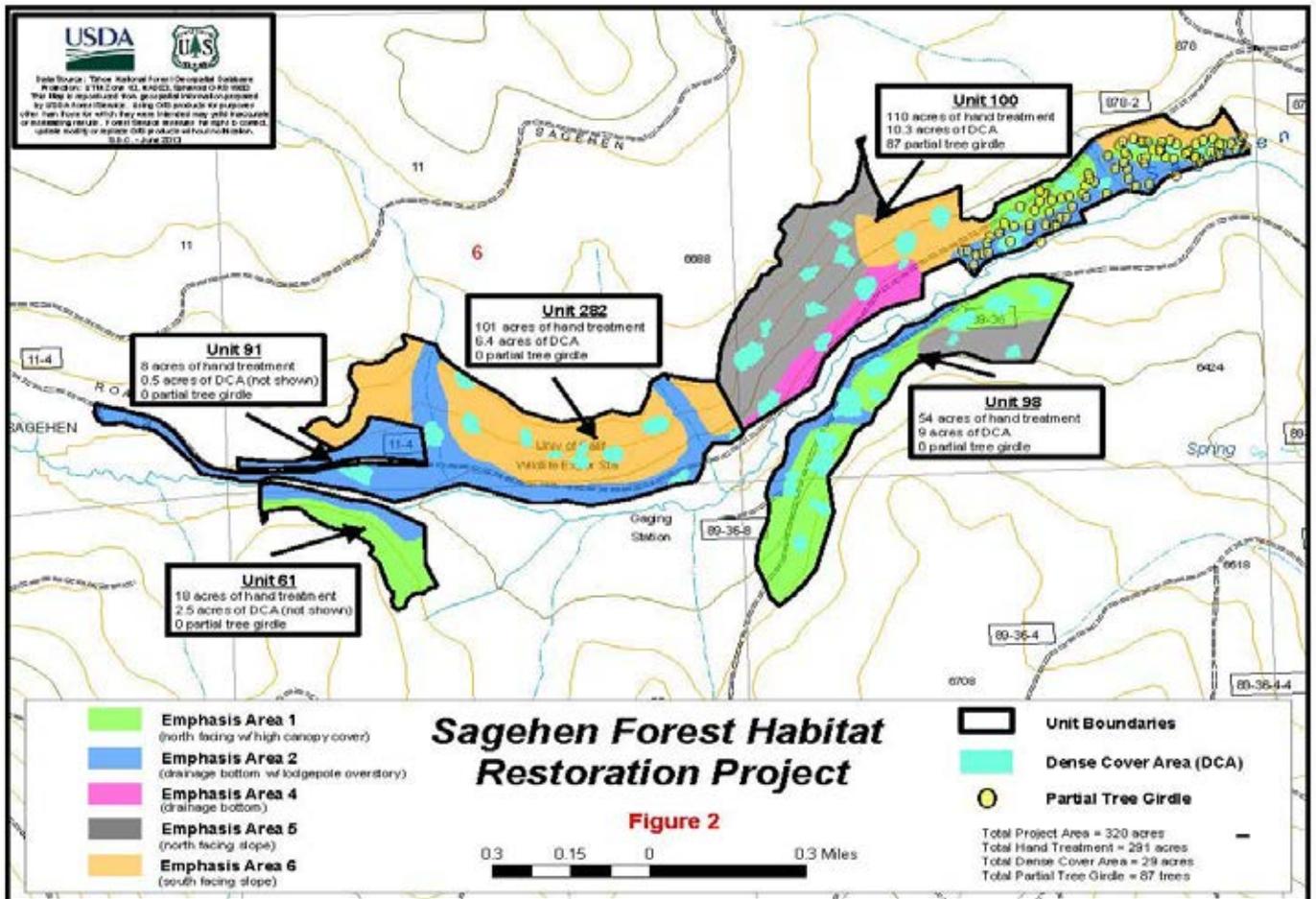


Figure 2-2. Proposed Project Detailed Treatment Locations
 (Source: National Forest Foundation and Tahoe National Forest)

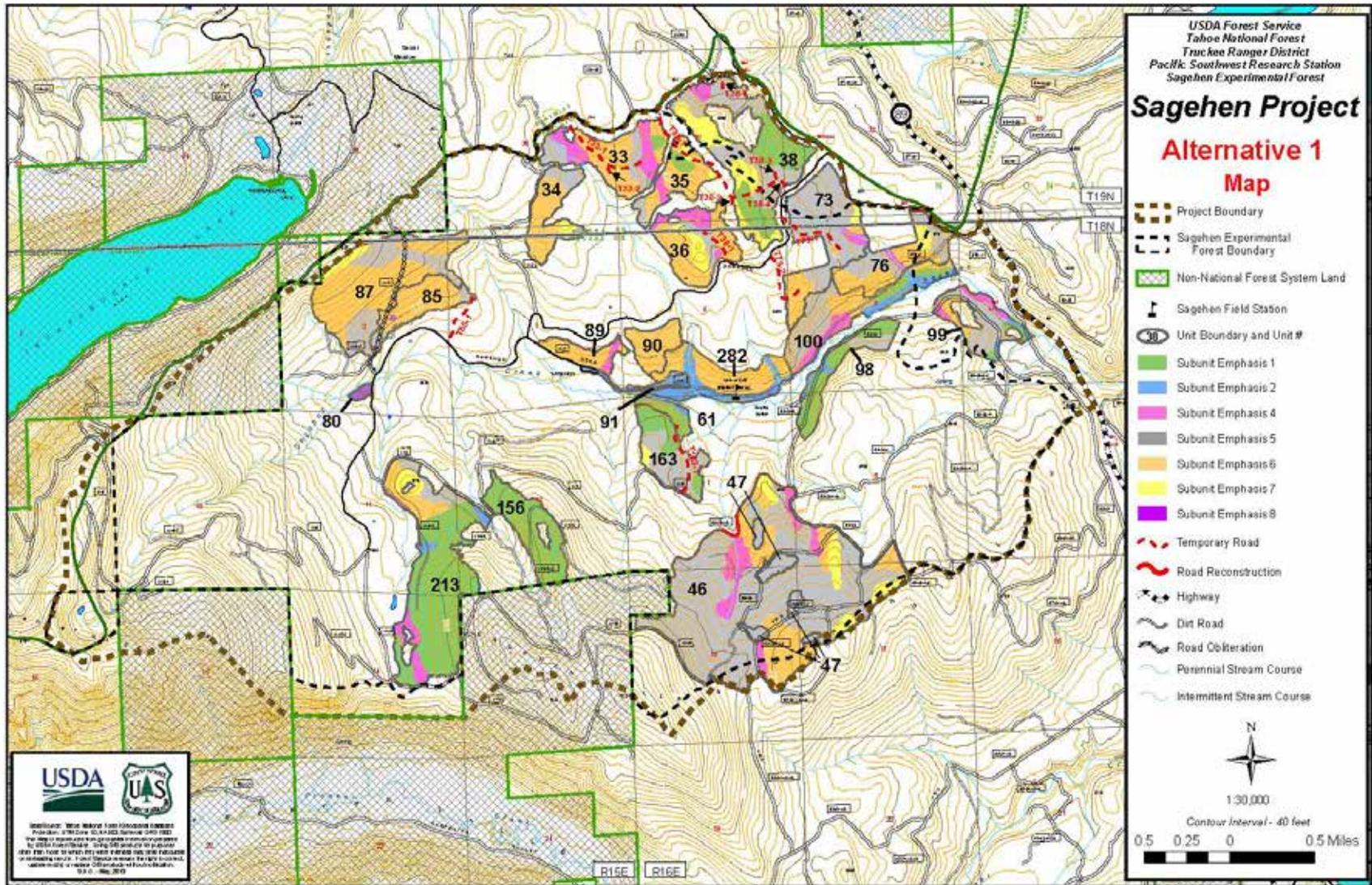


Figure 2-3. Truckee Ranger District Alternative 1 of the Sagehen Project as Identified in the EA/FONSI
 (Source: Truckee Ranger District)

The proposed project is part of the larger Sagehen Project, as analyzed by the Truckee Ranger District in the EA/FONSI (May 2013). The larger Sagehen Project is shown in Figure 2-3. All seven emphasis areas are described below and acreages are for the entire Truckee Ranger District Sagehen Project. The proposed project acreages are provided in Section 2.2, Prescriptions and Treatments, in Table 2-2.

2.1.1 Emphasis Areas 1 and 3

Emphasis areas 1 and 3 represent some of the high quality marten habitat currently existing within the Sagehen Basin (Table 2-1 provides definitions of high and moderate quality marten habitat within the Sagehen Basin). Emphasis area 1 (green) includes high value habitats on north facing slopes, on ridges, and on higher elevation south facing slopes (above 6,725 feet). Emphasis area 3 includes high value habitats on lower elevation south facing slopes; Emphasis area 3 is not shown separately on the Figures 2-2 and 2-3 because it is combined with Emphasis areas 1 or 2. High quality habitat for marten also exists outside the treatment unit emphasis areas, primarily along and south of Sagehen Creek and west of unit 46 (refer to Figure 2-3). There are also some scattered pockets of high value habitat north of Sagehen Creek. Because emphasis area 3 is very limited in total area, it was combined with either emphasis area 1 or emphasis area 2 (also high value marten habitat), whichever was closer. Therefore there is no mapped emphasis area 3 and there are no metrics assigned to it. Because numbers were already assigned to emphasis areas when emphasis area 3 was combined with others, re-numbering was not done. This discussion is intended to reduce confusion as to why emphasis area 3 is not shown on the map and why it will not be discussed further in this document. Within the treatment units, approximately 453 acres are identified as emphasis area 1.

Emphasis area 1 values vary above and below 6,725 feet (2,050m), especially on north and east facing slopes in the southwest portion of the Basin (south of Sagehen Creek and west of the Donner Fire area). Areas above 6,725 feet in the southwest portion of the Basin are of relatively higher importance to marten than areas below 6,725 feet and to areas above 6,725 feet in the northeast portion of the Basin. In general, martens in the upper basin (above 2,050 meters) preferred stands with larger trees than those in the lower basin, reflecting their affinity for old-growth red fir stands (Truckee Range District, *Environmental Assessment*, March 2013).

The primary goal is to manage emphasis area 1 for both the conservation and restoration of marten habitat values both in the near term and long term. Secondary and tertiary goals include ecological restoration and fuels reduction, respectively. To manage habitats for marten, this emphasis area would maintain relatively higher basal areas, specifically of larger trees, as compared to all the other emphasis areas. Some trees would likely be removed but basal areas would be lowered only to the extent to facilitate the faster creation of a higher proportion of trees greater than 20 inches DBH while at the same time retaining enough basal area and canopy cover to maintain the emphasis area as current high quality habitat. Of the designated emphasis areas, emphasis area 1 retains/recruits the highest number of snags, short snags/high stumps, and existing DCAs. This would maintain components and areas important for resting/denning martens and would ensure future recruitment of important habitat elements and areas. High amounts of large down wood material and high stumps are also important to provide foraging areas and rest sites. In addition, as compared to the rest of emphasis area 1, relatively higher basal areas, more DCAs, and a higher percentage of red fir and white fir are afforded higher prominence in the portions of the emphasis area above 6,725 feet in the southwest portion of the Basin due to the relatively higher habitat values present in this area. Another goal for emphasis area 1 is to maintain reasonable connectivity (i.e. cover from predators and access to adjoining areas) across the area. Recent evidence (Moriarty, pers. comm.) suggests that marten are vulnerable to predation if sufficient cover between preferred resting and foraging sites is lacking.

Even though the primary goal for this emphasis area is to manage for marten use, it is also very important to manage for stand level ecological restoration and a heterogeneous forest which will be more resilient to

fire and climate-induced stresses. Treatment objective ranges for basal area retention, canopy cover, percentage of the subunit in DCAs and/or ESOs, and tree species compositions help to ensure that a heterogeneous condition would result post treatment¹. Also, in order to address fuels reduction and the need to reduce the potential of uncharacteristically severe wildfire effects, treatment objectives that address ladder fuel removal, the spatial arrangement of areas where ladder fuels would not be removed, and the horizontal arrangement of fuels to break up continuous fuel beds help to address these concerns.

Table 2-1. Definitions of High and Moderate Quality Marten Habitat within the Sagehen Basin

Habitat	Forest Type	Size Class ¹	Canopy Closure ²
High Quality	Lodgepole Pine (LPN)	4, 5	M, D
	Montane Riparian (MRI)	5, 6	M, D
	Red Fir (RFR)	4, 5	M, D
	Subalpine Conifer (SCN)	4, 5	M, D
	Sierran Mixed Conifer (SMC) – Fir dominated stands only	5, 6	M, D
	White Fir (WFR)	4, 5, 6	M, D
Moderate Quality	Eastside Pine (EPN) – Higher lodgepole pine component only	4, 5, 6	P, M, D
	Eastside Pine (EPN)	5, 6	M, D
	Jeffrey Pine (JPN)	5, 6	M, D
	Lodgepole Pine (LPN)	4, 5	P
	Montane Riparian (MRI)	4	M, D
	Red Fir (RFR)	4, 5	P
	Subalpine Conifer (SCN)	4, 5	P
	Sierran Mixed Conifer (SMC) – Fir dominated stands only	4	M, D
	Sierran Mixed Conifer (SMC) – Pine dominated stands only	5, 6	M, D

Source: Truckee Ranger District, *Environmental Assessment*, March 2013.

¹ Size class in diameter at breast height (DBH) inches: 4 = 11”-24”, 5 = >24”, 6 = >24” with multi-layered canopy

² Canopy closure in percent: P=25-39%, M = 40-59%, D = 60-100%

2.1.2 Emphasis Areas 2 and 4

Emphasis areas 2 and 4 include the drainage bottoms that currently support high quality marten habitat (emphasis area 2, blue) and the drainage bottoms that do not currently support high quality marten habitat, i.e. the habitat does not currently meet the criteria described in Table 2-1 (emphasis area 4, fuchsia). As stated above, high quality habitat for marten also exists outside the treatment unit emphasis areas. Emphasis areas 2 and 4 include perennial stream courses and other intermittent and ephemeral drainages throughout the Basin. These locations tend to be relatively wet, retain moisture longer through the season, and generally support more dense and diverse vegetation conditions than the surrounding stands. Stream courses and other moist drainage bottom areas are known to be preferable habitat for many wildlife species. They tend to have more herbaceous vegetation cover and microhabitats, provide more escape

¹ Metrics are defined in Section 2.3, Prescription Metrics.

cover, are accessible to permanent water sources, and support a larger volume and diversity of vertebrates and invertebrates. Thus emphasis areas 2 and 4 intend to maintain and enhance these conditions. In cases where trees are encroaching on meadows or open herbaceous areas, the basal area/crown cover of trees would be reduced to maintain and/or restore meadow habitat as well as encourage herbaceous cover. By contrast, some drainages tend to be relatively dry and have fewer to no adjoining wet meadows or similar features. Under these conditions these areas still retain moisture for a longer period of the year than surrounding stands and tend to support denser vegetation and often larger trees. Under these circumstances the objective is to maintain higher basal areas and crown cover and a higher proportion of dense vegetation and structural diversity that these areas tend to provide. Within the treatment units, approximately 103 acres are identified as emphasis area 2 and 173 acres are identified as emphasis area 4.

The primary distinction between emphasis area 2 and emphasis area 4 is the consistent presence of greater than 11 inches DBH lodgepole pine as the dominant tree species in most of emphasis area 2 with an average canopy cover of 40% or more. Emphasis area 4 can include perennial and intermittent streams, as well as relatively wet (i.e., mesic) and relatively dry (i.e., xeric) ephemeral drainages with a variety of tree cover types. Overall, emphasis areas 2 and 4 are intended to provide higher basal areas of larger trees than the areas surrounding them except for emphasis area 1. They would provide relatively high canopy closures within the treed areas but would also allow enough light for well-developed herbaceous ground cover where sufficient water exists. In addition they would also have higher proportions of snags and short snags/high stumps which would provide resting sites, foraging features, and prey cover for martens. Because of their preferential use for foraging habitat, treatment objectives include the highest retention of large/small down wood components. The differences arise in emphasis area 4 because it includes not only perennial stream courses, but also many intermittent and ephemeral drainages which are highly variable in moisture conditions, vegetation types, position on slope, and aspect. More variation occurs in this emphasis area, thus treatment objectives are also more variable. Wetter conditions would have more downed logs and high stumps and would be composed of more lodgepole pine; while drier conditions would have less dead wood components and would trend on a scale more towards white and red fir and/or ponderosa or Jeffrey pine (depending on slope/aspect).

Even though the primary goal for these emphasis areas is to manage for marten use, especially foraging habitat, it is also very important to manage for stand level ecological restoration and a heterogeneous forest which will be more resilient to fire and climate-induced stresses. Treatment objective ranges for basal area retention, canopy cover, snag, down wood, and short snag densities, percentage of the subunit in DCAs and/or ESOs, and tree species compositions help to ensure that a heterogeneous condition would result post treatment. Also, in order to address fuels reduction and the need to reduce the potential of uncharacteristically severe wildfire effects, treatment objectives that address ladder fuel removal, the spatial arrangement of areas where ladder fuels would not be removed, and the horizontal arrangement of fuels to break up continuous fuel beds help to address these concerns.

2.1.3 Emphasis Area 5

Emphasis area 5 (gray) represents north facing slopes that are not currently high quality marten habitat. The primary goal in emphasis area 5 is to work towards stand level ecological restoration, followed by marten habitat enhancement and fuels reduction. In general the treatment objectives would move the area towards a more heterogeneous forest that would improve resilience to fire and climate induced stresses, while at the same time still providing habitat elements for old forest associated sensitive wildlife species, such as the marten, northern goshawk, and California spotted owl. This emphasis area is also present in some plantations (units 46, 76, 87, and 99). For the Sagehen Project, the objectives in these plantations² would be focused on the first steps of achieving a resilient heterogeneous forest. Some examples of this are retaining some young porcupine damaged trees that could grow into trees with split tops and other defects

² Sagehen Project's plantations were established in the 1960s and 1970s following the Independence and Donner Ridge wildfires. They are comprised of mostly planted Jeffrey and ponderosa pine.

suitable for nesting/resting structures, and retaining residual or legacy trees and areas that are sparsely treed – for plantations, these areas would become similar features to DCAs and ESOs. See Section 2.2, Prescriptions and Treatments, below for more detail.

For the remainder of emphasis area 5, outside of plantations, objectives include retaining individual trees, small groups of trees, retaining existing DCAs, and creating ESOs that can support younger cohorts of a variety of species. Due to the more northerly exposure, emphasis area 5 would support more basal area and canopy cover as compared to ridges and south facing slopes. However it would support less basal area and canopy cover than drainages, because of the more xeric conditions, and less than emphasis area 1 because of the objectives to maintain higher basal areas and canopy cover for high quality marten habitat. Overall however, treatment objectives specify that enough basal area, canopy cover, and habitat components such as snags, down wood, short snags, and DCAs would be retained to ensure that the emphasis area retains, or in plantations, facilitates the creation of, important habitat structures for wildlife and provides suitable habitat or moves the habitat towards suitability for old forest species. Also, as in emphasis areas 1, 2, and 4, to address fuels reduction and the need to reduce the potential of uncharacteristically severe wildfire effects, treatment objectives are designed that address ladder fuel removal, the spatial arrangement of areas where ladder fuels would not be removed, and the horizontal arrangement of fuels to break up continuous fuel beds. Within the treatment units, approximately 996 acres are identified as emphasis area 5.

2.1.4 Emphasis Areas 6 and 7

Emphasis area 6 (orange) represents vegetation types not identified as high value marten habitat on south facing slopes and emphasis area 7 (yellow) represents vegetation types not identified as high value marten habitat on ridges. In emphasis areas 6 and 7 where fuels reduction is the highest priority, treatments are designed to substantially modify wildfire behavior and reduce the potential of uncharacteristically severe wildfire effects. Although important in all the other emphasis areas, in emphasis areas 6 and 7 especially, the post treatment fire behavior is targeted to meet conditions for strategically placed area treatments (SPLATs). SPLATs are designed to achieve, under 90th percentile fire weather conditions, an average of a four foot flame length, that surface and ladder fuels would be removed as needed to meet less than 20 percent fire mortality in dominant and co-dominant trees, and that tree crowns would be thinned to meet less than 20 percent probability of initiation of crown fire.

The secondary priority of stand level ecological restoration in these areas is focused on facilitating conditions that would result under an active fire regime, which includes a more heterogeneous forest that is resilient to fire and climate induced stresses. Within the treatment units, approximately 740 acres are identified as emphasis area 6 and 150 acres are identified as emphasis area 7.

Overall, in emphasis areas 6 and 7, basal area and canopy cover would be lower than in emphasis areas 1-5. In emphasis area 6, basal area would be reduced to a level that would help increase the pace of tree growth so that a higher percentage of the basal area is in larger (greater than or equal to 20 inches DBH) trees in a shorter amount of time. In emphasis areas 6 and 7, the intent is produce stand conditions that are more similar to those that would have been produced under an active fire regime. A more heterogeneous forest would be created by retaining individual trees, with particular emphasis on tree species more suited to xeric environments, retaining small groups of trees, retaining DCAs, and creating ESOs that can support younger cohorts of a variety of species.

Emphasis areas 6 and 7 are also present in some plantations (units 46, 76, and 87, and emphasis area 6 in unit 99). In plantations, fuels reduction objectives to modify wildfire behavior and reduce severe wildfire effects can usually be achieved in a relatively short timeframe. For the Sagehen Project, the secondary objectives in these plantations would be focused on the first steps of achieving heterogeneous forest. Some examples of this are retaining some young porcupine damaged trees that could grow into trees with split tops and other defects suitable for nesting/resting structures, and retaining residual or legacy trees and areas

that are sparsely treed – for plantations, these areas would become similar features to DCAs and ESOs. See Section 2.2, Prescriptions and Treatments, for more detail.

In addition, the third priority of these areas is marten habitat. Because of their topographic position on drier south facing slopes and ridges, usually with shallower soils, it is unlikely these emphasis areas would develop high quality marten denning/resting habitat over the long term. The exposures and soils would likely preclude the development of dense, large treed fir stands. However these areas could provide for marten movement. Therefore the objectives include avoiding the creation of barriers to marten movement (i.e. large openings). Therefore enough basal area, canopy cover, and habitat components such as snags, down wood, and existing DCAs would be retained to allow marten movement in/through these emphasis areas.

2.1.5 Emphasis Area 8

Emphasis area 8 (purple) is unique in that its only goal is stand level ecological restoration of aspen stands. However this goal is solely focused on a small forest stand scale. This does not represent all aspen stands within the Basin. Where small aspen stands exist within the potential treatment units, the goal is to improve/restore the aspen stands. Under a more active fire regime, conifer encroachment into aspen stands would be minimized and the aspens would be able to reproduce through suckering. However, with a lack of fire disturbances, conifers are able to shade out aspens and impede successful reproduction. The only objectives considered in this emphasis area are minimizing direct conifer competition to existing aspens and to remove conifers to the extent that the aspen stand could expand appropriately to the extent site conditions would allow. Within the treatment units, approximately 6 acres are identified as emphasis area 8.

2.2 PRESCRIPTIONS AND TREATMENTS

As stated above, the U.S. Forest Service, Truckee Ranger District, has adopted an EA/FONSI for a larger project, the Sagehen Project, which would include various treatments. The Sagehen Project is much larger than the proposed project, as defined by the CEQA lead agency. Therefore, the larger project was analyzed under NEPA; however, the National Forest Foundation requested funding from SNC to allow for implementation of only a portion of the larger Sagehen Project. SNC therefore, has defined the proposed project for its consideration as only those areas that are shown in Figure 2-2, consistent with the National Forest Foundation application to SNC. The Project Description, therefore, only describes the treatments and prescriptions that would occur in the areas of the proposed project (refer to Table 2-2 and Figure 2-2).

The proposed project would apply a suite of integrated silvicultural and fire/fuels prescriptions within each treatment unit. Application of the prescriptions (via various treatment methods) would set the stage for achieving emphasis area treatment objectives, described below. Refer to Table 2-2 for the units of the proposed project to which each of the prescriptions applies.

Implementing the following silvicultural prescriptions involves careful consideration of fire: both the follow-up application of fire/fuels prescriptions as well as the stand structure conditions that would likely develop under an active fire regime. On-the-ground decisions about which individual trees and groups of trees to retain are made in light of (1) ensuring overall stand structure will remain intact following application of prescribed fire and (2) mimicking stand structures that would develop under an active fire regime.

The silvicultural prescriptions are set within the context of the existing stand's structure, tree species composition, and as compared to the emphasis area objectives for each subunit. For most units within the

larger Truckee Ranger District Sagehen Project, implementing the following silvicultural prescriptions involves applying each of the first five prescriptions in a step-wise fashion:

- The first step involves identifying both the dense cover areas (DCAs) and early seral openings (ESOs), and identifying their boundaries on the ground
- Next, the trees suitable for legacy tree treatments are identified and the surrounding trees proposed for removal are marked
- After this, the variable thinning prescription is anchored to DCAs, ESOs, and legacy tree treatments
- The suppressed cut prescription is applied to remove suppressed trees contributing to ladder fuels outside of DCAs
- Finally, in subunits where the current snag/short snag densities are substantially below desired densities, decadent feature enhancements (partial tree girdling and/or short snag creation) would be identified for implementation either by machinery or hand application.

All five of these prescriptions would be applied, in a step-wise fashion, for each identified unit. If there are no trees suitable for legacy tree treatment in a given unit, that prescription would be dropped during marking. The remaining two prescriptions, plantation thinning and aspen restoration are applied specifically to plantations and aspen stands, respectively.

While the Truckee Ranger District analyzed a larger project (the Sagehen Project), the proposed project is smaller in size (refer to Figure 2-2 for proposed project boundaries) and does not include as many Silvicultural prescriptions. Therefore, only those prescriptions that are identified in Table 2-2 are discussed in further detail below.

Table 2-2. Prescriptions and Method Summary for the Proposed Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project (SNC 773)

Unit	Total Acres	Emphasis Area	Unit Emphasis Area Acres	Silvicultural Rx	Silvicultural Treatment Method	Fire/Fuels Rx	Fire/Fuels Treatment Method																																								
61	20	1	15	Variable Thin, Suppressed Cut, Dense Cover Area	Hand	Pile Burn Rx Surface Fire Rx	Hand Pile Pile Burn Underburn																																								
		2	5					91	9	2	9	Variable Thin, Suppressed Cut, Dense Cover Area	Hand	Pile Burn Rx	Hand Pile Pile Burn	98	63	1	43	Variable Thin, Suppressed Cut, Dense Cover Area	Hand	Pile Burn Rx	Hand Pile Pile Burn	2	9	5	11	100	120	1	14	Variable Thin, Suppressed Cut, Dense Cover Area, Decadent Feature Enhancement	Hand	Pile Burn Rx Surface Fire Rx	Hand Pile Pile Burn Underburn	2	19	4	17	5	46	6	24	282	108	2	46
91	9	2	9	Variable Thin, Suppressed Cut, Dense Cover Area	Hand	Pile Burn Rx	Hand Pile Pile Burn																																								
98	63	1	43	Variable Thin, Suppressed Cut, Dense Cover Area	Hand	Pile Burn Rx	Hand Pile Pile Burn																																								
		2	9																																												
		5	11																																												
100	120	1	14	Variable Thin, Suppressed Cut, Dense Cover Area, Decadent Feature Enhancement	Hand	Pile Burn Rx Surface Fire Rx	Hand Pile Pile Burn Underburn																																								
		2	19																																												
		4	17																																												
		5	46																																												
		6	24																																												
282	108	2	46	Variable Thin, Suppressed Cut, Dense Cover Area	Hand	Pile Burn Rx Surface Fire Rx	Hand Pile Pile Burn Underburn																																								
		6	62																																												

Source: Truckee Ranger District, *Environmental Assessment*, March 2013.

Rx = Prescription

2.2.1 Silviculture Prescriptions

The following silviculture prescriptions would be used for the proposed project, as identified above in Table 2-2.

Dense Cover Areas (DCAs) and Early Seral Openings (ESOs)

Dense cover areas (DCAs) are small areas distributed within treatment units that provide continuous vertical and horizontal cover with a mixture of shrubs and trees along with large and small down wood, snags, and high stumps. DCAs would typically contain clumps of trees of various size classes as well as a variety of snag and down wood sizes. These existing DCAs, ranging in size from 0.25-1 acre, would contribute to/enhance within-stand horizontal and vertical structural diversity and provide important old forest and/or mid seral habitat elements. For example existing DCAs can be representative of multiple layered late seral conditions with high levels of decadence and dead wood. They can also represent a more mid seral condition with brush and a medium sized tree overstory that provide important hiding and resting cover for wildlife and provide foraging and/or movement cover for martens and other late seral species. ESOs would be comprised of dense young regenerating trees and/or shrubs to provide early successional habitat within larger stands managed for late successional or old forest habitat. ESOs, from 0.25-0.50 acre, would enhance within-stand age and species diversity as well as provide prey and foraging habitat for old forest associated wildlife species. Some DCAs are planned around small fens in units 46, 85, and 98. The area would encompass not only the fen but also some of the surrounding forest stand. Both vertical structural diversity and an early seral stage would be represented.

Two primary methods would be used to retain and create DCAs or ESOs: For DCAs, an area would be designated that has multiple wildlife habitat elements, such as large down woody material, a mixture of tree age classes (including solitary and groups of large trees), large snags, multiple tree canopy layers; and/or trees with features associated with wildlife use (for example, platforms, mistletoe brooms, forked tops, and cavities). No mechanical tree removal would be conducted in these “existing DCAs”. For ESOs, by taking advantage of existing conditions, such as areas of sparse tree cover, thinner soils, or pockets of extensive tree mortality, openings would be created by removing most or all of the existing trees and either planting or allowing natural shrub and/or tree regeneration to create an ESO of early successional habitat.

Prescribed fire would be an important management tool within DCAs and ESOs. For DCAs comprised of multiple sizes of trees, snags, and down wood, prescribed fire would be carefully applied to maintain key habitat elements, particularly snags and down wood. While underburning in DCAs would likely result in some mortality of suppressed and subdominant trees, burning prescriptions would be designed to ensure the overall structure of the DCA would remain intact. For ESOs (regeneration areas), prescribed fire would be applied to regenerate shrubs and create suitable areas for shade-intolerant tree species to regenerate.

Variable Thinning

The variable thinning prescription is highly site-specific, set within the context of the existing stand's structure and tree species composition and would be administered by the Truckee Ranger District and the National Forest Foundation per the guidelines outlined below. In general, variable thinning involves selective removal and retention of individual codominant and subdominant trees and/or small groups of codominant and subdominant trees. Variable thinning would occur throughout the areas outside of dense cover areas, early seral openings, and legacy tree treatment areas, varying by the prescriptions designed for each emphasis area. Thinning would be conducted to meet treatment subunit level objectives of basal area, canopy cover, tree species composition, and fire behavior (as described in Section 2.3, Prescription Metrics), and to increase stand level structural heterogeneity. As stated above, and especially for a variable thinning prescription, implementation involves careful consideration of fire: both the follow-up application of prescribed fire, as well as the stand structure conditions that would likely develop under an active fire

regime. On-the-ground decisions about which individual trees and groups of trees to retain would be made by the Truckee Ranger District in light of (1) ensuring overall stand structure would remain intact following application of prescribed fire and (2) mimicking stand structures that would develop under an active fire regime.

Variable thinning objectives include: (a) enhancing stand heterogeneity (by retaining groups of larger trees that can provide valuable wildlife habitat and creating subtle openings by thinning around these groups), (b) reducing fuels, and (c) work towards stand level ecological restoration. The variable thinning approach is based on the GTR 220 principle that varying stem density according to potential fire intensity effects on stand structure can create horizontal heterogeneity inherent to these landscapes. As such, the variable thinning primarily focuses on removing ladder fuels, subdominant and codominant shade-tolerant trees (such as white fir), and some subdominant and codominant shade-intolerant trees (such as Jeffrey or ponderosa pine). It is not based on spacing guidelines but rather works within the context of the existing stand to emphasize retaining desired tree species compositions, basal areas, and desired stand structure elements (such as trees with some level of decadence or “defect”).

Variable thinning would be applied using the following guidelines:

- Generally favor retention of pines over firs, especially in southerly facing areas and on ridges. In areas of more fir dominance, give retention preference to red fir over white fir. Retained groups of larger trees (described under the bullet below) may include fir trees. Overall the emphasis for retained groups of trees is preserving or enhancing desirable stand structure rather managing for any particular species composition.
- Retain groups of larger trees, generally comprised of five to ten (or more) trees of roughly similar size. Ideally, some of the retained trees should have desirable habitat features, such as forked or broken tops. Remove trees adjacent to these retained groups to improve the overall health and resiliency of the group to drought, insects and disease.
- Where a few (less than five) trees occur together, or where trees are scattered, retain the more vigorous trees by removing subdominant and, in some cases, codominant trees around them to reduce ladder fuels and competition for light, water, and nutrients.
- In areas of greater fir dominance where large trees tend to grow in more of a clumped nature, emphasize retaining clumps, or groups, of generally five to ten trees, and removing trees adjacent to these retained clumps to create small, variably shaped gaps.
- When making site-specific determinations on individual tree removal/retention preferences, vary the choices made so as to increase the variability at the micro-site scale.

Suppressed Cut

A suppressed tree is typically no larger than ten inches DBH (usually ranging between one and five inches DBH) and is a component of a stand’s understory, where there is an overstory of dominant, codominant, and subdominant trees. Suppressed trees, in general, have little capacity to release (initiate increased growth rates), even if the overstory is removed. These trees often make up the lower levels of ladder fuels, and the suppressed tree layer combined with subdominant trees helps connect the forest floor into the crowns of dominant/codominant trees, which can increase fire severity and the potential for crown fire.

The suppressed cut would remove suppressed trees (down to one inch DBH for hand thinning and down to three inches DBH for mechanical thinning), as described above, within treatment units outside of dense cover areas. The suppressed cut prescription would not be applied within dense cover areas. This would retain a percentage of the suppressed tree size class within the treatment units, enhancing within-stand variability from a tree size standpoint. Suppressed tree removal outside dense cover areas would facilitate use of prescribed fire while helping to minimize the risks of crown fire by removing some ladder fuels.

Decadent Feature Enhancement

This prescription encompasses two different treatments; partial tree girdling and short snag creation. Partial tree girdling would occur inside and outside of DCAs and short snag creation would only occur in DCAs. Both treatments would only be applied in subunits where the current snag/short snag densities are substantially below desired densities. In all cases however, this prescription would not be applied in emphasis area 7. In some cases, just the partial tree girdling or the short snag creation would be applied in a given emphasis area (subunit) and in other cases both treatments would be applied; it depends on the existing conditions within the subunit.

Partial tree girdling would involve girdling (cutting off the bark layer deep enough to sever the tree's vascular system in the cambium) of individual trees 15-30 inches DBH. The bark layer would be removed in a 6-12 inch band covering approximately $\frac{1}{3}$ of the diameter of pine trees and $\frac{1}{2}$ of the diameter of fir trees. The goal of this treatment is to selectively wound and therefore weaken trees. These weakened trees would become more susceptible to environmental stresses, insect attack, and/or fungus/rot infection and therefore become snags likely before a neighboring, non-girdled tree would. By partially girdling and wounding trees, it is anticipated that the trees would become snags over a longer timeframe rather than die immediately, like what would happen if a tree were completely girdled.

The selection of trees for partial tree girdling would occur after the above four prescriptions had been applied (marked). Trees selected outside of DCAs for partial girdling would be trees already selected under the variable thinning prescription for removal. Therefore these trees would be accounted for when calculations of basal area removal and trees removed per acre are tallied, however they would be left on site. These trees would be among the largest trees available (under 30 inches DBH). Trees selected for partial girdling in DCAs would be designated based on the site specific conditions in the DCAs and would be trees that would provide needed habitat structure in the DCAs. Between 500 and 600 trees would be treated with partial tree girdling to enhance decadent features in the subunits over the long term.

Short snag creation involves cutting a tree (preferentially a white fir), on the outside edge, but within a DCA, at a height of 10-20 feet above the ground. The height would be based on the highest point a piece of machinery such as a feller buncher, could reach to cut the tree. The top of the tree would be felled into the interior of the DCA and left to contribute to down log densities. Trees selected for this treatment would be 15-30 inches DBH. The goal of this treatment is to immediately create snags at an intermediate height inside of DCAs. These short snags would be expected to provide suitable perches/rest sites and would be tall enough to be above typical snow levels, thus also providing an access route under the snow for wildlife. Between 100 and 150 trees inside of DCAs would be selected for the short snag creation treatment.

2.2.2 Silviculture Treatment Methods

Silvicultural prescriptions are often implemented using ground-based mechanized equipment or by hand. For the proposed project, and as shown in Table 2-2, hand treatment methods would be used in all areas of the proposed project.

Hand Thinning

Hand thinning is an activity that utilizes crews with chainsaws or handsaws that cut understory conifers less than 16 inches DBH to accomplish fuels reduction, marten habitat enhancement and restoration, and stand-level ecological restoration objectives set for the treatment unit. If hand felled material contributes to unacceptable fuel loading, this material may be hand piled outside the drip lines of desirable trees and burned when conditions permit a minimum amount of mortality.

2.2.3 Fire/Fuel Prescriptions

Fire/fuels prescriptions would be aimed at reducing hazardous surface and ladder fuels within the treatment units and providing conditions that would enable subsequent use of prescribed fire to maintain suitable fuels conditions. Fire/fuels prescriptions include prescribed surface fire as well as pile burning and lop and scatter prescriptions. The following fire/fuel prescriptions would be used for the proposed project, as identified above in Table 2-2.

Surface Fire Prescription

A surface fire is a fire that burns live and dead fuels at or near the surface of the ground, mostly by flaming combustion. A surface fire prescription is usually implemented by an underburn. Surface fire prescriptions are typically designed to consume surface and ladder fuels and to mimic fire that would occur in an active fire regime. Surface fire prescriptions can be applied under spring-like and fall-like conditions. Spring-like conditions are defined by relatively high live fuel moistures, high 1,000 hour size (“coarse woody debris”, three inches diameter and greater) fuel moistures, and soils that are relatively moist beneath the surface fuels. Under spring-like conditions, it is expected that surface fires would have moderate to high consumption of 1-100 hour size fuels (“fine woody debris”, ranging from 0.00-2.99 inches diameter) and minimal consumption of 1,000+ hour fuels with mortality primarily expected in subdominant tree size classes. Fall-like conditions are defined by relatively low live fuel moistures, lower 1000 hour fuel moistures, and drier soils with dry organic layers beneath the litter layer. Under fall-like conditions, it is expected that burning would be primarily surface fires with higher flame lengths, and faster burn times as compared to burning under spring-like conditions. It would have high consumption of 1-100 hour size fuels and moderate to high consumption of 1000+ hour fuels, and with mortality expected in subdominant and some codominant tree size classes. Depending on cycles of drought and wet weather, spring-like and fall-like conditions can occur throughout the year. For the Sagehen Project, spring-like condition surface fire prescriptions would be emphasized, however due to limited suitable burning conditions, surface fire prescriptions under fall-like conditions would be implemented in some cases. In these cases, extra measures to protect large dead wood, such as creating firelines around large logs/snags, would be implemented.

Pile Burn Prescription

A pile burn prescription is designed to remove surface fuels, both fuels generated from silvicultural treatments (activity fuels) and existing fuels on the ground. A pile burn prescription can be implemented by hand or by machinery (typically a grapple piler – see below). In general, small down wood is placed in piles for future burning. Pile location and size is dictated by existing conditions, however piles would be preferentially placed outside of sensitive areas such as riparian conservation areas and cultural resource sites. Piles of fuels typically are burned under fall-like conditions, in winter months, or during periods of low fire danger. This prescription removes surface fuels in the treatment units and is used to mimic underburning where sensitive areas prevent unit-wide application of underburning.

2.2.4 Fire/Fuel Treatment Methods

Often, the silvicultural treatment would partially achieve hazardous fuels reduction objectives, and, in the case of mastication, could fully achieve fuels reduction objectives. Most of the silvicultural treatments however would be followed by a fire/fuels treatment, aimed at reducing surface fuels and residual ladder fuels.

Prescribed fire constitutes much of the proposed follow-up fuels treatments for the Sagehen Project treatment units. Prescribed fire refers to any fire ignited by management actions to meet specific objectives. Prescribed fire can include underburning (intentionally set surface and ground fire) and burning

of hand and machine constructed piles. Associated activities include creating firelines to prevent fire spread from treatment units as well as prevent the site-specific ignition of key habitat components, such as snags and down logs.

The following fire/fuel treatment methods would be used for the proposed project, as identified above in Table 2-2.

Underburn

Underburning is a generalized term used when applying prescribed fire to large areas and is typically the treatment method for a surface fire prescription. Underburning targets surface fuels, some understory, and, in rare cases, larger trees. Surface fuels are the primary agent of fire spread. The objective is to apply controlled fire under optimum conditions where the treatment can modify fuel conditions to effectively reduce fire behavior and the corresponding intensity of a future wildfire. Within some areas proposed for burning, the goal of the treatment may be to consume a significant portion of the existing surface fuels that could cause high wildfire intensities, and/or the consume understory vegetation (ladder fuels) in order to reduce future fire severity and to create conditions that allow for future prescribed underburning opportunities. In other areas, underburning is used to create new growth of native shrub species and forage opportunities for wildlife. Underburning most closely mimics low- intensity fire that would occur in an active fire regime. Underburning, especially on south and west facing slopes, is typically conducted under spring-like conditions. A more mosaic burn pattern is created by underburning in spring-like conditions as compared to fall-like conditions; with some areas minimally burned and overall less fuel consumption. For the Sagehen Project proposal, underburning would be applied on a unit-wide basis, in other words, where underburning is proposed it would be conducted across the entire treatment unit and across all subunits (emphasis areas) within that treatment unit.

Hand Piling and Burning

After a hand or mechanical thin, residual activity fuels and some naturally occurring fuels are piled by hand into burn piles. Hand piles of fuels typically are burned under fall-like conditions, in winter months, or during periods of low fire danger.

2.3 PRESCRIPTION METRICS

Metrics for post-treatment stand structure elements and tree species composition have been developed to guide application of the silvicultural and fire/fuels prescriptions within each emphasis area. Post-treatment stand structure elements include: (a) basal area, particularly in trees greater than 20 inches DBH, (b) canopy cover, (c) snag density, (d) large and small down woody material, (e) short snag/high stump densities, (f) dense cover areas (DCAs) and early seral openings (ESOs), and (g) prescribed surface fire behavior, as indicated by spatial extent and intensity (tree mortality). The site-specifically defined values for the metrics for each subunit are grounded in the scientific literature as well as Forest Plan direction related to emphasis area objectives (Truckee Ranger District, March 2013). The following discussion encompasses the metrics for the entire Truckee Ranger District Sagehen Project, which includes the proposed project (Units 61, 91, 98, and 282).

Post-treatment metric values for each emphasis area represent a range of outcomes that would vary by subunit as prescriptions were applied within the context of the existing stand's structure and tree species composition. For example, although silvicultural and fire/fuels prescriptions for subunits 213-1 and 38-1 are designed to meet emphasis area 1 objectives, post-treatment stand conditions for subunit 213-1, which is occupied by a higher elevation mature red fir stand on a northwest-facing slope, would be different than those for subunit 38-1, which is occupied by a lower elevation mixed conifer stand on an east-facing slope.

The stand structure and species composition metrics apply at the subunit-scale. While these metrics can play out at other spatial scales (for example, microsite or landscape scales), they are meant to be applied at the subunit-scale. The silvicultural prescriptions would be applied in the step-wise fashion (as described in Section 2.2, Prescriptions and Treatments), with variable thinning decisions regarding which trees to retain made at generally a microsite scale by field marking crews. The stand structure and species composition subunit-scale metrics would serve to limit and define the tree marking decision space. Data on the defined metrics would be gathered and assessed during the layout and tree marking phase of the project, with adjustments made to tree marking as necessary to align with emphasis area treatment objectives.

The sections below summarize key similarities and differences between the metrics for each emphasis area.

Basal Area

Although site and stand-scale basal areas are relatively homogeneous, existing subunit-scale basal areas are quite variable, both within and between emphasis areas, ranging on average between 100 and 280 square feet per acre across all subunits. However, site conditions can exceed 280 square feet. Emphasis area treatment objectives would be expected to result in a 20 to 25 percent reduction in existing basal area levels at the subunit scale, with the lower end of the range (20 percent reduction) in emphasis area 1 subunits and the higher end (25 percent reduction) in emphasis area 7 subunits. Residual basal areas in emphasis areas 1 through 4 would typically range between 165 and 190 square feet per acre, but could go as high as 300 square feet in DCAs or similar existing dense areas retained in the variable thin prescription (such as groupings of large trees). While emphasis areas 5, 6, and 7 would typically range between 100 and 170 square feet per acre, there could be sites as low as 10 square feet in ESOs, and other areas that would exceed 170 square feet (such as in DCAs or similar existing dense areas retained in the variable thin prescription - groupings of large trees).

In summary, all ranges are presented as overall averages at the subunit level scale. Site-scale conditions influence the average subunit basal areas, but can be outside these ranges. Retained basal area would vary based on existing pre-treatment conditions coupled with emphasis area goals, and would contribute to the increase in site and stand variability. Mechanical thinning treatments would at minimum meet Forest Plan standards and guidelines for basal area retention and in many cases would exceed retention standards.

In addition, reductions in basal area would not be evenly distributed across tree size classes (trees less than ten inches DBH, trees between ten and 19.9 inches DBH, and trees between 20 and 29.9 inches DBH), however. All trees 30 inches DBH and larger would be retained within all treatment units. For all emphasis areas, silvicultural prescriptions focus on removing selected trees less than 20 inches DBH, guided by the emphasis area's treatment objectives. The majority of the retained basal area would be in the largest trees within each subunit; most trees 20 inches DBH and larger would be retained following application of the silvicultural and fire/fuels prescriptions. Data from the Sagehen Test Plots show that between 89 and 93 percent of trees between 20.0 and 29.9 inches DBH were retained following application of variable thinning, legacy tree treatment, dense cover area, and early seral opening prescriptions and, in the case one unit, a low intensity surface fire prescription. Similar outcomes would be expected for the Sagehen Project subunits.

Canopy Cover

Tree canopy cover retention would result from retaining basal area as described above. Canopy cover is a stand level average that indicates roughly the percentage of the forest floor that is vertically overtopped with tree canopy. The silvicultural and fire/fuels prescriptions are expected to result in varying canopy cover levels within each subunit. For emphasis area 1 through 5 subunits, canopy cover following application of silvicultural and fire/fuels prescriptions would on average be greater than 50 percent, with reductions of existing canopy cover ranging between 10 and 15 percent. For emphasis area 6 and 7 subunits, canopy cover following application of prescriptions would generally range on average between

40 and 50 percent. However in all emphasis areas, site canopy cover could go as high as 85 percent in DCAs or similar existing dense areas retained in the variable thin prescription (such as groupings of large trees), or as low as 20 percent in ESOs.

In summary, all canopy cover ranges are presented as overall averages at the subunit level scale. Site-scale canopy cover influences the average subunit canopy cover percentages, but can be outside these ranges. Retained canopy cover would vary based on existing pre-treatment conditions coupled with emphasis area goals, and would contribute to the increase in site and stand variability. Mechanical thinning treatments (only proposed for the larger Sagehen Project and not the proposed project) would meet (and, in many cases, exceed) Forest Plan standards and guidelines for canopy cover retention and in many cases exceed retention standards.

Snag Density

Snag density levels would be higher within emphasis areas 1 through 5 compared to emphasis areas 6 and 7. Large snags (greater than 15 inches DBH) would be retained within all subunits, regardless of emphasis area. Where currently available within emphasis area 1, 2 and 5 subunits, some decadent firs with declining crown characteristics would be retained for future snag recruitment. Where existing snag levels are low, particularly within the plantations, silvicultural prescriptions retain all snags greater than three inches DBH. Snag retention would meet (and, in many cases, exceed) Forest Plan standards and guidelines.

Snag density goals, especially in emphasis areas 1 and 2, would incorporate findings set forth in Spencer (1981) “Average densities (no. per ha) in known marten habitat was 46 snags (>20cm)”. This converts to 18.6 snags per acre greater than 7.9 inches DBH, however this density was in clumps, not as an average across high quality marten reproductive habitat (pers. comm. Wayne Spencer, 2011). The management recommendation from Spencer (1981) of “At least 8 snags/ha \geq 38cm DBH, including at least 1 fir snag/ha 70 cm should be retained” (converted 3 snags per acre greater than or equal to 15 inches DBH, 0.4 fir snag per acre 28 inches DBH) is also incorporated into snag density goals in that all snags greater than 15 inches DBH would be retained and where snags numbers were low, snags would be created through the Decadent Feature Enhancement prescription (see below for subunits with this prescription applied). Emphasis area 1 and 2 long term objectives for snags greater than 15 inches DBH are 18 and 15 snags per acre respectively and the project goal is to move emphasis areas towards the long term objectives.

Silvicultural prescriptions for subunits 100-1 and 100-2 call for creating (via partial tree girdling) approximately two to three snags (each between 15 and 30 inches DBH) per acre outside DCAs and one snag (greater than 15 inches DBH) per acre within DCAs.

Hand-constructed fire lines would be placed around large snags before applying low intensity surface fire prescriptions. Each subunit’s low intensity surface fire prescription (available in the project record) specifies the numbers of snags to be lined, based on existing numbers of large snags within the subunit. In emphasis area 1 and 2 subunits proposed for underburning, between 10 and 18 large snags per acre would be lined while in emphasis area 4, 5, 6, and 7 subunits, between 2 and 10 large snags per acre would be lined.

In treatment units where hand or grapple piling of fuels would be conducted, piles would be located a sufficient distance from large snags (greater than 15 inches DBH) to ensure the snags did not ignite during pile burning operations.

Down Woody Material

In all subunits, regardless of emphasis area, large down logs (larger than 15 inches diameter and ten feet long) would be retained during implementation of silvicultural treatments.

Fire/fuels prescriptions are designed to retain specified levels of down woody material, commensurate with emphasis area management objectives. In units proposed for application of low intensity surface fire following silvicultural treatments, the largest down logs per acre would be lined to protect them during underburning operations. Emphasis area 1 and 2 subunits to be underburned have the greatest quantities of large down logs to be lined prior to underburning, ranging from 15 to 20 large down logs to be lined per acre. In emphasis area 4, 5, 6, and 7 subunits generally three to seven large down logs per acre would be lined, with the exception of subunits 163-5, 163-7, and 213-4. In these subunits, approximately 15 to 20 large logs per acre would be lined prior to application of low intensity surface fire.

In treatment units proposed for grapple or hand piling, piles would be located a sufficient distance from large down logs to ensure the logs did not ignite during pile burning operations. In addition, piling would not be conducted on approximately 30 percent of the unit, allowing for retention of small down woody material.

In treatment units proposed for surface fire prescriptions (refer to Table 2-2 for information regarding the proposed project), approximately 30 percent of each unit's area would not be underburned. Small woody material would be retained in these unburned areas of the treatment units.

Snags/High Stumps

Short snags would be created in emphasis area 1 through 6 subunits with silvicultural prescriptions that include existing DCAs. These subunits are located outside the Sagehen Project's plantations. To create short snags, approximately two live trees per acre of DCA, greater than 15 inches DBH, would be cut at a height of ten to 20 feet above the ground. White fir would be the preferred cut species. Felled portions of these cut trees would be retained on site.

Dense Cover Areas and Early Seral Openings

Silvicultural prescriptions call for varying acreages of DCAs and/or ESOs within each subunit, based on emphasis area. (Note that DCAs and ESOs are not included in the plantation thinning prescription.) DCA/ESO acreages are calculated as a portion of each subunit's area, with the highest proportion in emphasis area 1 subunits. In emphasis area 1 subunits, DCAs and ESOs would occupy an average of 15 to 20 percent of the subunit area; in emphasis areas 2 and 6, DCAs and ESOs would occupy an average of five to ten percent of the overall subunit area; in emphasis areas 4 and 5, DCAs and ESOs would occupy an average of ten to 15 percent of the subunit area; and in emphasis area 7, DCAs and ESOs would occupy an average of one to five percent of the subunit area. Subunits 38-1, 73-5, and 213-1 would have the highest acreages of DCAs, ten, eight, and 15 total acres, respectively.

Tree Species Composition

Site-specific objectives for tree species composition are based on existing species composition within the subunits. Relative percentages of tree species to be removed vary by crown class (dominant, codominant, subdominant, and suppressed) within each subunit, as described in detail in the Project Record. Silvicultural prescriptions for all subunits outside plantations, regardless of emphasis area, would be primarily focused on removing suppressed trees (ranging from 50 to 90 percent removal of existing suppressed trees) and some removal of subdominant trees (ranging from ten to 30 percent removal of existing subdominant trees), depending on the existing species composition within the subunit. In general,

most dominant and codominant trees of all species would be retained, with some limited site-specific exceptions to provide for removal of three to ten percent of dominant/codominant white fir.

Because the plantations are predominantly comprised of Jeffrey pine, plantation thinning prescriptions are focused on retaining existing white fir and red fir as well as sugar pine and western white pines not infected with blister rust.

Prescribed Surface Fire Behavior

Two metrics are used to define targets for surface fire prescriptions: spatial extent of surface fire and intensity as indicated by the amount of tree mortality caused by surface fire. To facilitate application of surface fire prescriptions, underburning is proposed for entire treatment units (rather than individual subunits within treatment units). Hence, values for the prescribed surface fire metrics are applied at the treatment unit scale, and are the same for all emphasis areas.

The spatial extent for application of low intensity surface fire is approximately 70 percent of the area in a mosaic pattern within each treatment unit. (Table 2-2, above, displays the treatment units proposed for surface fire prescriptions within the proposed project.) Approximately 30 percent of the unit's area would remain in an unburned condition. Surface fire prescriptions would be designed to result in mortality of approximately 70 percent of trees less than three inches DBH and approximately five to 15 percent of trees greater than three inches DBH. Mortality in trees greater than three inches DBH would be primarily comprised of trees in subdominant crown classes, with occasional mortality of trees in the codominant crown class.

3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology / Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology / Water Quality |
| <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation / Traffic | <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION: (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Jim Branham, Executive Officer

Date

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a, c.) **Less Than Significant.** The proposed project area surrounds the University of California Berkeley Sagehen Creek Field Station, immediately west of State Route (SR) 89, and adjacent to Sagehen Road, as well as Forest Service Roads, such as Roads 11-4, 89-36-8, and 878-2. In addition, the proposed project site is near the Sagehen Creek Field Station, the University of California Wildlife Experiment Station, and there are campgrounds to the west of the proposed project. Proposed project activities include requiring fire lines around large snags before applying low intensity surface fire prescriptions. Understory burning would be modified to minimize the amount of overstory mortality and islands of unburned vegetation would be retained in the project area. Where feasible, burn piles would be located in areas where they would not be highly visible from Roads 11-4, 89-36-8, and 878-2. The proposed project would not be visible from SR-89, Sagehen Creek Field Station, the University of California Wildlife Experiment Station, and the campgrounds to the west.

There would be no impacts to scenery from SR-89 or Sagehen Road, as the proposed project would not be visible due to the “walls” of trees, existing land forma, and distance from the roads to the proposed project area. Given the nature of the proposed project, to enhance forest health and forest processes, and the specific project Standard Management Requirements outlined by the Tahoe Ranger District, the proposed project would have a less than significant impact on surrounding roadways, private property, and campground. Proposed project impacts are considered less than significant. No mitigation is required.

b.) **Less Than Significant.** As part of the proposed project activities, buffer areas would be set up around any rock outcroppings and cultural resource sites. No ground disturbing activities would occur within cultural resource sites and any resources identified through consultation with Native American tribes, individuals, and other interested parties would be protected through avoidance. Therefore, the proposed project would have a less than significant impact on scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings. No mitigation is required.

d.) **No Impact.** The proposed project would include activities that would reduce fuel loads, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. The proposed project would not introduce a new source of light of glare into the region. Therefore, no impact would occur. No mitigation is required.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. -- Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non- agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a-e.) **No Impact.** The proposed project site is within the Sagehen Experimental Forest adjacent to the Tahoe National Forest. The proposed project site does not contain Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or active agricultural operations. The proposed project involves forest land, but would not involve the loss of any forest land. The proposed project would benefit the forest as it would reduce fuel loads, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. The proposed project does not include any changes that could result in conversion of any farmland to a non-agricultural use or forest land to non-forest land use. Accordingly, there would be no impact related to agricultural or forest resources. No mitigation is required.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- | | | | | |
|---|--------------------------|-------------------------------------|-------------------------------------|--------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

a, b, d) **Less Than Significant with Mitigation Incorporation.** The proposed project is located within the Mountain Counties Air Basin within the jurisdiction of the Northern Sierra Air Quality Management District (NSAQMD). Prescribed burning would be conducted during fall, spring, or winter; the most favorable times in terms of smoke dispersion.

Air Quality can be severely impacted by particulate matter and other pollutants during large wildfire events. Fugitive dust caused by construction and use of unpaved roads can produce particulate matter 10 microns or less in diameter (PM₁₀). Dust generated by skidding, loading, and timber harvest activities also contributes to fugitive dust. Table 4-1 provides the towns, communities and highways in the vicinity of the proposed project. These areas could be affected by smoke if weather patterns produce a stable air mass and smoke is unable to vent into the upper atmosphere.

Table 4-1. Sensitive Receptors Identified within 17 Miles of Sagehen Project.

Town or Feature	Distance and Direction from the Sagehen Project Boundary
State Route 89	One (1) mile west
Truckee	Six (6) miles south
Sierraville	Ten (10) miles northwest
Loyalton	Seventeen (17) miles northwest

Source: Truckee Ranger District, *Air Quality Report*, January 2013.

The current attainment status for the Sierra and Nevada Counties are provided in Table 4-2.

Table 4-2. 2011 State and Federal Attainment Status.

Criteria Pollutant	State	Federal
Ozone (O ₃)	Sierra County: Unclassified Nevada County: Nonattainment	Sierra County: Unclassified/Attainment Nevada County: Nonattainment
PM ₁₀	Nonattainment	Unclassified
PM _{2.5}	Unclassified	Unclassified/Attainment
Carbon Monoxide (CO)	Unclassified	Unclassified/Attainment

Source: Truckee Ranger District, *Air Quality Report*, January 2013.

Prescribed burns would occur as part of the proposed project. The Truckee Ranger District would prepare a burn plan, to be approved by NSAQMD, and would obtain a burn permit from NSAQMD for the burn activities of the proposed project. The burn plan and the burn permit may be only for this proposed project, or may be prepared in conjunction with the larger Sagehen Project.

Burns would be conducted on authorized burn days only in consultation between the Truckee Ranger District, the NSAQMD, and California Air Resources Board (CARB). This consultation/coordination would follow the Smoke Management Guidelines for Agricultural and Prescribed Burning contained in Title 17 of the California Code of Regulations. These Smoke Management Guidelines became effective March 14, 2001 and are intended to provide for the continuation of agricultural burning, including prescribed burning, as a resource management tool, and provide increased opportunities for prescribed burning, while minimizing smoke impacts on the public (Truckee Ranger District, February 2013). Since smoke is made up of inhalable particulates (smoke particles that measure less than ten microns in size [PM₁₀], and of less than 2.5 microns in size [PM_{2.5}]) and ozone are public health hazards; prescribed burns would be planned during periods of unstable air, which would allow for proper ventilation. However, since prescribed underburns could last for several days or weeks there is the potential for recurring shifts in air masses toward more stable conditions. For this reason, all prescribed fire activities for the proposed project would be coordinated with NSAQMD (Truckee Ranger District, February 2013).

The objective of pile burning would be to reduce fuel loadings while protecting the residual overstory trees from damage caused by heat and flames. Pile burning could produce more particulate matter per acre than understory burning because the standing biomass would be cut and piled producing higher fuel loads. However, piled material is allowed to cure and can be ignited with lower fuel moistures, which ensures complete and efficient consumption and less particulate matter being produced. If fuel loading does not meet the desired condition after the biomass reduction is complete, than an understory burn is prescribed, this is predicted to produce fewer emissions because of the lighter fuel load.

By following the burn plan and NSAQMD requirements for burning and managing project activities, it is unlikely that emissions caused by the proposed project would exceed California Air Quality Standards for the Air Quality Management District. The PM_{2.5} atmospheric concentrations currently do not exceed national standards; however, emissions could exceed California Air Resources Board (CARB) standards if (1) weather conditions predicted by CARB meteorologists do not prevail, or (2) emissions do not disperse as predicted, and/or (3) emissions from other Air Quality Management District's adversely impact air quality in local districts. Forest Service and CARB smoke-dispersal forecasting would be used as part of the burn plan to reduce effects within the regulatory framework. Impacts are considered to be less than significant with the incorporation

of mitigation measures as well as the Standard Management Requirements (refer to Appendix A) (Truckee Ranger District, February 2012).

The use of the existing unpaved roads could potentially generate dust. The proposed project would incorporate mitigation measures as well as the Standard Management Requirements (provided in Appendix A) to reduce the effect of fugitive dust. While some mechanical equipment may be used, as depicted in Table 2-2, All silvicultural treatment methods would be by using hand held equipment. Therefore, the material would be mainly thinned by chainsaw. Piling of activity created slash and brush would be by hand or with a tractor. However, the proposed project would follow the Standard Management Requirements (refer to Appendix A). Therefore, fugitive dust and exhaust from proposed project activity equipment would have a less than significant impact on air quality. No mitigation measures are required.

In addition, the controlled use of prescribed fire in combination with the removal of forest material in the form of biomass and commercial sawlogs would result in a long-term improvement in air quality.

Mitigation Measures

AIR-1 The U.S. Forest Service, Truckee Ranger District prescribed fire planner would coordinate with the Air Quality Coordinator to design the burn plan and smoke management plan, approved by the Northern Sierra Air Quality Management District (NSAQMD). Burning permits would be acquired from the NSAQMD. The NSAQMD would determine days when burning activities are allowed. The California Air Resources Board (CARB) provides daily information on “burn” or “no burn” conditions. Burn plans prepared by the Truckee Ranger District would be designed and all fuel reduction burning would be implemented in a way to minimize particulate emissions. Prescribed fire implementation for the project would be coordinated daily and seasonally with other burning permittees both inside and outside the forest boundary to help meet air quality standards.

c.) **Less Than Significant with Mitigation Incorporation.** The combination of the proposed project with past, present and reasonably foreseeable projects from prescribed burning resulting from past practices, natural surface fuel buildup, and activities on federal, state, and private lands could result in cumulative impacts. Impacts to air quality from prescribed burning in the project area and adjacent areas during the last five years have been minimal and no Notice of Violation of air quality standards has been issued to the Tahoe National Forest during this period. The proposed project would not increase the amount of prescribed fire activities in the area above what has been implemented for the last five years. The proposed project would not impact air quality in the area when combined with ongoing and reasonably foreseeable future actions. In addition, other projects are required to comply with NSAQMD rules and guidelines. In addition, all prescribed fire activities are coordinated with NSAQMD and CARB and would be implemented under optimum conditions using the Standard Management Requirements and mitigation measure AIR-1 to prevent smoke concentrations from affecting local communities. Therefore, cumulative impacts are considered less than significant and no mitigation measures are required.

Mitigation Measure

Implement mitigation measure AIR-1.

- e.) **Less Than Significant.** As discussed above, the proposed project would include activities such as pile and understory burning. These activities would produce smoke that could impact a larger area. However, Forest Service and CARB smoke-dispersal forecasting would be used as part of the burn plan to reduce effects within the regulatory framework. The local communities that might potentially be impacted by prescribed fire smoke from the proposed project are Truckee and the surrounding vicinity of the southwest Sierra Valley. However, normal wind patterns will be carrying smoke to the northeast where communities and towns will not be impacted. Because of the Standard Management Requirements applied, and the coordination with the CARB, any impacts to odors would be less than significant. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a.) **Less Than Significant.** The Tahoe National Forest contains many special status wildlife and plant species. However, proposed project activities have been designed to minimize any impacts to special status species. Large snags and downed logs provide nesting, resting, and sheltering structures for spotted owls, goshawk, and forest carnivore species and their prey, including cavity-nesting birds and small mammals. Downed logs provide nutrient cycling, maintain soil moisture and provide microclimates for fungi; and fungi are an important food source for small rodents which are the primary prey for many wildlife species. For the proposed project, the existing snags would be retained, except for snags that pose a hazard or snags that need to be removed for operability.

Noise from operating motorized equipment during project implementation, or smoke from prescribed burning, has the potential to directly affect wildlife by displacing individual animals from the vicinity of project treatment units. Noise disturbing effects are temporary, lasting several months during the year when they are implemented. If needed, limited operating periods are included in the management requirements to protect California spotted owl and northern goshawks that have active nests or roosts within 0.25 mile of project-related noise disturbances, to reduce the potential for disrupting breeding and reproduction in the project area.

The fuels treatments would reduce the shrub component immediately post-treatment, but within five years, shrubs would re-sprout. Newly sprouting shrubs provide high quality browse for deer, and shrub seeds and herbaceous vegetation provide food and shelter for rodents such as woodrats, mice and squirrels, which are prey species that support numerous sensitive species such as spotted owls, goshawk, marten, fisher, and the Sierra Nevada red fox. Studies have shown that small mammals (woodrats, deer mice) quickly repopulate burned areas, provided there are nearby unburned understory vegetation to provide source populations. Masticating and burning may reduce small mammal populations in the first year or two, but populations are expected to readily recover thereafter. Therefore, effects to small mammal populations are limited in scope, both spatially and temporally. Implementing projects using a variety of techniques (masticating, prescribed fire, hand cutting, thinning) varies the types of effects spatially throughout the watershed, and implementing projects with appropriated funding distributes these effects temporally, because not all projects in the watershed are fully funded in any given year (Truckee Ranger District, March 2013).

The Tahoe National Forest contains sensitive plant species as well. Pre-construction surveys would be implanted and sensitive plant species identified during the survey would be flagged and no ground –disturbing activities would be implemented within the flagged areas.

The proposed project would ultimately enhance forest heterogeneity at both the stand and landscape scale, reducing stand densities in certain locations, and modifying tree species composition. This would favor more fire resilient pines, result in less competition for soil moisture resources and light, and create a more heterogeneous landscape that would be better able to cope with drought stress, insect infestation, and disease outbreaks. With the proposed project Standard Management Requirements (refer to Appendix A), the proposed project would have a less than significant impact on special status wildlife and plant species. No mitigation measures are required.

b, c.) **Less Than Significant.** The proposed project would include watershed restoration. Implementation of the proposed project would not affect the following special status species because the proposed project analysis area is outside the current and/or historic range of the species: California red-legged frog (U.S.F.W.S. Threatened), Foothill yellow-legged frog (Forest Service Sensitive), Lahontan Lake tui chub (Forest Service Sensitive), Hardhead (Forest Service Sensitive), Northwestern pond turtle (Forest Service Sensitive) and California floater mussel (Forest Service Sensitive) (Truckee Ranger District, March 2013).

Temporary/road construction and obliteration, stream crossing construction, activities within RCAs, felling of trees, burning activities, use of water drafting sites, and the application of a fungicide, such as Sporax, could result in impacts to riparian and wetland habitat and species; however, the proposed project includes Standard Management Requirements, specifically 13 (refer to Appendix A) and project design criteria that would minimize impacts. Proposed project design includes no ground disturbance activities during limited operating periods for species such as the mountain yellow legged frog, and aquatic biologists would review areas identified for treatment within 500 feet of occupiers sites to determine if application of herbicides should be avoided.

Sedimentation could be slightly increased in some areas in the short term; however, treatments would follow Standard Management Requirements, provided in Appendix A, and the proposed project design. However, upon proposed project completion, it is anticipated that there would be a reduction in sediment delivery that could reduce fine sediment within the creeks in the project area. Burning prescriptions would be designed to minimize riparian disturbance. The amount of high soil burn severity is not expected to be concentrated in the RCAs because they would not be directly lit

and they tend to hold more moisture than surrounding areas. Piles identified for pile burning would be located outside of the RCAs.

Road maintenance and reconstruction could also increase sediment delivery in the short term; however, road maintenance within the proposed project area would be minimal. It is not anticipated that road maintenance would be required for the proposed project; however, in the event that road maintenance is determined necessary, Standard Management Requirements (refer to Appendix A), especially 19, 20, 21, and 22, would be incorporated to reduce the proposed project's impacts. At the end of project use, temporary roads would be sub-soiled and obliterated, and mulch and organic matter would be re-incorporated into the surface soils (Truckee Ranger District, March 2013).

Under the proposed project, the management objective of emphasis areas 2 and 4, which contain most of the RCA's and the major stream channels within treatment units, is to retain higher canopy cover, fuel moisture, and more snags and logs than the surrounding forest. These emphasis areas are designed to leave high basal area, encouraging continued shade to stream channels. At site-specific locations throughout both emphasis areas, some areas would not be treated, therefore not changing tree density. The high basal area of the treated areas, in combination with the untreated areas, would leave considerable trees within 125 feet of the water bodies that would provide shade.

While riparian habitat and riparian areas may have temporary impacts during restoration activities, the proposed project would improve riparian habitat health, improve water quality, reduce sedimentation, and improve the ultimate health of the watershed. Therefore, the proposed project would have a less than significant impact on riparian areas, riparian habitat and watersheds. No mitigation measures are necessary.

- d.) **Less Than Significant.** The proposed project would include noise during certain treatment activities as well as removal of trees and shrubs. However, snags and woody debris, riparian buffers, and maintenance of canopy closures, as well as canopy percentages for appropriate water temperatures within riparian areas, as outlined in the project description and the Standard Management Requirements (refer to Appendix A) would minimize any impacts to migratory species. Therefore, the proposed project would have a less than significant impact on migratory species. No mitigation measures are required.

- e-f.) **No Impact.** The proposed project would include activities that would reduce fuel loads, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. The proposed project would not conflict with policies or ordinances protecting biological resources nor would it conflict with any adopted conservation plans. The Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project would improve forest health, reduce fuel loading, and maintain and enhance existing forest. No impacts to recreation would occur. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a-d.) **Less Than Significant.** The proposed project would include activities that would reduce fuel loads, improve habitat and watershed conditions, and encourage healthy forest processes. The proposed project is not anticipated to result in ground-disturbing activities, as silvicultural prescriptions within the project areas would be limited to hand methods. Piles for pile burning would be placed outside of sensitive areas such as RCAs and cultural resource sites. The Truckee Ranger District found that the proposed project would not affect any cultural resources eligible for the National Register of Historic Places, nor would it cause the loss or destruction of any significant cultural resources. In addition, the proposed project design and Standard Management Requirements would help the proposed project avoid impacts to cultural resources, which includes flagging and avoiding any resources.

~~In the event of that an inadvertent effect of new discovery of previously unknown occurs during project implementation, the Truckee Ranger District would comply with the stipulations of These activities could result in ground disturbance that could impact cultural and paleontological resources; however,~~ procedures from the *First Amended Regional Programmatic Agreement Among the USDA Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and Advisory Council on Historic Preservation Regarding the Process for Compliance with Section 106 of the National Historic Preservation Act for Undertakings on the National Forests of the Pacific Southwest Region* (Regional PA) would apply. Impacts as a result of the proposed project would be less than significant; however, there is the potential to disturb previously unidentified resources or unknown human remains outside of a designated cemetery. Therefore, mitigation is required.

Ground disturbing activities are not anticipated to occur; however in the event that road maintenance is required, in is anticipated that activities would be surficial. It is not anticipated that paleontological resources would be disturbed as a result of the proposed project. Unique geologic or paleontological resources are not anticipated to occur, or be impacted, by the proposed project. Thus, the proposed project would have a less than significant impact to paleontological resources or rock outcrop; however, there is the potential to disturb previously unidentified paleontological resources. Therefore, mitigation is required.

Mitigation Measures

CULT-1 If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication

outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of either the Sierra or Nevada County coroner. All reports, correspondence, and determinations regarding the discovery of human remains on the project site shall be submitted to the Sierra Nevada Conservancy and the Truckee Ranger District.

According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).

CULT-2 During any ground disturbance activities, if paleontological resources are encountered, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the *Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the University of California Museum of Paleontology at the University of California, Berkeley regarding any discoveries of paleontological resources.

If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource appropriate measures are recommended or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Sierra Nevada Conservancy and the Truckee Ranger District.

CULT-3 If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, can evaluate the significance of the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified professional archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation.

If a potentially-eligible resource is encountered, then the qualified professional archaeologist, the Sierra Nevada Conservancy, and the Truckee Ranger District shall arrange for either 1) total avoidance of the resource or 2) test excavations to evaluate eligibility and, if eligible, total data recovery. The determination shall be formally documented in writing and submitted to the Sierra Nevada Conservancy and Truckee Ranger District as verification that the provisions for managing unanticipated discoveries have been met.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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VI. GEOLOGY AND SOILS: Would the project:

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|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii) Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a, d, e) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. The proposed project would not expose people or structures to potential substantial adverse effects involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides. While the proposed project may remove some understory ladder fuel, the proposed project would ultimately improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest. Therefore, people residing, working, or recreating in the Sierra National Forest would not be exposed to potential seismic activity or landslides beyond the existing threat. No impacts to recreation would occur. No mitigation measures are required.

b-c.) **Less Than Significant.** The proposed project would include minimal ground disturbing activities, as the main ground disturbing activities would be as a result of pile and understory burns. However, there is the potential for soil erosion or loss of topsoil. The Standard Management Requirements provided in Appendix A, include measures that would help to reduce the potential for topsoil loss. In addition, the design of the proposed project includes maintaining woody debris and a percentage of the groundcover. Therefore impacts are considered less than significant. No mitigation is required.

In addition, given that the proposed project would provide for a healthier forest, the proposed project would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. The proposed project would have a less than significant impact in this regard and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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VII. GREENHOUSE GAS EMISSIONS: Would the project:

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|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

a-b.) **Less Than Significant.** Projected climate change impacts include temperature increases, sea level rise, changes in timing, location and quantity of precipitation and the increased frequency of extreme weather events such as heat waves, droughts and floods. The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. Prescribed burns would occur as part of the proposed project. The Truckee Ranger District would prepare a burn plan, to be approved by NSAQMD, and would obtain a burn permit from NSAQMD for the burn activities of the proposed project. The burn plan and the burn permit may be only for this proposed project, or may be prepared in conjunction with the larger Sagehen Project.

Burns would be conducted on days when atmospheric ventilation transports smoke and pollutants away from populated areas such as Truckee. Burns would be conducted on authorized burn days only in consultation between the Truckee Ranger District, NSAQMD, and CARB.

Completed fuel treatments notably sustained a forest's ability to continue to sequester carbon (Truckee Ranger District, May 2013). Moreover, less tree carbon loss following wildfire should be viewed in the context of the carbon sequestered from biomass and saw timber removal in treated areas before they encountered fire. The ultimate use of that removed biomass results in relatively long-term sequestration in building materials, and biomass burning for energy which supplants fossil fuels (Truckee Ranger District, May 2013).

The proposed project would include the use of hand tools and prescribed burns. Changes in combustion efficiency change the amount of CO₂ release per ton of fuel. The proposed project would improve forest health and reduce fuel load, which would reduce the risk of severe wildfire, thus reducing the release of additional CO₂ as a result of severe wildfire. Therefore, while the proposed project would increase CO₂, the release would occur over multiple years and would be smaller than the release by a large, severe wildfire. Impacts are considered less than significant. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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VIII. HAZARDS AND HAZARDOUS MATERIALS:

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

a-c.) **Less Than Significant.** The proposed project would include the use of fungicide on stumps to prevent root rot diseases. Fungicide applications would occur on stumps greater than 14 DBH and would occur more than 25 feet from running water. Use would be limited to periods when rain events are not predicted in the near future to allow for maximum absorption into the stump. The proposed fungicide applications would not ~~occur be applied if it would affect~~ historic properties ~~would be affected~~. The application of chemical treatments would be applied so that the application does not have the potential to affect access to or use of resources by Native Americans. In addition, the application of fungicide would not occur in streamside management zones and riparian management areas. The application areas are not located within 0.25 mile of a school. Fungicide application, storage, and disposal would be administered per the United States Environmental Protection Agency (U.S. EPA) rules and regulations and manufacturer guidelines. Standard Management Requirements (refer to Appendix A) would be implemented as part of the proposed project. The proposed project would have a less than significant impact to the area as a result of fungicide application. No mitigation measures are required.

d-g.) **No Impact.** The proposed project is located within the Tahoe National Forest. It is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, nor would it create a hazard to the public. The proposed project is not within an airport or private airstrip plan area. The nearest public airports are the Truckee Tahoe Airport, approximately 10 miles south of the proposed project, and the Sierraville Dearwater Airport, approximately 11.5 miles north of the proposed project site.

The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. The proposed project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance healthy forest processes. Therefore, the proposed project area would not interfere with air traffic circulation nor would it interfere with an adopted emergency response plan or an emergency evacuation plan. The proposed project would thus, have no impact in this regard. No mitigation measures are required.

h.) **Less Than Significant.** In general, wildfire ignitions are a mix of human caused and lightning. Dead fuel moistures can indicate a wildfire's ability to spread. Wildfires usually spread in a continuous flaming front. When the 10-hour fuel moisture (measured in dead fuels that are ¼ to 1 ¼ inches in diameter) drops below a rating of six, wind can throw embers ahead of the flaming front and start multiple small fires called spot fires. Generally the higher the wind speed, the further the spot fires occur from the main fire. As these spot fires burn together they cause the speed and intensity of the fire to increase dramatically. Multiple spot fires are an indication of extreme fire behavior. It is not uncommon for these conditions to exist during the height of the fire season every year (Truckee Ranger District, February 2013).

Prescribed fire operations, in the form of pile burning, can usually occur in the cooler months during periods of low fire danger, often beginning in late October and may continue until precipitation makes the fuels too wet to ignite, usually sometime in November, but as late as January in extremely dry years. Usually underburning does not start until some light precipitation occurs.

Altered fire frequencies caused by a century of fire suppression in forests characterized by a frequent low-intensity fire regime, coupled with prolonged drought and epidemic levels of insects and diseases, have coincided to produce extensive forest mortality and the eventual increase in fuels and has contributed to greater stand densities and an increase of crown fire potential. The fire regime is now shifting towards one of infrequent higher severity fires due to the increase in flammable vegetation and increasing fuel loads which has increased the potential for crown fire (Truckee Ranger District, February 2013).

The direct effect of the proposed project is the reduction of high-severity and high-intensity fires within the treated stands. The combination of treatment strategies (silvicultural and prescribed fire) that include surface, ladder, and crown fuel treatments reduce surface flame lengths, moderate fire severity across the landscape, and reduce the potential for active and passive crown fire within the project area. Removal of trees can reduce the potential for crown fires but this is dependent on surface fuel loading. These treatments may have a desired effect on fire behavior especially on steep slopes and in places with extenuating topography or road system circumstances. In addition, reducing flame lengths through the proposed project would create more resilient conditions where fire acts in a role closer to its natural disturbance process. These treatments would also create heterogeneous forest stand conditions that would be expected to develop with active fire conditions, thus providing for healthy forest processes (Truckee Ranger District, February 2013).

All pile and prescribed fire activities would be coordinated with NSAQMD and would be implemented under optimum conditions using best available control measures (such as the Standard Management Requirements provided in Appendix A) to prevent smoke concentrations from affecting local communities. The proposed project would only burn piles that have a good base to keep the pile from toppling and would have enough distance between piles to prevent premature ignition during burning. Fire would be allowed to creep between piles while maintaining a burn intensity that would minimize tree bole scorch height or mortality of the retained trees and would be ignited using a pattern that would allow animals to escape fire. Fire-lines and existing roadways would be used to manage prescribed fire operations. Controls are set forth with the design of the proposed project, as well as requirements from the Tahoe National Forest, Sagehen Experimental Forest, and the NSAQMD. Therefore, the threat that the prescribed fires and burn piles would burn beyond the delineated area is low.

An indirect effect of the proposed project is the increased fire resilience of the landscape, which is the ability of the forest to withstand the effects of wildfires (passive and active crown fire) under 90th percentile weather conditions (Truckee Ranger District, March 2013).

Given the proposed project's outcome in reducing ladder fuel, fire intensity, and flame height, and increasing fire resilient conditions to the project area, the proposed project would have a less than significant impact on wildfires. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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IX. HYDROLOGY AND WATER QUALITY: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) Inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a, c, d, f.) **Less Than Significant.** The proposed project would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. Many of the proposed activities would reduce runoff and erosion, which would ultimately improve water quality.

The Middle Truckee River has been listed by the State of California as being “water quality limited” for sediment under Section 303(d) of the Clean Water Act. Sagehen Creek proper and the Little Truckee River within the Saddle Meadow Drainage and Prosser Creek Drainage area are tributaries to the Middle Truckee River main stem. The Truckee River and all of its tributaries have been listed as impaired waterbody (303(d)) within the Clean Water Act for high amounts of sediment based on a study reporting heavy sediment levels in the main stem of the Middle Truckee River. However, all of the run-off from the drainage areas proposed for treatment under the

proposed project flow through reservoirs prior to entering into the main stem of the Middle Truckee River. Because these drainages report to reservoirs prior to entering the Middle Truckee River main-stem any sediment becomes trapped in the reservoir, and thus there is no threat of sediment reaching the Middle Truckee River from the proposed project (Truckee Ranger District, February 2013).

The proposed project would be required to meet water quality requirements as identified in a Waiver for Timber Harvest from the Lahontan Regional Water Quality Control Board.

The proposed project is not anticipated to implement ground disturbing activities, thus minimizing erosion potential. The silvicultural treatments would be implemented by hand methods, which include the use of handsaws and chainsaws to cut understory conifers that are less than 16 inches DBH. The felled material would be piled by hand and then pile burn prescriptions would be implemented (Truckee Ranger District, March 2013).

Fungicide applications would overlap RCAs; however, fungicide use is restricted and would not be applied within 25 feet of running water. Standard Management Requirements would be applied (refer to Appendix A). Therefore, this treatment is not expected to have an impact (Truckee District, March 2013) on water quality in the short-term or long-term timeframes. It is also not expected to affect riparian vegetation because Standard Management Requirements (refer to Appendix A) and proposed project design, specify the location and use of fungicides. No effect would be expected in other proposed areas because they are not in proximity to water or riparian vegetation.

The proposed project would restore the area and would improve watershed, riparian and forest health. Proposed project activities could impact water quality, as discussed above; however, the proposed project activities and Standard Management Requirements provided in Appendix A, would ensure a less than significant impact during project implementation. Therefore, the impacts to water quality would be less than significant. No mitigation measures are required.

- b.) **No Impact.** The proposed project would restore the area and would improve watershed, riparian and forest health. No water supply would be required for the proposed project. Road maintenance would not be included as part of the proposed project. Thus, the proposed project would not impede groundwater recharge. There would be no impact to water supply as a result of the proposed project. No mitigation measures are required.
- e.) **No Impact.** While the proposed project would include activities that would maintain, repair, or reconstruct segments of existing roadways, the proposed project would not result in an increase in runoff and would not contribute to polluted runoff. Fungicide applications would be limited to periods when rain events are not predicted in the near future to allow for maximum absorption into soils. No fungicide application would occur within 25 feet of running water. The proposed project would not impact runoff amount or runoff water quality. No mitigation measures are required.
- g-j.) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. The proposed project would not introduce houses or businesses to the area. Therefore, the proposed project would not introduce people, houses, or other structures to a 100-year flood hazard area, would not redirect a 100-year flood event, would not introduce people or structures to an area that would flood, including flooding from a failed dam or levee, and would not introduce people or structures to an area that would experience inundation from seiche or tsunami. In addition, the threat of a mudflow would not be any greater than the existing conditions. Therefore, the proposed project would have no impact in this regard. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a-c.) **No Impact.** The proposed project would include activities that would reduce fuel loads, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. No changes in land use designations or zoning would occur as a result of the proposed project. The proposed project would not physically divide an established community. The proposed project would enhance the forest health, thus the proposed project would not conflict with any conservation plans for the Sagehen Experimental Forest and the Tahoe National Forest. No impact would occur as a result of the proposed project. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally- important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a-b.) **No Impact.** The proposed project would include activities that would reduce fuel loads, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. No changes in land use would occur as a result of this proposed project. Therefore the proposed project would not result in the loss of available known mineral resources. No impacts to mineral resources would occur as a result of the proposed project. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a, b, d.) **Less Than Significant.** The proposed project would increase noise levels temporarily during activities such as hand thinning. However, the proposed project design and Standard Management Requirements for the proposed project, as outlined in Appendix A, would result in impacts that are less than significant. In addition, the anticipated mechanical equipment used for proposed project activities are not anticipated to result in excessive groundborne vibration levels, as all treatments would be conducted by hand. No large equipment is anticipated to be used within the proposed project area. Activities would be temporary in nature, as they would cease upon project completion. Standard Management Requirements (refer to Appendix A) include noise criteria, mainly with respect to disturbance of special status species. Therefore, the proposed project would have a less than significant impact. No mitigation measures are required.

c.) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. While temporary noise would occur as a result of the hand thinning and other restoration treatments, these noise increases would be temporary in nature and would cease upon project completion. Therefore, the proposed project would not permanently increase ambient noise levels above existing noise levels. No mitigation measures are required.

e, f.) **No Impact.** The proposed project is not located within an airport land use plan or in the vicinity of a private airstrip. The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. The proposed project would not expose people to excessive noise levels as a result of the proximity to an airport or private airstrip. No impacts to recreation would occur. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XIII. POPULATION AND HOUSING: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a-c.) **No Impact.** The proposed project would include activities that would reduce fuel loads, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. No changes in land uses would occur as a result of the proposed project. The proposed project does not include the development of new homes or businesses. The proposed project would not displace existing homes or people. No impacts would occur as a result of the proposed project. No mitigation measures are required.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XIV. PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a.) **No Impact.** The proposed project would include activities that would reduce fuel loads, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. The proposed project would not result in an increase need for public services. While pile and understory burning are an element of the proposed project, the Truckee Ranger District and National Forest Foundation would provide appropriate staff for these proposed project activities. Thus, the proposed project would not result in an increase need for fire protection. The proposed project would improve forest health, reduce fuel loading, and maintain and enhance existing forest processes. No impacts to public services would occur. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XV. RECREATION

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a-b.) **No Impact.** The proposed project would include activities that would reduce fuel loads, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. The proposed project would not increase the use of existing neighborhood and regional parks, nor would it increase the use of the Experimental Forest or adjacent National Forest. The proposed project would not require the expansion or construction of recreational facilities. The proposed project would improve forest health, reduce fuel loading, and maintain and enhance existing forest processes. No impacts to recreation would occur. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. Transportation / Traffic: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a-f.) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. A temporary increase in traffic may occur while crews are being move to the project area or out of the project area. However, because of the nature of the proposed project activities, it is not anticipated that the proposed project would conflict with applicable plans, ordinances, policy establishing measures, congestion management plans or programs, or policies or programs regarding alternative transportation (public transit, bicycles, or pedestrian facilities).

The proposed project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance healthy forest processes. Thus, the proposed project would not impact air traffic patterns.

The proposed project would maintain roadways within the project area. No reconstruction is anticipated within the proposed project area. Therefore, the proposed project would not increase hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). No mitigation measures are required.

The proposed project would improve forest health and processes, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest. This would improve emergency access to the Sierra National Forest in case of wildfire or other forest emergency. No impacts from the proposed project would occur. No mitigation measures are necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a-g.) **No Impact.** The proposed project would include activities that would reduce fuel loads, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. The proposed project would not require wastewater treatment, water supply, or solid waste disposal, as the proposed project does not include utilities and service systems. The proposed project would improve forest health, reduce fuel loading, and maintain and enhance existing forest processes. No impacts to utilities and service systems would occur. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

- a.) **Less Than Significant.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage healthy forest processes. The proposed project activities as described in Section 2.0, Project Description, as well as the Standard Management Requirements provided in Appendix A³, would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest health. Temporary impacts would be less than significant. No mitigation measures are required.
- b.) **Less Than Significant.** The proposed project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance healthy forest processes. While air quality and greenhouse gas emissions could result in cumulative impacts as a result of the proposed project, prescribed burns would occur over multiple years, under the coordination and guidance of the NSAQMD. The proposed project would reduce the threat of severe wildfire, and, therefore, long term impacts would not be cumulatively considerable. Impacts are considered less than significant.
- c.) **Less Than Significant.** The proposed project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance healthy forest processes. While smoke would occur during prescribed burns, overall impacts to human beings would be beneficial in nature, as wildfire threat and severity would be reduced as a result of the reduction in ladder fuels. Therefore, impacts would be less than significant.

³ Standard Management Requirements are part of the proposed project activities. Appendix A provides all Standard Management Requirements for the larger Truckee Ranger District Sagehen Project.

5.0 RESPONSE TO COMMENTS

5.1 PURPOSE

As defined by Section 15050 of the California Environmental Quality Act (CEQA) Guidelines, the Sierra Nevada Conservancy (SNC) is serving as "Lead Agency," for preparation of the Mitigated Negative Declaration (MND) for the Basin Old Forest Sensitive Species Habitat Restoration Project (proposed project). The Final MND presents the environmental information and analyses that have been prepared for the proposed project, including comments received addressing the adequacy of the Initial Study (IS)/Proposed MND and responses to those comments. The Final IS/MND, which includes these responses to comments, the Draft IS, and the technical appendices, will be used by the SNC Governing Board in the decision-making process for the proposed project.

5.2 ENVIRONMENTAL REVIEW

The SNC prepared and distributed the IS/Draft MND, dated January 2014, for the proposed project (State Clearinghouse [SCH] No. 2014012006). The IS/MND was circulated for a 30-day review period which began on January 3, 2014 and extended to February 3, 2014. SNC received three (3) written comment letters and no verbal comments on the IS/MND. The agency that has commented on the Draft IS/MND is listed in Table 5-1, *Public Comments Received on the Draft IS/MND*.

Table 5-1. Public Comments Received on the Draft IS/MND

Letter/Comment No.	Commenter	Commenter Type
1	Governor's Office of Planning and Research – State Clearinghouse	State
2	California Department of Forestry and Fire Protection	State
3	California Water Boards – Central Valley Regional Water Quality Control Board	State

Pursuant to State CEQA Guidelines Section 15074, the SNC Governing Board shall consider the IS/MND together with any comments received during the public review process. The SNC Governing Board shall adopt the proposed MND only if it finds on the basis of the whole record, including the IS and public comments, that there is no substantial evidence that the proposed project would have a significant effect on the environment and that the MND reflects the lead agency's independent judgment and analysis. The responses to comments are contained in this chapter, Chapter 5, *Response to Comments*, of this IS/MND. A copy of the numbered comment letter and a lettered response to each comment is provided in Section 5.4, *Response to Comments*, of this chapter.

5.3 REVISIONS TO THE DRAFT IS/MND

Revisions made to the text of the IS/MND are shown within this document. Clarifications to this IS/MND text are shown with underlining and text removed from the IS/MND is shown with ~~strikeout~~. No revisions to the IS/MND were made as a result of the public comment period.

5.4 RESPONSE TO COMMENTS

The letter comments received on the Draft IS/MND are addressed in their entirety in this section. Each comment contained in the letter has been assigned a reference code. The responses to reference code comments follow the letter. Three (3) written comment letters was received and no verbal comments were received during the public comment period.

Comment Letter 1



Edmund G. Brown Jr.
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit



Ken Alex
Director

February 4, 2014

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

Subject: Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project
SCH#: 2014012006

Dear Matthew Daley:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on February 3, 2014, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,


Scott Morgan
Director, State Clearinghouse



Enclosures

cc: Resources Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

**Document Details Report
State Clearinghouse Data Base**

SCH# 2014012006
Project Title Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project
Lead Agency Sierra Nevada Conservancy

Type MND Mitigated Negative Declaration
Description The National Forest Foundation is requesting \$349,140 in funding from the Sierra Nevada Conservancy's Proposition 84 Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Grant Program in order to do work in the Sagehen Experimental Forest to protect and enhance habitat, especially for Pacific marten, restore stand level ecology, and reduce fuel loads in the Sagehen Basin in the Basin Old Forest Sensitive Species Habitat Restoration Project area in the Sagehen Experimental Forest adjacent to the Tahoe National Forest. This project would alter fuel loads to return to the mixed severity fire regime, improve wildlife habitat and foraging grounds, improve watershed conditions, and encourage healthy forest ecological processes.

Lead Agency Contact

Name Matthew Daley
Agency Sierra Nevada Conservancy
Phone 530 823 4698 **Fax**
email
Address 11521 Blocker Drive, Suite 205
City Auburn **State** CA **Zip** 95603

Project Location

County Nevada, Sierra
City Truckee
Region
Lat / Long
Cross Streets Sage Hen Road, west of SR 89
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways Hwy 89
Airports Truckee Tahoe Airport
Railways
Waterways Sagehen Creek
Schools
Land Use

Project Issues Air Quality; Archaeologic-Historic

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 2; Cal Fire; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 3 N; Air Resources Board; Regional Water Quality Control Bd., Region 5 (Sacramento); Native American Heritage Commission; Public Utilities Commission; Tahoe Regional Planning Agency; Other Agency(ies)

Date Received 01/02/2014 **Start of Review** 01/03/2014 **End of Review** 02/03/2014

Notice of Completion & Environmental Document Transmittal

2014012006

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
 For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

Project Title: Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project
 Lead Agency: Sierra Nevada Conservancy Contact Person: Matthew Daley
 Mailing Address: 11521 Blocker Drive, Suite 205 Phone: 530-823-4688
 City: Auburn Zip: 95603 County: Placer
 Project Location: County: Nevada and Sierra City/Nearest Community: Truckee Zip Code: 96161
 Cross Streets: Sage Hen Road, west of State Route 60 "W" Total Acres: 220
 Longitude/Latitude (degrees, minutes and seconds): "N" "W" Range: Base:
 Assessor's Parcel No.: Waterways: Sagehen Creek
 Within 1 Mile: State Hwy #: 60 Section: Twp.: Range: Base:
 Airports: Truckee Tahoe Airport Railway: N/A School: N/A

Document Type: Draft EIR NEPA: NOI Other: Joint Document
 CEQA: NQP Early Cons Neg Dec Mit Neg Dec
 Supplement/Subsequent EIR (Prior SCH No.)
 Final Document
 Other: _____

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JAN 02 2014
 12:21 PM
 STATE CLEARINGHOUSE

Local Action Type: General Plan Update Specific Plan Rezone Annexation
 General Plan Amendment Master Plan Paved Unit Development Use For State Clearinghouse Redevelopment
 General Plan Element Site Plan Land Division (Subdivision, etc.) Other: Restoration
 Community Plan

Development Type: Residential: Units _____ Acres _____ Employees _____
 Office: Sq. ft. _____ Acres _____ Employees _____
 Commercial: Sq. ft. _____ Acres _____ Employees _____
 Industrial: Sq. ft. _____ Acres _____ Employees _____
 Educational: _____
 Recreational: _____
 Water Facilities: Type _____ MGD _____
 Transportation: Type _____
 Mining: _____ Mineral _____
 Power: _____ Type _____ MW _____
 Waste Treatment: Type _____
 Hazardous Waste: Type _____
 Other: Habitat Restoration

Project Issues Discussed in Document: Fiscal Recreation/Parks Vegetation
 Aesthetic/Visual Flood Plain/Flooding Schools/Universities Water Quality
 Agricultural Land Forest Land/Fire Hazard Sewer Capacity Water Supply/Groundwater
 Air Quality Geologic/Seismic Solid Waste Wetland/Riparian
 Archeological/Historical Noise Toxic/Hazardous Growth Inducement
 Biological Resources Population/Loading Balance Traffic/Circulation Land Use
 Coastal Zone Public Services/Facilities Other: _____
 Drainage/Absorption Cumulative Effects
 Economic/Job

Present Land Use/Zoning/General Plan Designation:
 See page 3
 Project Description: (please use a separate page if necessary)
 The National Forest Foundation is requesting \$149,140 in funding from the Sierra Nevada Conservancy's Proposition 64 Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Grant Program in order to do work in the Sagehen Experimental Forest to protect and enhance habitat, especially for Pacific marten, restore stand level ecology, and reduce fuel loads in the Sagehen Basin in the Basin Old Forest Sensitive Species Habitat Restoration Project area in the Sagehen Experimental Forest adjacent to the Tahoe National Forest. This project would alter fuel loads to return to the mixed severity fire regime, improve wildlife habitat and foraging grounds, improve watershed conditions, and encourage healthy forest ecological processes. (continued on page 3).

State Clearinghouse Contact: YC
 (916) 445-0613
 State Review Began: 1.3.2014
 SCH COMPLIANCE 2.3.2014
 Please note State Clearinghouse Number (SCH#) on all Comments
2014012006
 SCH#: _____
 Please forward late comments directly to the Lead Agency
 AQMD/APCD 21
 (Resources: 1,4)

Project Sent to the following State Agencies

<input checked="" type="checkbox"/> Resources	<input type="checkbox"/> State/Consumer Svcs
<input type="checkbox"/> Boating & Waterways	<input type="checkbox"/> General Services
<input type="checkbox"/> Coastal Comm	<input type="checkbox"/> Cal EPA
<input type="checkbox"/> Colorado Rvr Bd	<input checked="" type="checkbox"/> ARB: ALL Projects
<input type="checkbox"/> Conservation	<input type="checkbox"/> ARB: Transportation Projects
<input checked="" type="checkbox"/> CDFW # <u>2</u>	<input type="checkbox"/> ARB: Major Industrial Projects
<input type="checkbox"/> Delta Protection Comm	<input type="checkbox"/> SWRCB: Div. Financial Assist.
<input checked="" type="checkbox"/> Cal Fire	<input type="checkbox"/> SWRCB: Wtr Quality
<input checked="" type="checkbox"/> Historic Preservation	<input type="checkbox"/> SWRCB: Wtr Rights
<input checked="" type="checkbox"/> Parks & Rec	<input checked="" type="checkbox"/> Reg. WQCB # <u>55</u>
<input checked="" type="checkbox"/> Central Valley Flood Prot.	<input type="checkbox"/> Toxic Sub Cnt-CTC
<input type="checkbox"/> Bay Cons & Dev Comm.	<input type="checkbox"/> Yrb/Adlt. Corrections
<input checked="" type="checkbox"/> DWR	<input type="checkbox"/> Corrections
<input type="checkbox"/> Cal EMA	
<input type="checkbox"/> Resources, Recycling and Recovery	
<input type="checkbox"/> Bus Transp Hous	<input type="checkbox"/> Independent Comm
<input checked="" type="checkbox"/> Acromatics	<input type="checkbox"/> Energy Commission
<input checked="" type="checkbox"/> CHP	<input checked="" type="checkbox"/> NAHC
<input checked="" type="checkbox"/> Caltrans # <u>31</u>	<input checked="" type="checkbox"/> Public Utilities Comm
<input type="checkbox"/> Trans Planning	<input type="checkbox"/> State Lands Comm
<input type="checkbox"/> Housing & Com Dev	<input checked="" type="checkbox"/> Tahoe Rgl Plan Agency
<input type="checkbox"/> Food & Agriculture	<input checked="" type="checkbox"/> Sierra Nevada Conservancy
<input type="checkbox"/> Public Health	<input type="checkbox"/> Conservancy

Other: _____

Response to Comment Letter 1: Governor's Office of Planning and Research – State Clearinghouse (February 4, 2014)

- A. Thank you for your comment. The participation of the State Clearinghouse in the public review of this document is appreciated. The commenter states that the State Clearinghouse distributed the Draft IS/MND for selected agencies to review; in compliance with the California Environmental Quality Act (CEQA). Comment letters were received from the California Department of Forestry and Fire Protection (CAL FIRE) (January 7, 2014) and the Central Valley Regional Water Quality Control Board (CVRWQCB) (January 31, 2014), and were attached to the comment letter. Both the CAL FIRE and CVRWQCB letters are provided below. Responses to the CAL FIRE letter are provided in Comment Letter 2. Responses to the CVRWQCB letter are provided in Comment Letter 3. The comments have been noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.

Comment Letter 2

State of California

The Natural Resources Agency

Memorandum

To: Doug Wenham, Chief
Northern Region
Department of Forestry and Fire Protection

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2/3/14
e

Date: January 7, 2014
R13

Attention: Environmental Coordinator
Nevada-Yuba-Placer Unit

Telephone: (916) 653-4995

From: Department of Forestry and Fire Protection
Chris Browder, Deputy Chief
Environmental Protection

Subject: Environmental Document Review

Project Name: Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project
SCH #: 2014012006
Document Type: Mitigated Negative Declaration

Potential Area(s) of Concern: Fire Protection?; Need for THP?
Other:
MANDATED DUE DATE: 2/3/2014

The above referenced environmental document was submitted to State Headquarters, Environmental Protection for review under the California Environmental Quality Act (CEQA) or the National Environmental Policy Act (NEPA). The proposed project, located within your Unit/Program Area, may have an impact upon the Department's fire protection and/or natural resource protection and management responsibilities or require the Department's permits or approval. Your determination of the appropriate level of CAL FIRE involvement with this project is needed. Please review the attached document and address your comments, if any, to the lead agency prior to the due date. Your input at this time can be of great value in shaping the project. If your Unit's Environmental Coordinator is not available, please pass on to another staff member in order to meet the mandated deadline.

Please submit comments directly to the lead agency before the mandated due date with copy to the State Clearinghouse (P.O. Box 3044, Sacramento, CA 95812-3044).

No Comment - explain briefly on the lines below.

Project exists on USFS land. NEPA has been done to validate project implementation

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Name and Title of Reviewer: Jeff Dowling FORI
Phone: (539) 587-8926 Email: jeff.dowling@fire.ca.gov
Note: Please complete this form and return it, with a copy of any comments, for CAL FIRE's records to: Ken Nehoda or Chris Browder, Deputy Chief, Environmental Protection, P.O. Box 944246, Sacramento CA 94244-2460.

JAN 24 2014

STATE CLEARING HOUSE

***Response to Comment Letter 2: California Department of Forestry and Fire Protection
(CAL FIRE) (January 7, 2014)***

- A. Thank you for your comment. The participation of CAL FIRE in the public review of this document is appreciated. The commenter notes that the proposed project is within U.S. Forest Service land and that the National Environmental Policy Act (NEPA) process was completed for the proposed project. The comment raises no issue with the adequacy of the Draft IS/MND. The comment is noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.

Comment Letter 3



Central Valley Regional Water Quality Control Board

31 January 2014

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

CERTIFIED MAIL
7013 1710 0002 3644 0595

COMMENTS TO REQUEST FOR REVIEW FOR THE MITIGATED NEGATIVE DECLARATION, SAGEHEN BASIN OLD FOREST SENSITIVE SPECIES HABITAT RESTORATION PROJECT, SCH NO. 2014012006, NEVADA AND SIERRA COUNTY

Pursuant to the State Clearinghouse's 3 January 2014 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Mitigated Negative Declaration* for the Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project, located in Nevada and Sierra County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

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Phase I and II Municipal Separate Storm Sewer System (MS4) Permits¹

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 97-03-DWQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

¹ Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

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Clean Water Act Section 401 Permit – Water Quality Certification

If an USACOE permit, or any other federal permit, is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

Waste Discharge Requirements

If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project will require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

Low or Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf

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Sagehen Basin Old Forest Sensitive Species
Habitat Restoration Project
Nevada and Sierra County

- 4 -

31 January 2014

If you have questions regarding these comments, please contact me at (916) 464-4684 or
tcleak@waterboards.ca.gov.



Trevor Cleak
Environmental Scientist

A

cc: State Clearinghouse Unit, Governor's Office of Planning and Research, Sacramento

**Response to Comment Letter 3: Central Valley Regional Water Quality Control Board
(January 31, 2014)**

- A. Thank you for your comment. The participation of the Central Valley Regional Water Quality Control Board (RWQCB) in the public review of this document is appreciated. The commenter discusses their responsibility in protecting the quality of surface and groundwater and provides information on the different permits that are issued under CVRWQCB.

The commenter is referred to the subsection *Hydrology and Water Quality* provided on page 41 of Chapter 4, *Evaluation of Environmental Impacts*, of this IS/MND. The Truckee Ranger District analyzed a larger project (Sagehen Project) within the NEPA EA/FONSI that is within both the Central Valley RWQCB and the Lahontan RWQCB jurisdictions. The Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project (proposed project) is located in the Sagehen Basin, Sagehen Experimental Forest, which is within the Lahontan RWQCB. The proposed project is required to meet water quality requirements as identified in a Waiver for Timber Harvest from the Lahontan Regional Water Quality Control Board (2009 Timber Waiver)⁴. Compliance with the 2009 Timber Waiver will result in the protection of water quality. The 2009 Timber Waiver requirements include, but are not limited to total maximum daily load (TMDL) limits, expedited permitting for forest fuel hazard reduction efforts, prohibiting waste (i.e., petroleum products, soil, silt, sand, rock,, felled trees, slash, sawdust, and bark) from being discharged to surface waters, and monitoring any equipment for leaks in order to prevent spills into surface waters. The proposed project is not anticipated to result in ground disturbing activities, and by using hand thinning methods to reduce fuel loads will minimize erosion potential. In addition, the proposed project includes Standard Management Requirements (as provided in Appendix A of this IS/MND), that would further protect water quality within the project boundaries. If it is determined that the proposed project is indeed within the Central Valley RWQCB and additional permits are required, beyond what is set forth in the Waiver for Timber Harvest, the Truckee Ranger District will obtain all required permits. The comment is noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.

⁴ Board Order No R6T-2009-0029, Conditional Waiver of Waste Discharge Requirements for Waste Discharges Resulting From Timber Harvest and Vegetation Management Activities in the Lahontan Region for Modoc, Lassen, Plumas, Sierra, Nevada, Placer, El Dorado, Alpine, Mono, Inyo, San Bernardino, Kern, and Los Angeles Counties (2009 Timber Waiver).

6.0 DISTRIBUTION LIST

- National Forest Foundation
Vance Russell, Director of CA Programs
803 2nd Street, Suite A
Davis, CA 95616
- Nevada County Board of Supervisors
Donna Landi, Clerk of the Board
950 Maidu Avenue, Suite 200
Nevada City, CA 95959
- Sierra County Board of Supervisors
100 Courthouse Square, Room 11
P.O. Drawer D
Downieville, CA 95936
- Truckee PUD
Brian Wright, Water Superintendent
11570 Donner Pass Road
Truckee, CA 96161
- Kristie Boatner
Truckee Ranger District
10811 Stockrest Springs Road
Truckee, CA 96161
- Truckee Library
10031 Levon Avenue
Truckee, CA 96161

7.0 PREPARERS

Matthew Daley, Senior Grants Analysts, Sierra Nevada Conservancy

Christa Redd, Senior Environmental Planner, Kimley-Horn and Associates, Inc.

Nicole Marotz, Senior Environmental Planner, RBF Consulting, a M. Baker International Company

Appendix A

Standard Management Requirements

STANDARD MANAGEMENT REQUIREMENTS

The following Standard Management Requirements (SMRs) were prepared by the Truckee Ranger District as part of the Environmental Assessment and Finding of No Significant Impact (EA/FONSI) adopted in May 2013 for the Sagehen Project. The SMRs cover the larger Truckee Ranger District Sagehen Project; this proposed project is a part of the larger Sagehen Project. Therefore, while there are many SMRs listed below, not all would be required under the proposed project. Only the SMRs related to Units 61, 91, 98, 100, and 282 and the proposed project as defined by SNC for the purposes of CEQA would be applied (refer to Chapter 2.0, Project Description). The SMRs are considered part of the proposed project activities.

Standard Management Requirements (SMRs)									
SMR Numbe	Unit	Emphasis Area	Concern	Treatment Activity	Includes Best Management Practices (BMPs) and Resource Protection Measures (RPMs)	BMP Number	Responsible Person(s)	Due Date	
1	All Units	All Areas	Aquatic Resources, Soils/Hydrology	All	<p>Implement Best Management Practices (BMPs): These practices are required to meet the regional policy and to be consistent with the provisions of the 1981 Management Agency Agreement between the State Water Resource Control Board (SWRCB) and the Forest Service as the designated Water Quality Management Agency (WQMA) on National Forest System Lands. See SMRs 22-24 for special provisions for the Lahontan Regional Water Quality Control Board (LRWQCB) jurisdiction. The Riparian Conservation Objective (RCO) analysis contains a table to display the relationship of the Riparian Conservation Areas (RCAs) and the Water Body Buffer Zones (WBBZs). Site-specific BMPs and management requirements, unit layout, careful implementation and monitoring of BMP implementation are the primary means of minimizing impact in this project area. Some BMPs in this list are applied during the preliminary project design and therefore are not referenced</p>	<p>1.20 erosion control structure maintenance</p> <p>1.21 accepting erosion control measures</p> <p>2.1 travel management planning and analysis</p> <p>2.2 general guidelines for the location and design of roads</p> <p>2.3 road construction and reconstruction</p> <p>2.4 road maintenance and operations</p> <p>2.5 water source development and utilization</p> <p>2.6 road storage</p> <p>2.7 road decommissioning</p> <p>2.8 stream crossings</p> <p>2.10 parking and staging areas</p> <p>2.11 equipment refueling and servicing</p> <p>2.12 aggregate borrow areas</p> <p>2.13 erosion control plans (roads and other activities)</p>		<p>Aquatics Biologist, Hydrologist, Soil Scientist, TSA, Vegetation Officer</p>	<p>As applicable prior to, during, and after all management activities</p>

Standard Management Requirements (SMRs)

SMR Number	Unit	Emphasis Area	Concern	Treatment Activity	Includes Best Management Practices (BMPs) and Resource Protection Measures (RPMs)	BMP Number	Responsible Person(s)	Due Date	
					directly in the SMRs below. 1.1 timber sale planning process 1.2 timber harvest unit design 1.3 erosion hazard for timber harvest unit design 1.4 designated protection areas on sale area maps 1.5 limited operating period of timber sale activities 1.6 protecting unstable lands 1.8 streamside management zone designation 1.9 tractor-loggable ground 1.10 tractor skidding design 1.12 log landing location 1.13 timber sale erosion prevention and control measures 1.14 special erosion - prevention - disturbed lands 1.16 log landing erosion control 1.17 erosion control on skid trails 1.18 meadow protection during timber harvesting 1.19 stream course and aquatic protection	5.2, 5.3, 5.6 limitations on tractor operations 5.4 revegetation of surface disturbed areas 5.7 pesticide use planning process 5.8 pesticide application according to label directions and applicable legal requirements 5.9 pesticide application monitoring and evaluation 5.10 pesticide spill contingency planning 5.11 cleaning and disposing of pesticide containers and equipment 5.12 streamside and wet area protection during pesticide application 6.2 water quality and formulating fire prescriptions 6.3 prescribed burning and protection of water quality 7.1 watershed restoration 7.2 conduct floodplain hazard analysis and evaluation 7.3 protection of wetlands 7.4 Forest and Hazardous Substance Spill Prevention Control and Countermeasure (SPCC) Plan 7.8 cumulative off-site watershed effects			
2	All Units	All Areas	Aquatic Resources,	All	Emphasis for Riparian Conservation Area (RCA) Protection: Contract administrators and operators will be educated on the importance of	1.1, 1.2, 1.4, 1.8,	Aquatics Biologist,	As applicable prior to, during, and	

Standard Management Requirements (SMRs)

SMR Number	Unit	Emphasis Area	Concern	Treatment Activity	Includes Best Management Practices (BMPs) and Resource Protection Measures (RPMs)	BMP Number	Responsible Person(s)	Due Date
			Soils/Hydrology		minimizing impact while working within the RCA. Units with RCAs having known areas with restricted operations regarding sensitive sites will be identified for review with contract administrators and operators. Contract maps will be reviewed prior to bid to ensure sensitive areas are adequately represented on the map or on the ground. Stream courses and their respective protection limits (tractor keep out - TKO) are shown on the sale area map and/or are flagged on the ground.	1.18, 1.19, 7.1, 7.3.	Hydrologist, Soil Scientist, TSA, Vegetation Officer	after all management activities
3	All Units, 156	All Areas	Soils/Hydrology	Mechanical	<p>Equipment Operations - Uplands: Equipment will minimize turning that results in ground disturbance. Equipment will be used on slopes no greater than 30% with short pitches up to 200 feet on up to 35% slope. Short pitches over 35% slope may be agreed to on a site-specific basis, after appropriate interdisciplinary review.</p> <p>Grapple Piling: Grapple piling will be conducted to minimize excessive turning and to maintain undisturbed duff over 20% of the unit area.</p> <p>Soil Dryness Criteria: 1) Equipment rated as low-ground-pressure, which is defined as equipment applying an average ground pressure of 8.0 or less pounds per square inch design load, is restricted to main skid trails until the soil is dry to a depth of 4 inches. 2) Equipment rated as high-ground-pressure equipment which is defined as equipment applying an average ground pressure of 8.0 or greater pounds per square inch design load, is restricted to main skid roads until the soil is dry to a depth of 10 inches. See SMR 24.</p> <p>Benched logging systems: Avoid benched skid trails, landings, and temporary roads. One benched landing is expected to be needed in unit 156. Prior to determining placement, an onsite review will be conducted in this unit with the hydrologist to confirm placement is in the best available location for operability, to minimize resource impacts and to develop required resource protection measures. No other benched temporary roads or landing needs were identified during the IDT process. If, during operations a need for a bench system is identified, then appropriate specialists will be consulted and the necessary mitigations will be implemented.</p>	1.1, 1.2, 1.9, 1.10, 1.12, 1.13, 2.7, 5.2, 5.3, 5.6	Hydrologist, Soil Scientist, TSA, Vegetation Officer	Contract Prep, Contract Layout, Implementation, post-implementation
4	All Units	All Areas	Aquatic Resources, Soils/Hydrology	Mechanical/ Hand	<p>Equipment Operations in RCAs: Within RCAs, all equipment operations should be limited to slopes ≤ 20% if the slope is directly above, and runs continuously down to a drainage feature. If the slope is > 20%, but does not slope directly into the creek, the 30% rule with no short pitches to 35% as stated in "Equipment Operations - Upland" SMR 3 should be followed. Do not track up and down drainage pathways and minimize all</p>	1.1, 1.2, 1.8, 1.9, 1.10, 1.12, 1.13, 1.17, 1.19, 2.2, 2.5, 2.6,	Aquatics Biologist, Hydrologist, Soil Scientist, TSA,	Contract Prep, Contract Layout, Implementation, post-implementation

Standard Management Requirements (SMRs)

SMR Number	Unit	Emphasis Area	Concern	Treatment Activity	Includes Best Management Practices (BMPs) and Resource Protection Measures (RPMs)	BMP Number	Responsible Person(s)	Due Date
					<p>equipment movement through swales. Equipment will avoid seasonally wet areas, but will be allowed to reach into the TKO of these locations to meet site objectives. When equipment is operating inside RCAs near the hydrologic feature, minimize ground disturbance with short perpendicular entries into the RCA. Backblade any berms created by equipment that could concentrate water within areas with topographically low relief (flat) areas. Equipment will not cross seasonal streams except at pre-approved designated crossings. Within RCAs all bare ground resulting from equipment operations will be mulched to standards. When operating in WBBZs all bare ground will be mulched.</p> <p>Grapple Piling and Fuel Piling: No hand, grapple or any type of natural or activity fuel piling (temporary or permanent) will occur in the WBBZ, or within the 100 year flood plain. Piling may occur in the RCA outside of WBBZ where existing landings occur in the RCA or where pre-approved landings occur in the RCA. Grapple piling will follow the same or greater distance restrictions as mechanical operations on wetland features drainages and perennial streams (fish bearing or non-fish bearing), as described in SMRs 2, 17, and 18. Along ephemeral streams and drainages, grapple piling will be maintained a minimum of 25 feet away from the break in slope on all topographically defined drainages. Piling will occur as far away from the drainage as feasible. Avoid creating large piles at the apex of broad swales and locate piles well outside of drainage pathways.</p> <p>Soil Dryness Criteria: Specific harvesting equipment restrictions relating to dry soil are as follows: The operation of tracked equipment within stream and meadow RCAs, and seasonally wet areas shall only be allowed when soils are dry as defined in SMR 24 to 10 inches. Exceptions will be allowed in specific locations in the RCA, in which the hydrologist or soil scientist determine that equipment access when soils are dry to less than 10 inches would not cause resource damage. Tractor, vehicle or equipment operations off-road at approved crossings within approved areas of Water Body Buffer Zones operations must be limited to when soils are dry to a minimum depth of 12 inches.</p> <p>Soil Type Restrictions: All equipment operations will not operate over Aquoll and Boroll soil or Cryumbrepts-wet soil. This addresses the criteria for operations in water body buffer zones required for Category 6 timber waiver criteria, because with the 25 foot buffer from riparian vegetation and the commitment for no operations over Aquoll and Boroll soil or Cryubrepts wet, and the cover the scenario where an equilibrated watertable at 2 feet might be present. In other words we do not operate</p>	2.8, 2.10, 2.13, 5.2, 5.3, 5.6, 7.1, 7.2, 7.3	Vegetation Officer	

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					<p>over soils with an equilibrated water table at 2 feet under mechanical harvest activities.</p> <p>Reference SMRs 1 and 22-24 for BMPs and measures implemented to meet LRWQCB requirements.</p>			
5	All Units	All Areas	Aquatic Resources, Soils/ Hydrology	Mechanical	<p>Equipment Operations in RCAs (continued): Within the RCA adjacent to perennial streams and special hydrologic features, a variable Tractor Keep Out (TKO) area will be provided based on hydrologic features, and under consultation with the aquatics biologist/ hydrologist/soil scientist during unit layout and contract administration. In general, these TKO areas are designated to be a minimum of 25 feet from a riparian feature as identified by presence of a wet soil type (associated with flood plain, springs or meadows), scour, riparian vegetation, slope break to channel etc. Seasonal drainages not having these features will implement a 25 foot TKO. Widths will increase along incised channels and where the slope to the channel increases. On fens, springs and streams with riparian vegetation, a minimum 25 foot TKO from riparian vegetation will be maintained. The TKO will be increased where hydrologic features merge or drainage becomes complex, where wet soils are present, or as needed to protect spring hydrology.</p> <p>Tractor operations will be excluded from the meadows according to the TKO identified in the field and as identified on the sale area maps. The TKO will be flagged on the ground based on hydrologic features or as mapped and described above. Slash or other material created from activities will be removed from the 100-year floodplain.</p> <p>Reference SMRs 1 and 22-24 for BMPs and measures implemented to meet LRWQCB requirements.</p>	<p>1.1, 1.2, 1.4, 1.8, 1.9, 1.10, 1.13, 1.16, 1.18, 1.19, 2.8, 2.10, 2.13, 5.2, 5.3, 5.6, 7.1, 7.2, 7.3</p>	<p>Aquatics Biologist, Hydrologist, Soil Scientist, TSA, Vegetation Officer</p>	<p>Contract Prep, Contract Layout, Implementation, post-implementation</p>

Standard Management Requirements (SMRs)

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6	All Units	All Areas	Soils / Hydrology	Mechanical	<p>Skid Trail Use: Keep skid trail grades as gentle as possible, avoid straight up and down the slope skidding over distances greater than 200 feet. Skid trail patterns shall be agreed to in advance of felling and main skid trails shall be flagged on the ground in advance of felling. Needed main skid trails will be constructed in advance of skidding. Main skid trails will be spaced no less than 75 feet apart, except when converging. Additional skid trails may be agreed upon when soil conditions permit. Harvest operations will be confined to designated main skid trails until soil conditions are dry. Dry soil is defined as soil that when sampled from a specified depth below the surface and placed in the hand and squeezed, the hand shows no significant moisture stains and follows the dryness criteria in SMR 24. Existing skid trails will be used whenever possible except when they do not meet other resource protection measures.</p> <p>Erosion Hazard Rating (EHR) Table: Skid Trail Spacing</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="5">Guidelines for Waterbars Tractor Skid Trails or Roads</th> </tr> <tr> <th rowspan="2"></th> <th colspan="4">Erosion Hazard Rating</th> </tr> <tr> <th>1-6</th> <th>6-7</th> <th>9-10</th> <th>11-13</th> </tr> <tr> <th></th> <th>Low</th> <th>Med.</th> <th>High</th> <th>V High</th> </tr> <tr> <th>% Slope</th> <th colspan="4">Spacing in Feet</th> </tr> </thead> <tbody> <tr> <td>1-6</td> <td>400</td> <td>350</td> <td>300</td> <td>250</td> </tr> <tr> <td>7-9</td> <td>300</td> <td>250</td> <td>200</td> <td>150</td> </tr> <tr> <td>10-14</td> <td>200</td> <td>175</td> <td>150</td> <td>125</td> </tr> <tr> <td>15-20</td> <td>150</td> <td>120</td> <td>90</td> <td>60</td> </tr> <tr> <td>21-40</td> <td>90</td> <td>70</td> <td>50</td> <td>30</td> </tr> <tr> <td>41-61</td> <td>50</td> <td>40</td> <td>25</td> <td>15</td> </tr> </tbody> </table>	Guidelines for Waterbars Tractor Skid Trails or Roads						Erosion Hazard Rating				1-6	6-7	9-10	11-13		Low	Med.	High	V High	% Slope	Spacing in Feet				1-6	400	350	300	250	7-9	300	250	200	150	10-14	200	175	150	125	15-20	150	120	90	60	21-40	90	70	50	30	41-61	50	40	25	15	1.2, 1.9, 1.10, 1.13, 5.2, 5.3, 5.6	Hydrologist, Soil Scientist, TSA, Vegetation Officer	Contract Prep, Contract Layout, Implementation
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7	All Units	All Areas	Aquatic Resources, Soils/Hydrology	Mechanical	<p>Skid Trails in RCAs: Main skid trails will be located outside of the RCAs wherever possible. Do not track up and down drainage pathways and minimize all equipment movement through swales. Avoid locating skid trails parallel to streams when working within RCAs in the near stream zone. Temporary ephemeral stream crossings for skid trails will use brush mats, dips or corduroy. If soil is placed on a crossing for a drivable surface, use filter cloth under the soil to prevent soil from entering stream. Collect soil in filter cloth or otherwise remove soil off site when dismantling the drivable surface structure. Crossing materials will be removed as soon as possible following the treatment and will be implemented by October 15th of that year. All crossing materials on seasonal channels that consist of additional fill will be removed</p>	1.2, 1.8, 1.9, 1.10, 1.13, 1.19, 2.8, 2.10, 2.13, 5.2, 5.3, 5.6, 7.2, 7.3	Aquatics Biologist, Hydrologist, Soil Scientist, TSA, Vegetation Officer	Contract Prep, Contract Layout, Implementation, post-implementation																																																						

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					immediately after use when operating after October 15th of that year. Reference SMR 6 EHR Table and SMRs 1 and 22-24 for BMPs and measures implemented to meet LRWQCB requirements.			
8	All Units	All Areas	Soils/Hydrology	Mechanical	Skid Trails for Seasonal Erosion Control: All skid trails over 30% slope will be mulched. Skid trails will have waterbars spaced according to soil maximum EHR and slope per SMR 6. Implement mulching of skid trails using slash, certified weed free rice, straw or wood chips, whichever is available, on soils with very high EHR, and where the residual % ground cover does not meet the ESC requirements as described in the Soil Specialists Report for the Sagehen Project. Mulch will be a minimum of 2 inches to a maximum of 4 inches in depth within WBBZs outside of the 100-year floodplain. This requirement may be modified after an on-site inspection by the soil scientist or hydrologist. If slash is used for mulch, the fuels officer will be involved prior to and during implementation.	1.2, 1.9, 1.10, 1.13, 1.20, 1.21, 2.13, 5.2, 5.3, 5.6	Fuels Officer, Hydrologist, Soil Scientist, TSA, Vegetation Officer	Implementation, post-implementation
9	All Units	All Areas	Aquatic Resources, Soils/Hydrology	Mechanical	Skid Trail Post-Implementation in RCAs: For special conditions with low gradient skid trails within RCAs, berms will be pulled back rather than have water bars placed, as approved by the TSA in coordination with a soil scientist or hydrologist. Mulch all skid trail crossings in RCAs, outside of the 100-year floodplain.	1.2, 1.8, 1.9, 1.10, 1.13, 1.19, 1.20, 1.21, 2.8, 2.13, 5.2, 5.3, 5.6, 7.3	Aquatics Biologist, Hydrologist, Soil Scientist, TSA, Vegetation Officer	Implementation, post-implementation
10	All Units	All Areas	Soils / Hydrology	Mechanical	Landing Construction: Utilize existing landings where possible, new and existing landing locations potentially used are shown in the Sagehen Project Record. Locate all new landings off of main public travel corridors outside of the WBBZ. Landing Locations: landing locations shall be carefully planned to minimize the number needed, and will consider site-specific factors such as topography, watershed and other resource protection concerns, and contract operational needs. For landings that service more than 15 acres of harvest, Purchaser shall stage-log by felling, skidding and removing of included timber in two or more separate operations to limit landing size. Where using existing landings that need to be increased in size for biomass and chip van access the landings will be extended in size away from drainages. If impact may not be minimized the operator will consider feasibility of moving biomass in the upcoming year when biomass can be stored off-site. Where site-specific resource protection concerns are not otherwise limiting, the number of landings should not exceed 1 landing per 30 acres. To minimize the number of landings, utilize roads for skidding unless site	1.1, 1.2, 1.10, 1.12, 1.13, 1.16, 2.10, 2.11	Hydrologist, Soil Scientist, TSA, Vegetation Officer	Contract Prep, Contract Layout, Implementation

Standard Management Requirements (SMRs)

SMR Numbe	Unit	Emphasis Area	Concern	Treatment Activity	Includes Best Management Practices (BMPs) and Resource Protection Measures (RPMs)	BMP Number	Responsible Person(s)	Due Date
					conditions rule this out due to possible safety or resource protection concerns.			
11	All Units	All Areas	Aquatic Resources, Soils/Hydrology	Mechanical	Landings in RCAs: No new landings will be located within an RCA unless deemed necessary by the interdisciplinary team; when feasible, preferably choose existing landings outside of the RCA. No new landing locations have been identified as needed within RCAs. All existing landings in RCAs will be subsoiled and mulched unless a hydrologist/soils scientist determines it is not necessary. If construction or relocation of a landing within an RCA appears to be necessary, consult with the appropriate resource specialist to ensure potential impacts are mitigated. Biomass, logs, tree tops and logging slash will not be landed such that they obstruct drainages or enter the TKO or WBBZ as is applicable based on LRWQCB stream classification.	1.1, 1.2, 1.10, 1.12, 1.13, 1.16, 1.19, 2.10, 2.13, 7.2, 7.3	Aquatics Biologist, Hydrologist, Soil Scientist, TSA, Vegetation Officer	Contract Prep, Contract Layout, Implementation, post-implementation
12	All Units	All Areas	Soils/Hydrology	Mechanical	Landings & Skid Trails Post-Implementation: Subsoil with a winged subsoiler on landings and the first 100 feet from the landing's primary skid trails. Subsoiling other skid trails in highly compacted areas will be evaluated on a site by site basis. The need for the tilling of skid trails would be reviewed by a soil scientist or hydrologist, and the timber sale administrator, and would be restricted to areas on slopes less than 25%, where residual trees would not be excessively damaged (root tearing leaving areas open to disease) and on those trails that do not contain excessive rocks unless otherwise agreed with the hydrologist/soil scientist. Subsoiling will always be performed perpendicular to any slope.	1.12, 1.13, 1.16, 1.17, 1.21, 2.10, 2.13	Hydrologist, Soil Scientist, TSA, Vegetation Officer	Implementation, post-implementation
13	All Units	All Areas	Soils/Hydrology, Vegetation Mgmt	Mechanical/Hand	Application of Sporax® will follow all state and federal rules and regulations as they apply to pesticides, including the Sporax® label requirement. Sporax® will not be applied within 25 feet of running water. Sporax® will be applied to all pine stumps ≥ 14 inch diameter within 4 hours of creation. Sporax® will not be applied during periods of sustained rain. A Pesticide Use Proposal (FS-2100-2) for the application of Sporax® has been completed and approved, and will be present in the project file and contract. In addition, the project file and contract will include a spill plan tiered to the Forest Spill Plan. Mountain yellow legged frog Individuals have been sighted in areas associated with unit 61 (Emphasis areas 1 and 2), unit 91 (Emphasis area 2), and unit 213 (Emphasis areas 1, 2, 4, and 6). Unit 213 has the potential to cut trees greater than 14 inches DBH, therefore Sporax® may be applied. An Aquatics biologist will review areas within 500 feet of occupied sites of MYLF to determine if application of Sporax® should be avoided.	1.19, 5.7, 5.8, 5.9, 5.10, 5.11, 5.12, 7.2, 7.3, 7.4	Aquatics Biologist, Hydrologist, Soil Scientist, TSA, Vegetation Officer	Contract Prep, Contract Layout, Implementation

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14	All Units	All Areas	Aquatic Resources, Soils/Hydrology	Mechanical/Road	<p>Water Sources:</p> <ul style="list-style-type: none"> • Use an approved water source for obtaining water. Water drafting sites in the project area will be established on permanently flowing streams that have sufficient flow to avoid depletion of pool habitat. • Where streams are the sole water source, drafting would be allowed until stream flows reach 2 cfs. Below 2cfs, drafting would only be allowed in previously developed off-site water impoundments and according to guidelines as outlined in the Tahoe National Forest Land and Resource Management Plan (LRMP). • Install screens on water intake lines to prevent entrainment of biota. • To avoid impacts to Mountain Yellow-Legged Frog, identify all drafting sites to be used for project implementation, and report these to the aquatics biologist to allow the implementation of the mitigation measures listed in SMR 31. • Do not overfill tanks when collecting water as this can lead to increased sedimentation to the stream channel. • Do not back water trucks beyond the established access developed to access the water source. • If use of water source creates sediment movement on access route. Apply clean crushed gravel or other means to control sediment, and maintain water quality. • If a water drafting source within the 100-year floodplain is not currently rocked, and added controls are needed to prevent sediment from washing into the water source, use straw bales, staked waddles or other methods to filter sediment. 	1.19, 1.20, 1.21, 2.4, 2.5, 2.11, 2.13	Aquatics Biologist, Road Engineer, TSA, Vegetation Officer	Contract Prep, Contract Layout, Implementation
15	All Units	All Areas	Soils/Hydrology	Mechanical/Road	<p>Have an approved Spill Prevention Control and Countermeasure plan.</p> <ol style="list-style-type: none"> 1. Plan for appropriate equipment refueling and servicing sites during project planning and design. 2. Allow temporary refueling and servicing only at approved locations, which are well away from water or riparian resources, outside of RCAs. 3. Develop or use existing fuel and chemical management plans (for example, spill prevention control and countermeasures (SPCC), spill response plan, emergency response plan) when developing the management prescription for refueling and servicing sites. 4. Provide training for all personnel handling fuels and chemicals in their proper use, handling, storage, and disposal. 5. Avoid spilling fuels, lubricants, cleaners, and other chemicals during 	1.1, 1.2, 2.4, 2.10, 2.11, 2.13, 7.4	TSA, Vegetation Officer	Contract Prep, Contract Layout, Implementation, post-implementation

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					handling and transporting.			
16	All Units	All Areas	Fuels Mgmt, Soils/Hydrology, Vegetation Mgmt, Wildlife	All	<p>Ground cover requirements for all activities: To protect against accelerated erosion and hydrophobicity and to maintain long-term soil productivity, the following guidelines should be applied during the planning and implementation of fuels treatments and vegetation management.</p> <p>Downed Large Wood Requirements. Where grapple piling is proposed, maintain downed wood retention adequate to contribute to organic matter while attaining desired conditions as described in the Sagehen EA. Retain large downed wood as prescribed by emphasis area while meeting fuels objectives (small areas of heavier concentrations that are not continuous on the landscape).</p> <p>Provide for downed wood retention per emphasis area prescription. All down logs greater than 15 inches diameter and 10 feet long will be retained. Crushing of logs with equipment will be avoided. Target down log levels post fuels treatments range from 15-20 logs per acre in emphasis areas 1 and 2 and 3-7 logs per acre in the other emphasis areas. In areas not meeting downed wood requirements, incorporate burn prescription measures such as lining, and contract requirements to maintain existing downed logs (preference to spring burn prescription).</p> <p>Ground Cover – Monitoring. The following are used as a general guide that will be practically implemented and assessed using random implementation monitoring and focused monitoring of areas of concern, through the BMPEP monitoring program. If the minimum effective soil cover requirements are not being met (i.e. ground cover requirements are not shown to be effective in controlling erosion) management practices should be reviewed and adjusted as needed to achieve soil cover objectives, and mitigation measures such as mulching will be implemented as needed to reduce soil erosion.</p> <p>General Ground Cover Requirements Outside of RCAs (post-implementation of all treatments to meet Standards and Guides and SMRs)</p> <ul style="list-style-type: none"> • On soils with low to moderate erosion hazard ratings (0-25% slope), maintain 45% ground cover. • On soils with high erosion hazard ratings (25-50 % slope), maintain 55% ground cover. • On soils with very high hazard ratings (greater than 50% slopes), 	1.9, 1.13, 1.16, 1.17, 1.20, 1.21, 2.13, 5.4, 6.2, 6.3	Fuels Officer, Hydrologist, Soil Scientist, TSA, Vegetation Officer, Wildlife Biologist	Project Design, Contract Prep, Contract Layout, Implementation, post-implementation

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					maintain 70% ground cover. • SMR 8 regarding mulch depth requirements also applies.			
17	All Units	All Areas	Aquatic Resources, Fuels Mgmt, Soils/Hydrology, Vegetation Mgmt, Wildlife	All	Ground Cover Requirements Within the RCAs. Mulching will occur over bare ground created by management activities within the RCA with particular attention paid near the hydrologic feature. Upland areas of the RCA will meet the General Ground Cover requirements within the RCAs. <ul style="list-style-type: none"> On soils with low to moderate erosion hazard ratings (0-25% slope), maintain 70% ground cover. On soils with very high erosion hazard ratings (greater than 25% slope), maintain 75% ground cover. In near stream zones for perennial streams and intermittent streams or seasonally wet areas with riparian and meadow features, approximately 75% ground cover will be required. Large patches of bare ground will be mulched. Within Water Body Buffer Zones, ground cover should meet an average of 2 inches in depth and a maximum of 4 inches with 90% ground cover. Mulch will be required on endline drag channels that exceed 4 inches depth on greater than 5% slopes in RCAs and 10% slopes on adjacent uplands where endlining is required. See SMR 26 regarding weed-free requirement of mulch. SMR 8 regarding mulch depth requirements also applies. 	1.9, 1.13, 1.20, 1.21, 2.13, 5.4, 6.2, 6.3, 7.2, 7.3	Aquatics Biologist, Fuels Officer, Hydrologist, Soil Scientist, TSA, Vegetation Officer, Wildlife Biologist	Contract Prep, Contract Layout, Implementation, post-implementation
18	All Units, 46, 76	All Areas	Aquatic Resources, Fuels Mgmt, Sensitive Plants, Soils/Hydrology, Vegetation Mgmt, Wildlife	Pile Burning/ Underburn	Burn Prescriptions in RCA <ul style="list-style-type: none"> Design prescribed fire treatments to minimize disturbance of ground cover and riparian vegetation in RCAs. No active ignitions for underburning would occur within 25 feet of riparian vegetation and 50 feet from fens. Down wood will be retained based on site conditions to achieve riparian conservation objectives and ground cover requirements. If logs need to be removed from channels to achieve fuel objectives the hydrologist or soil scientist will be consulted. No active ignitions for prescribed burns in Waterbody Buffer Zones but broadcast burns can creep into these areas. No hand piling or burning would occur within 25 feet from riparian vegetation and stream channels or within meadows. The fire prescription should target the lowest possible soil temperature increase for the shortest duration of time. The fire prescription should target the highest duff layer moisture levels consistent with the fuel reduction and soil cover objectives. 	1.8, 1.19, 2.13, 6.2, 6.3, 7.2, 7.3	Aquatics Biologist, Botanist, Fuels Officer, Hydrologist, Soil Scientist, TSA, Vegetation Officer, Wildlife Biologist	Contract Prep, Contract Layout, Implementation, post-implementation

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					<ul style="list-style-type: none"> • Avoid burning road drainage outlets, such as waterbars and rolling dips, and out sloped roads within RCAs. If such areas do get burned, consider mitigations measures such as mulching to reduce sediment transport. • If fire from underburning threatens to burn riparian vegetation and aquatic habitat, and/or the ground cover objectives will not be achieved, then the fire would be controlled or extinguished using minimally ground-disturbing methods and/or water application. • No active ignition or pile burning within 50 feet of fens and springs. This distance may need to be increased depending on ground conditions to prevent burning through wetland features. Fire creep is allowed but not encouraged. • Burning shall be conducted under conditions that facilitate low intensity surface fire. If needed to achieve burn objectives and fen protection objectives, prior to burning, slash remaining from prior logging activities will be modified around the fen to ensure objectives can be met. Prescribed fire prescriptions surrounding springs, fens and wet meadows will avoid application during periods of extended drought conditions. • Underburn prescriptions in mastication units will favor soil moisture conditions of 20% soil moisture (soil is not wet, but is cool by touch) when possible. • To prevent effects to MYLF consult the aquatics biologist about, or do not allow the use of foam during prescribed burning activities within RCAs. 			
19	All Units	All Areas	Soils/Hydrology	All	<p>Erosion Prevention Measures in activity areas : Erosion control work is inspected prior to the end of the normal operating season to determine whether the work is adequate. Additional measures will be applied when needed to meet water quality standards.</p> <p>Erosion Control Plan: All phases of project implementation will include a BMP checklist that will be developed based on the measures described in the Sagehen Project Environmental Assessment Appendix A, Standard Management Requirements (SMRs). The project SMRs are considered to be a part of this erosion control plan, and will be kept on site during implementation and be incorporated into an applicable check list. Any ground disturbing activities that are determined to fall outside of the exemption from the requirement to prepare an erosion control plan, will have additional information including maps, illustrations, and wet weather operations as deemed necessary and described under BMP 2.13</p>	1.1, 1.3, 1.13, 1.14, 1.16, 1.17, 1.19, 1.20, 1.21, 2.4 2.8, 2.13, 7.2, 7.3	Hydrologist, Road Engineer, Soil Scientist, TSA, Vegetation Officer	Contract Prep, Contract Layout, Implementation, post-implementation

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					<p>of the Erosion Control Handbook.</p> <p>Vegetation Management: All necessary erosion control measures for logging operations will be implemented as soon as possible after logging operations cease in the area and prior to runoff producing rainfall. All erosion prevention measures will be implemented by October 15th. For harvest activities continuing beyond October 15th, erosion control measures on active sites will be implemented at the first opportunity.</p> <p>Roads: Erosion control measures are implemented by the end of the normal operating season, (usually October 15 for this area) and kept current when road construction occurs outside that period. Stabilization of fills and completion of winterization is required by October 15. This includes the removal of temporary culverts, culvert plugs, diversion dams, or elevated stream crossing causeways. It also includes installation and/or removal of crossdrains, energy dissipators, sediment basins, berms, debris racks, mulching, or other items needed to control erosion. Other preventive measures include the removal of debris, obstructions, and spoil materials from channels and floodplains.</p>			
20	All Units	All Areas	Soils/Hydrology	Road	<p>Road Management</p> <p>Coordination with Road Engineer: Before pulling equipment from the sale area, the TSA will coordinate a review period with the road engineer to ensure road features (drainage, surface, etc.) achieve road management objectives.</p> <p>Repair and maintain up to 23 miles (miles determined by GIS and are approximate) of roads, that provide access for the</p> <p>Sagehen Project. This work includes: grading, clearing, ditch and culvert cleaning and repair. The repair work associated with these projects is the maintenance work to repair and restore the road to accommodate the planned traffic and be consistent with the existing traffic service level, water quality objectives, and Road Management Objectives.</p> <p>Low water crossings on Class I and II drainages on existing roads will incorporate additional measures during haul to prevent sediment transport from increased travel through drainages. This may include additional rock and culvert installations based on site conditions. A 1-ft covering of weed-free straw mulch will be placed between the natural channel and imported fill so no additional fill remains in the existing channel. Fill will be removed to the previous existing dip configuration by 10/15 or the first opportunity after this date if conditions allow operations</p>	1.1, 1.14, 1.19, 1.21, 2.2, 2.4, 2.5, 2.7, 2.8, 2.12, 2.13	Hydrologist, Road Engineer, Soil Scientist, TSA	Contract Prep, Contract Layout, Implementation, post-implementation

Standard Management Requirements (SMRs)

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					<p>to continue past this date as described below.</p> <p>Road Dust Abatement: Water will be used on major transportation routes for dust abatement.</p> <p>Ephemeral Stream Crossings on Temporary Roads</p> <ul style="list-style-type: none"> • Crossings will be designed to provide measures to pass flows, and may include extra protection measures, such as gravel, culverts or drainage controls when needed. Typically, the flow volume through these crossings is low and there is a low risk of significant precipitation during the operating period. Wet weather clauses are included to limit operations in inclement weather, when soils deform or compact, and road rutting and deformation become significant. Temporary crossings will be removed the same season they are installed, and removal will occur no later than October 15th of the season of installation. • Temporary roads crossing ephemeral drainages will be designed to pass flow using drainage dips, waterbars or culverts when needed. Removal of temporary roads on ephemeral drainages will include re-establishing drainage passage, mulching, and pulling outside berms to restore overland flows. See "Temporary Roads" for more design elements regarding ephemeral crossings. <p>Traffic Control During Wet Periods: Hauling on all roads would be restricted to the dry season when roads are stable. No Winter Hauling will be conducted, although some operations may continue past 10/15 to 11/30 if conditions permit as determined by the soil scientist/hydrologist and TSA. Hauling on all roads would be restricted to the dry season when roads are stable, or as per the 9/95 Wet Weather/Winter Hauling/Logging Guidelines if that option is implemented.</p>			
21	All Units	All Areas	Soils/Hydrology	Road	<p>Temporary Roads (including previously-tilled temporarily used roads):</p> <ul style="list-style-type: none"> • Only temporary roads identified in the NEPA process will be reused. If additional roads are necessary, the hydrologist will be notified and appropriate documentation and remedial action will be incorporated. • If it is determined that additional stream crossings are needed on temporary roads, they must be approved by the interdisciplinary team. • In unit 163, the temporary road will be closed when not in use for project activities (blocked, bermed, or otherwise closed to public 	1.1, 1.6, 1.14, 1.19, 2.1, 2.2, 2.4, 2.6, 2.7, 2.8, 2.12, 2.13, 7.1, 7.2, 7.3	Hydrologist, Road Engineer, Soil Scientist, TSA	Implementation, post-implementation

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SMR Number	Unit	Emphasis Area	Concern	Treatment Activity	Includes Best Management Practices (BMPs) and Resource Protection Measures (RPMs)	BMP Number	Responsible Person(s)	Due Date
					<p>access).</p> <p>Design Criteria:</p> <ul style="list-style-type: none"> • Temporary road design and location will follow the following principles: Temporary roads will follow previously-used road beds where available and appropriately located. • Use rolling dips and an out-sloped road template. • Limit the amount of temporary road construction by maximizing the skidding distance. • Minimize the length and width of the roads. Avoid unstable areas where there is potential for mass soil erosion. • During implementation of the proposed action or action alternatives, if vehicles stir up fines in dry streambeds or where needed for support during project activities, additional clean 1"+ gravel will be added to the crossing surface. • Use weed-free straw 1-foot deep under gravel as a barrier between native soils and the gravel within the 100-year floodplain so the material can be removed after use. <p>Restoration (also see SMR 41 for specific actions):</p> <ul style="list-style-type: none"> • Excess materials placed in drainage ways would be removed from drainages after use. • Decommission all temporary roads. Temporary roads will be decommissioned according to Renewable Resources Planning Act (16 USC 1608): appropriately draining the road to establish a hydrologically neutral state, pulling berms (particularly including the mineral soil) and re-establishing the natural contour in necessary areas. Particular attention will be paid to roads within the RCA or when crossing drainages. • Where needed, mulch will be applied to control erosion. Subsoil temporary roads where determined to be necessary after review by a soils scientist or hydrologist. • Decommissioned temporary roads in RCAs will be mulched to control erosion, but mulch will not be placed in the 100 year flood plain. • Block or otherwise prevent long-term access over temporary roads, where needed to deter unauthorized use, place logs and logging slash over the first 200 feet. 			
22	All	All Areas	Soils/Hydrology	All	Lahontan Regional Water Quality Control Board (LRWQCB) Provisions: In		Aquatics	As applicable prior

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	Units				<p>addition to the following requirements, SMRs 3, 6, 7, 8, 11, 14, 18, 21 and 41 detail measures taken in Waterbody Buffer Zones and 100-year floodplains to insure consistency with LRWQCB requirements.</p> <p>Mechanical equipment: Equipment will only operate on dry soils as defined by the LRWQCB. See SMR 24 detailing work in WBBZs.</p> <p>Activities Conducted Under Category 6: Activities conducted under Category 6 will follow the eligibility requirements and conditions as described in Board Order No. R6T-2009-0029 Condition Waiver of Waste Discharge Requirements for Waste Discharges Resulting from Timber Harvest and Vegetation Management in the Lahontan Region (e.g. 2009 Timber Waiver). The required monitoring and reporting conditions would also be followed as described in the Order.</p> <p>Activities Conducted Under Category 4: Activities conducted under Category 4 will follow the eligibility requirements and conditions as described in 2009 Timber Waiver. The required monitoring and reporting conditions would also be followed as described in the Order.</p> <p>Hand Piles Operating Under Category 2: Piles will not be located within 100-year floodplain of any watercourse. No piles will be located within 25 feet of Waterbody Buffer Zones. No more than 10% of the area within the WBBZ shall be covered in piles. This condition means less than 10% of the WBBZ area is subject to vegetation management activities.</p> <p>Note: activities not following these requirements will apply for an applicable category.</p> <p>Temporary Roads: For temporary roads the proposed action will meet the criteria of Appendix N for the Lahontan Timber Waiver Waste Discharge Prohibition Exemption Information, Page 6 of 6 (Attachment N) Board Order No. R6T-2009-0029 Adopted May 14, 2009. Activities for temporary roads will meet all the following conditions:</p> <ol style="list-style-type: none"> a. Temporary stream crossings are constructed with clean cobbles or logs. If sand or soil is used as running surface, BMPs must be in place (e.g. filter cloth, brow logs) to prevent discharge of earthen materials to surface waters. b. Stream crossings are completely removed at the end of operations, or prior to the winter period (as defined in Attachment A of the Timber Waiver), whichever is sooner. c. Eligibility criteria and conditions of applicable Waiver Category are 		Biologist, Fuels Officer, Hydrologist, Road Engineer, Soil Scientist, TSA, Vegetation Officer	to, during, and after all management activities

Standard Management Requirements (SMRs)

SMR Numbe	Unit	Emphasis Area	Concern	Treatment Activity	Includes Best Management Practices (BMPs) and Resource Protection Measures (RPMs)	BMP Number	Responsible Person(s)	Due Date
					met.			
23	All Units	All Areas	Soils/Hydrology	All	<p>Lahontan Regional Water Quality Control Board (LRWQCB)(Cont'd)</p> <p>100-Year Floodplains, based on the definition in the 2009 LRWQCB timber wavier Attachment A, are areas determined based on delineations completed or approved by the U.S. Army Corps of Engineers, the Federal Emergency Management Agency, or an individual qualified to make floodplain delineations. If these agencies have not completed formal delineations, the Water Board staff may agree to the use of best professional judgment; field verification by staff may be needed. These areas include land adjacent to waterbodies that extend to the outer perimeter of lands which experience flooding or are inundated with water during 100-year flood events. At a minimum, dischargers shall designate the 100-year floodplain area to encompass the bed and bank of any ephemeral drainage course. If other indicators are present such as wet vegetation on terraces, or other high water indicators, such as stranded debris, these should also be taken into consideration. For cases of unconfined channels, other indicators may need to be considered.</p> <p>The following would apply to all Waiver Categories with Provisions for 100-Year Floodplains:</p> <p>No piling or burning of piles will occur in 100-year floodplains. No new landings will be located in 100-year floodplains.</p> <p>No existing landings are located in 100-year floodplains</p> <p>No equipment will enter 100-year flood plains except at existing roads and crossings. Chips or masticated material will not be placed within the 100 year flood plain.</p> <p>Prohibited discharges to 100-year floodplains do not occur if activities meet a. or b., and c. below:</p> <ol style="list-style-type: none"> a. Chips or masticated material is incorporated into the soil, or b. Chips or masticated material do not exceed an average of two inches in depth, with a maximum of four inches, and c. Eligibility criteria and conditions of applicable Waiver Category are met. 		<p>Aquatics Biologist, Fuels Officer, Hydrologist, Road Engineer, Soil Scientist, TSA, Vegetation Officer</p>	As applicable prior to, during, and after all management activities

Standard Management Requirements (SMRs)

SMR Number	Unit	Emphasis Area	Concern	Treatment Activity	Includes Best Management Practices (BMPs) and Resource Protection Measures (RPMs)	BMP Number	Responsible Person(s)	Due Date																																			
24	All Units	All Areas	Soils/Hydrology	All	<p>Lahontan Regional Water Quality Control Board (LRWQCB)(Cont'd)</p> <p style="text-align: center;">Protocol for determining operability of soils based on soil texture when working in WBEZ.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Coarse Soils</th> <th>Light Soils</th> <th>Med. Soils (>35% clay)</th> <th>Heavy Soils (>55% clay)</th> </tr> </thead> <tbody> <tr> <td>Soil Moisture % increases (lowered)</td> <td>Loamy sands, fine sand loam, very fine sand, coarse sands</td> <td>Fine sandy loams, sandy loams, very fine sandy loam</td> <td>Sandy clay loam, loam, silt loam, sandy clay loam, clay loam</td> <td>Clay loam, sandy clay, silty clay loam, clay</td> </tr> <tr> <td>Dry soils</td> <td>Dry, loose, single grained flows thru fingers</td> <td>Dry, loose, flows thru fingers</td> <td>Powdery, dry, sometimes slightly crusted but breaks down into powdery conditions</td> <td>Hard, baked, cracked sometimes has loose crumbs on surface</td> </tr> <tr> <td>Moist soil</td> <td>Still appears dry, will not form a ball with pressure</td> <td>Still appears to be dry, will not form a ball</td> <td>Somewhat crumbly, but will hold together from pressure</td> <td>Somewhat plastic, will form ball under pressure. At plastic limit</td> </tr> <tr> <td>Moist soil</td> <td>Still appears dry, will not form a ball with pressure</td> <td>Tends to ball under pressure but seldom will hold together</td> <td>Forms a ball and is very plastic, sticks readily if high in clay</td> <td>Easily rubs out between fingers, has a stick feeling. At plastic limit</td> </tr> <tr> <td>Very moist soil</td> <td>Tends to stick together slightly, sometimes forms a very weak ball</td> <td>Forms a weak ball breaks easily, will not stick. Plastic limit or nonplastic</td> <td>Forms a ball and is very plastic, sticks readily if high in clay. Exceeds plastic limit</td> <td>Easily rubs out between fingers, has a stick feeling. Exceeds plastic limit</td> </tr> <tr> <td>Wet soils</td> <td>Upon squeezing, free water may appear. Wet outline is left on hand. Nonplastic</td> <td>Upon squeezing free water may appear. Wet outline left on hand</td> <td>Can squeeze out free water. Wet outline left on hand</td> <td>Fludges and free water forms on surface. Wet outline left on hand</td> </tr> </tbody> </table> <p style="text-align: center; font-size: small;">Recommended not operable by USFS Regional Soil Scientist</p>		Coarse Soils	Light Soils	Med. Soils (>35% clay)	Heavy Soils (>55% clay)	Soil Moisture % increases (lowered)	Loamy sands, fine sand loam, very fine sand, coarse sands	Fine sandy loams, sandy loams, very fine sandy loam	Sandy clay loam, loam, silt loam, sandy clay loam, clay loam	Clay loam, sandy clay, silty clay loam, clay	Dry soils	Dry, loose, single grained flows thru fingers	Dry, loose, flows thru fingers	Powdery, dry, sometimes slightly crusted but breaks down into powdery conditions	Hard, baked, cracked sometimes has loose crumbs on surface	Moist soil	Still appears dry, will not form a ball with pressure	Still appears to be dry, will not form a ball	Somewhat crumbly, but will hold together from pressure	Somewhat plastic, will form ball under pressure. At plastic limit	Moist soil	Still appears dry, will not form a ball with pressure	Tends to ball under pressure but seldom will hold together	Forms a ball and is very plastic, sticks readily if high in clay	Easily rubs out between fingers, has a stick feeling. At plastic limit	Very moist soil	Tends to stick together slightly, sometimes forms a very weak ball	Forms a weak ball breaks easily, will not stick. Plastic limit or nonplastic	Forms a ball and is very plastic, sticks readily if high in clay. Exceeds plastic limit	Easily rubs out between fingers, has a stick feeling. Exceeds plastic limit	Wet soils	Upon squeezing, free water may appear. Wet outline is left on hand. Nonplastic	Upon squeezing free water may appear. Wet outline left on hand	Can squeeze out free water. Wet outline left on hand	Fludges and free water forms on surface. Wet outline left on hand		Aquatics Biologist, Fuels Officer, Hydrologist, Road Engineer, Soil Scientist, TSA, Vegetation Officer	As applicable prior to, during, and after all management activities
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25	All Units	All Areas	Sensitive Plants	All	<p>Sensitive Plants. All occurrences of sensitive plants, including all found at a later time, should be flagged and no ground-disturbing activities should be implemented within the flagged areas. When sensitive plant occurrences are found within fens, the whole fen should be protected and so trees whose roots contribute to the integrity of the fen border shall be retained and the 25 foot TKO would also apply. Monitoring should take place during project activities and directly after project activities culminate in the vicinity of sensitive plant occurrences to ensure protective measures are sufficient. If impacts to a sensitive plant occurrence are detected, monitoring should take place to determine whether or not the occurrence is still extant (has not been extirpated) and to determine whether impacts will have lasting adverse effects.</p>		Botanist, TSA, Vegetation Officer	As applicable prior to, during, and after all management activities																																			
26	All Units	All Areas	Non-Native Plants	All	<p>Non- Native Invasive Plants of Concern</p> <p>This measure will be consistent with the current contract clause provision regarding equipment cleaning.</p> <p>Include known locations of invasive species of concern on Timber Sale</p>		Botanist, Fuels Officer, TSA, Vegetation Officer	As applicable prior to, during, and after all management activities																																			

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					<p>Administration maps so that units with noxious weed sites in close proximity can be avoided, to prevent contamination of equipment and adjacent areas. Two occurrences of musk thistle are known in T19N, R16E, Section 32. One is in the NE ¼ of the SW ¼ and the other is in the SW ¼ of the NW ¼. Musk thistle and tall whitetop are known in the NE ¼ of the SW 1/4 of Section 29 (T19N, R16E). See Tahoe National Forest GIS Library to find the most recent Invasive Plant Inventory layer.</p> <p>Any materials for erosion control including gravel or straw bales should be weed free certified (although it is not proposed to bring in any materials at this time).</p> <ol style="list-style-type: none"> 1. Prevention/Cleaning: Require all off-road equipment and vehicles (Forest Service and contracted) used for project implementation to be weed-free. The location of equipment's most recent operation shall be disclosed and off-road equipment should be cleaned prior to moving onto Sale Area when equipment is known to be from a potentially infested area. Off-road equipment shall be cleaned prior to moving from a unit shown to be infested with noxious weeds on Sale Area Map. Cleaning is not required for vehicles that will stay on the roadway. 2. Prevention/Road Construction, Reconstruction, and Maintenance: All earth-moving equipment, gravel, fill, or other materials need to be weed free. Use onsite sand, gravel, rock, or organic matter where possible. 3. Prevention/Revegetation: Use weed-free equipment, mulches, and seed sources. Avoid seeding in areas where revegetation will occur naturally, unless noxious weeds are a concern. Save topsoil from disturbance and put it back to use in onsite revegetation, unless contaminated with noxious weeds. 4. Prevention/Staging Areas: Do not stage equipment, materials, or crews in noxious weed infested areas where there is a risk of spread to areas of low infestation. 5. Small infestations identified during project implementation will be evaluated and hand treated or "flagged and avoided" according to the species present and project constraints. If larger infestations are identified after implementation, they should be isolated and avoided with equipment (and equipment washed as in # 1 above). 6. Monitoring: Monitor for noxious weed invasion after timber sale implementation and after piles are burned. 			
27	34, 38,	All Areas	Non-Native	Underburn	Shrub Patches: To guard against widespread cheatgrass invasion and to		Botanist, Fuels	Implementation,

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	39, 46, 47, 61, 73, 76, 89, 90, 100, 163, 282		Plants, Sensitive Plants, Wildlife		<p>protect important shrub communities for forage production, avoid ignition in shrub patches that are 1/2 acre or larger. Underburning of up to 30% of these shrub patches is acceptable. The shrub communities of concern include low sagebrush flats, mountain big sagebrush communities on flats and within openings on south facing slopes, and bitterbrush communities.</p> <p>When masticating, only target manzanita, snowbrush and white thorn species. Only target remaining species if they are within the drip line of a leave tree or have the potential to act as ladder fuels.</p>		Officer, Wildlife Biologist	post-implementation
28	All Units	All Areas	Cultural Resources	All	<p>Archaeological and historic sites: Site Specific Special Protection Measures. Any archaeological sites not evaluated prior to logging will be considered as being eligible for the National Register and will be protected. Archaeologist will be consulted during layout of units that have been identified during project reconnaissance. The areas of concern identified during project reconnaissance will be flagged. These areas will be avoided during logging.</p>		Archaeologist, TSA, Vegetation Officer	As applicable prior to, during, and after all management activities
29	All Units	All Areas	Cultural Resources	Pile Burning/ Underburn	<p>Cultural Resources: Protect known archaeological sites during prescribed fire activities as designated by archaeologist. All polygon features will not be burned. Some linear features may be burned as designated by archaeologist. This will include hand removal of fuels from sites, and piling and burning fuels outside of sites as needed.</p>		Archaeologist, Fuels Officer	As applicable prior to, during, and after all management activities
30	80, 85	8	Cultural Resources	All	<p>Protect aspens with historical carvings: Any aspens found with historical carvings and needing protection will be identified prior to the start of aspen treatment operations and these trees will be protected.</p>		Archaeologist, TSA, Vegetation Officer	As applicable prior to, during, and after all management activities
31	All Units	All Areas	Aquatic Resources	All	<p>Mountain yellow-legged frog:</p> <ol style="list-style-type: none"> 1. To reduce the potential of impacts to mountain yellow-legged frog (MYLF) where sightings establish the presence of MYLF, implement the following management requirements: <ul style="list-style-type: none"> · Within RCAs noted by the aquatics biologist as MYLF habitat or breeding areas, require no ground disturbing activities during the limited operating period (LOP) of November 30 to May 30. This LOP is needed to avoid possible interference with MYLF during a time when they may move away from stream courses. 2. To avoid impacts to MYLF, identify all drafting sites to be used, in conjunction with the proposed action, and report these to aquatics 	1.5, 1.19, 2.5	Aquatics Biologist, TSA, Vegetation Officer	As applicable prior to, during, and after all management activities

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					<p>biologist, to allow the implementation of the following mitigation measures:</p> <ul style="list-style-type: none"> · Prior to use each year, water drafting sites where frog habitat is present, a survey will be conducted by an aquatics biologist to determine if frogs are present. <p>If MYLF is found to be present, the biologist will determine whether water drafting mitigations measures are needed. Use of any water source on the Sale Area will be agreed to in writing. Drafting sites shall be located to minimize sediment and maintain riparian resources, channel condition, and MYLF habitat. Use suction strainers with screens less than 2 mm in size. Place draft suction strainer in a bucket to avoid substrate and amphibian disturbance. Draft from deepest water source, near bottom.</p> <ol style="list-style-type: none"> 3. To prevent effects to MYLF consult the aquatics biologist about, or do not allow the use of foam during prescribed burning activities within RCAs. 4. Individuals have been sighted in areas associated with unit 61(Emphasis areas 1 &2), unit 91 (Emphasis area 2), and unit 213 (Emphasis areas 1, 2, 4, & 6). Units 61 & 91 are proposed for hand treatment. Hand treatment units will cut trees 14 inches DBH or less, and Sporax® would not be applied to stumps. Unit 213 has the potential to cut trees greater than 14 inches DBH; therefore Sporax® may be applied. An Aquatics biologist will review areas within 500 ft of occupied sites of MYLF to determine if application of Sporax® should be avoided. 5. If wetting rain (>.25 inch) occurs during, or within two weeks prior to treatment, a biologist should survey treatment units and temporary roads within .25 mile of RCAs. If species are present, determine appropriate mitigation measures to reduce the risk of direct effects to individuals. 			
32	33, 34, 35, 36, 38, 39, 156, 163	All Areas	Wildlife	All	<p>Northern Goshawk Limited Operating Periods: A LOP will be in effect from February 15 to September 15 for Units 33, 34, 35, 36, 38, 39, and 163. This LOP may be modified by the wildlife biologist if surveys determine nesting will not be affected within ¼ mile of the proposed activities.</p> <p>California Spotted Owl Limited Operating Periods: A LOP will be in effect from March 1 to August 15 for Units 156 and 163. This LOP may be modified by the wildlife biologist if surveys determine nesting will not be</p>	1.5	Fuels Officer, TSA, Vegetation Officer, Wildlife Biologist	As applicable prior to, during, and after all management activities

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SMR Number	Unit	Emphasis Area	Concern	Treatment Activity	Includes Best Management Practices (BMPs) and Resource Protection Measures (RPMs)	BMP Number	Responsible Person(s)	Due Date
					affected within ¼ mile of the proposed activities.			
33	All Units	All Areas	Aquatic Resources, Sensitive Plants, Wildlife	All	TES species: If any Federally threatened, endangered, proposed, or Forest Service sensitive species previously unknown in the project area are detected or found nesting within 0.25 miles of project activities, appropriate mitigation measures would be implemented based on input from the aquatics biologist, botanist, and/or wildlife biologist. Measures can include, but are not limited to, flagging and avoiding a plant site, implementing a species specific LOP, or designating a protected activity center.	1.5	Aquatics Biologist, Botanist, Fuels Officer, TSA, Vegetation Officer, Wildlife Biologist	As applicable prior to, during, and after all management activities
34	All Units	All Areas	Wildlife	All	Nests/Denning Structures: If large stick nests or signs of active denning are observed in or near trees that are designated for removal or in down logs, the occurrence and location should be reported to the wildlife biologist to determine the need for further review.		Fuels Officer, TSA, Vegetation Officer, Wildlife Biologist	As applicable prior to, during, and after all management activities
35	All Units	All Areas	Wildlife	Mechanical/Road	30 inch DBH Trees: Avoid the felling of trees 30 inches DBH or greater during the implementation of temporary roads, skid trails and landings, to maintain large tree wildlife habitat. If this is not possible, the wildlife biologist would be consulted.		Road Engineer, TSA, Vegetation Officer, Wildlife Biologist	Contract Layout, Implementation
36	All Units, 163, 213	All Areas	Soils, Wildlife	Mechanical/Hand, Pile Burning/Underburn	<p>Snag Retention: Large snags (greater than 15 inches DBH) would be retained within all subunits, regardless of emphasis area. Where currently available within emphasis area 1, 2 and 5 subunits, some decadent firs with declining crown characteristics would be retained for future snag recruitment. Where existing snag levels are low, particularly within the plantations, silvicultural prescriptions retain all snags greater than three inches DBH.</p> <p>Underburn and Snags: Hand-constructed fire lines would be placed around large snags before applying low intensity surface fire prescriptions. Each subunit's low intensity surface fire prescription (available in the project record) specifies the numbers of snags to be lined, based on existing numbers of large snags within the subunit. In emphasis area 1 and 2 subunits proposed for underburning, between 10 and 18 large snags per acre would be lined while in emphasis area 4, 5, 6, and 7 subunits, between 2 and 10 large snags per acre would be lined.</p> <p>Pile burn and Snags: In treatment units where hand or grapple piling of fuels would be conducted, piles would be located a sufficient distance from large snags (greater than 15 inches DBH) to ensure the snags did not</p>		Fuels Officer, TSA, Vegetation Officer, Wildlife Biologist	Contract Layout, Implementation, post-implementation

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					<p>ignite during pile burning operations.</p> <p>Down Woody Material: In all subunits, regardless of emphasis area, the largest available down logs (larger than 15 inches diameter and ten feet long) would be retained during implementation of silvicultural treatments (mechanical thinning or mastication). Crushing of large down logs with machinery would be avoided.</p> <p>Underburn and Woody Material: In units proposed for application of low intensity surface fire following silvicultural treatments, the largest down logs per acre would be lined to protect them during underburning operations. In emphasis area 1 and 2 subunits, line 15 to 20 large down logs per acre prior to underburning. In emphasis area 4, 5, 6, and 7 subunits, line 3-7 large down logs per acre, with the exception of subunits 163-5, 163-7, and 213-4. In these subunits, approximately 15 to 20 large logs per acre would be lined prior to application of low intensity surface fire. In treatment units proposed for surface fire prescriptions, approximately 30 percent of each unit's area would not be underburned. Small woody material would be retained in these unburned areas of the treatment units.</p> <p>Pile Burn and Woody Material: In treatment units proposed for grapple or hand piling, piles would be located a sufficient distance from large down logs to ensure the logs did not ignite during pile burning operations. In addition, piling would not be conducted on approximately 30 percent of the unit, allowing for retention of small down woody material.</p>			
37	33, 34, 35, 36, 38, 73, 85, 89, 90, 100, 163, 213	All Areas	Wildlife	Mechanical/Hand	<p>Decadent feature enhancement - Two different treatments; partial tree girdling and short snag creation. Partial tree girdling would occur inside and outside of DCAs and short snag creation would only occur in DCAs. Both treatments would only be applied in subunits where the current snag/short snag densities are substantially below desired densities.</p> <p>Partial tree girdling would involve girdling (cutting off the bark layer deep enough to sever the tree's vascular system in the cambium) of individual trees 15-30 inches DBH. The bark layer would be removed in a 6-12 inch band covering approximately 1/3 of the diameter of pine trees and 1/2 of the diameter of fir trees. The selection of trees for partial tree girdling would occur after the DCA and ESO, legacy tree treatment, variable thinning and suppressed cut prescriptions had been applied (marked). Trees selected outside of DCAs for partial girdling would be trees already selected under the variable thinning prescription for removal. Trees selected for partial girdling in DCAs would be designated based on the site specific conditions</p>		Fuels Officer, TSA, Vegetation Officer, Wildlife Biologist	Contract Layout, Implementation, post-implementation

Standard Management Requirements (SMRs)

SMR Number	Unit	Emphasis Area	Concern	Treatment Activity	Includes Best Management Practices (BMPs) and Resource Protection Measures (RPMs)	BMP Number	Responsible Person(s)	Due Date
					<p>in the DCAs and would be trees that would provide needed habitat structure in the DCAs.</p> <p>Short snag creation involves cutting a tree (preferentially a white fir), on the outside edge, but within a DCA, at a height of 10-20 feet above the ground. The height would be based on the highest point a piece of machinery such as a feller buncher, could reach to cut the tree. The top of the tree would be felled into the interior of the DCA and left to contribute to down log densities. Trees selected for this treatment would be 15-30 inches DBH.</p>			
38	All Units	All Areas	Air Quality	Pile Burning/ Underburn	<p>Air Quality: The fuels officer will coordinate with the Air Quality Coordinator to design the waste fire plan. Burning permits would be acquired from the Northern Sierra Air Quality Management District. The Air Quality District would determine days when burning is allowed. The California Air Resources Board (CARB) provides daily information on "burn" or "no burn" conditions. Burn plans will be designed and all fuel reduction burning will be implemented in a way to minimize particulate emissions. Prescribed fire implementation will coordinate daily and seasonally with other burning permittees both inside and outside the forest boundary to help meet air quality standards.</p>		Fuels Officer	Implementation, post- implementation
39	76, 282	2, 4	Aquatic Resources, Fuels Mgmt, Soils/Hydrology	Hand	<p>Treatment in RCA: Some trees will be hand felled into the intermittent channel to provide channel stability. An aquatics biologist or hydrologist will work with hand crews to determine the distribution and placement of trees. This action would be designed to be consistent with the LWQCB Wildlife Habitat Exemption category as well as all LWQCB provisions (particularly SMRs 22 and 23) stated previously in this appendix. The coarse woody debris marking and potential handfelling actions would not exceed a total of 5 acres in size, would be implemented by manual methods, and would not involve the use of mechanical or tracked equipment.</p>	1.8, 1.19	Aquatics Biologist, Fuels Officer, Hydrologist, TSA, Vegetation Officer	Contract Prep, Contract Layout, Implementation
40	213	2, 4	Aquatic Resources, Soils/Hydrology	Mechanical	<p>Marking of RCA: Hydrologist and/or aquatics biologist will assist in the marking and layout of RCAs in emphasis areas 2 and 4 in unit 213.</p>	1.2, 1.8, 1.18, 1.19, 5.2, 5.3, 5.6, 7.2, 7.3	Aquatics Biologist, Hydrologist, TSA, Vegetation Officer	Contract Prep, Contract Layout, Implementation
41	85, 87	All Areas	Sensitive Plants, Soils/Hydrology	Road	<p>Watershed Restoration/Road Decommissioning:</p> <p>Watershed improvements were assessed, identified and</p>	1.8, 1.19, 2.3, 2.4,	Botanist, Hydrologist,	Contract Prep, Contract Layout,

Standard Management Requirements (SMRs)

SMR Number	Unit	Emphasis Area	Concern	Treatment Activity	Includes Best Management Practices (BMPs) and Resource Protection Measures (RPMs)	BMP Number	Responsible Person(s)	Due Date
					<p>incorporated into the proposed action.</p> <ul style="list-style-type: none"> All required state and federal permitting processes, such as CEQA, water quality and 404 permits would be complied with prior to implementation of stream and wetland restoration. The CEQA scoping, document development, noticing and public review will occur prior to obtaining the necessary prohibition exemptions, and address the required basin plan criteria. (BMP 7.1) <p>Road 11-5, Action 1: Approximately one mile of this road would be obliterated following its use for vegetation treatment activities. This road would be reopened to access and treat units 85 and 87 for approximately one mile. Upon completion of the treatments in these units, this segment of road would be obliterated. Road obliteration would consist of re-contouring the roadbed to a hydrologically neutral state. This also includes emphasizing protection and neutral landscape configuration above fens, designing drainage to match natural patterns, reducing compaction (sub-soiling), blocking the closed portions from future access, and mulching or otherwise providing slash and soil organic matter to control erosion.</p> <p>Road 11-5, Action 2: On the section of road 11-5 below the obliteration work described in Action 1 above, where the road crosses through a fen and aspen stand, the road and its associated culvert system would be removed and full restoration measures would be implemented. The existing elevation of the culvert is placed subgrade, such that the water in the fen is draining at an accelerated rate and resulting in an ongoing reduction in fen size. Restoration measures would include filling the culvert alignment and reshaping the roadbed to support the function and hydrology of the fen (currently approximately 1.2 acres). Revegetation activities would be implemented and may include local seed and/or small plugs of sedge mat or other local vegetation obtained adjacent to the fen. Mulching would be provided as needed to control erosion and stabilize the site.</p>	2.7, 2.8, 2.13, 5.4, 7.1, 7.2, 7.3	Road Engineer Soil Scientist, TSA, Vegetation Officer	Implementation, post-implementation
42	61, 163	All Areas	Sensitive Plants, Soils/Hydrology	Pile Burning/ Underburn	<p>Prescribed Fire and the Mason Fen: (Downslope from Units 61 and 163) prior to performing prescribed burns the residual amounts of downed woody debris will be assessed to determine whether additional fuel modification is necessary to achieve the following objectives. Accumulation of downed woody debris shall be discontinuous from the edge of the 50 foot buffer to the edge of the fen, or soil moisture in the 50 foot buffer will be high enough to prevent a fast spreading flaming surface fire, a slow moving smoldering surface fire would be acceptable. Soil</p>	1.8, 1.19, 6.2, 6.3, 7.2, 7.3	Botanist, Fuels Officer, Hydrologist, Soil Scientist, TSA, Vegetation Officer	Implementation, post-implementation

Standard Management Requirements (SMRs)

SMR Numbe	Unit	Emphasis Area	Concern	Treatment Activity	Includes Best Management Practices (BMPs) and Resource Protection Measures (RPMs)	BMP Number	Responsible Person(s)	Due Date
					moisture in fens will be high enough to limit the burning of peat. If necessary, water will be brought to the site and be available to maintain objectives. Ground disturbing methods of fire suppression will be avoided within the 50 foot fen buffer and inside the fen. Also see SMR 42.			
43	46, 61, 80, 85, 98, 99, 163	All Areas	Sensitive Plants, Soils/Hydrology	All	<p>Fens: Fen areas are located within units 46, 85 and 98 and downstream from units 61 and 163. Other units with fens in close proximity are units 80 and 99. Five fens without known sensitive plant occurrences are located in unit 85.</p> <p>Implement a 25' Tractor Keep Out (TKO) along the periphery of all fens in these areas. The silviculturist has worked with the botanist and hydrologist or soil scientist to extend this as a "no treatment zone" outside the fen area to areas as needed to maximize protection of the fens.</p> <p>A botanist and/or hydrologist will also be present to assist in marking and layout around the fens. For fens in Units 46, 85, 98, and 99, post "Flag and Avoid" mitigations with Tractor Keep Out signs to prevent tractors from operating within 25 feet of the riparian edge of the wet features/fens. The fen areas are located in southwestern edge of 85 and three fens are present in the central portion of 46 within emphasis area 4 and in the central portion of unit 98. Place density cover patches around fens within unit 98.</p>	1.8, 1.19, 7.2, 7.3	Botanist, Hydrologist, TSA, Vegetation Officer	Contract Prep, Contract Layout, Implementation
44	80, 85	8	Fuels Mgmt, Sensitive Plants, Soils/Hydrology, Vegetation Mgmt, Wildlife	Pile Burning/ Underburn	Pile Burning in Aspen: Excess remaining project-generated slash would be removed and hand piled outside of the aspen root footprint as determined by botanist or hydrologist, and burned to reduce slash to a level that would not inhibit the aspen suckering response. The location of the piles to be burned would be advised by the hydrologist to maintain water quality and would not be within 25 feet of riparian vegetation.	1.8, 1.19, 6.2, 6.3, 7.2, 7.3	Botanist, Fuels Officer, Hydrologist, TSA, Vegetation Officer	Implementation, post-implementation
45	80	8	Aquatic Resources, Fuels Mgmt, Vegetation Mgmt	All	Mountain Yellow-legged Frog Limited Operating Period (LOP): To reduce the potential of impacts to mountain yellow-legged frog (MYLF), on stream in 80-8, add a 200 foot limited operating period (LOP) buffer to the standard Riparian Conservation Area (RCA). Within the combined RCA and LOP buffer, no ground disturbing activities would be permitted during the LOP of November 30 through May 30. This LOP is needed to avoid possible interference with MYLF during a time when they may move away from stream courses. To prevent effects to MYLF consult the aquatics biologist about, or do not allow the use of foam during prescribed burning activities within RCAs.	1.5, 1.8, 1.19, 6.2, 6.3	Aquatics Biologist, Fuels Officer, TSA, Vegetation Officer	Contract Prep, Contract Layout, Implementation

Standard Management Requirements (SMRs)

SMR Numbe	Unit	Emphasis Area	Concern	Treatment Activity	Includes Best Management Practices (BMPs) and Resource Protection Measures (RPMs)	BMP Number	Responsible Person(s)	Due Date
46	46	4	Sensitive Plants, Soils/Hydrology	Pile Burning/ Underburn	Emphasis area 4 in plantations: Stop ignitions within 25 feet of emphasis area 4 boundary from emphasis areas 5 or 6. Allow but minimize (do not encourage) fire creep into emphasis area 4 in unit 46.	1.8, 1.19, 6.2, 6.3, 7.2, 7.3	Botanist, Fuels Officer, Hydrologist, Soil Scientist, TSA, Vegetation Officer	Implementation, post-implementation

DURING CONSTRUCTION AND GROUND-DISTURBING ACTIVITIES MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MONITORING REQUIREMENTS AND PROCEDURES

The California Environmental Quality Act (CEQA) was amended in 1989 to add Section 21081.6, which requires a public agency to adopt a monitoring and reporting program for assessing and ensuring compliance with any required mitigation measures applied to a proposed development. As stated in Section 21081.6 of the Public Resources Code,

“...the public agency shall adopt a reporting or monitoring program for the changes to the project which it has adopted, or made a condition of project approval, in order to mitigate or avoid significant effects on the environment.”

Section 21081.6 provides general guidelines for implementing mitigation monitoring programs and indicates that specific reporting and/or monitoring requirements, to be enforced during project implementation, shall be defined prior to final adoption of the Initial Study/Mitigation Monitoring and Reporting Program (IS/MND).

The mitigation monitoring table below lists those mitigation measures that may be included as conditions of approval for the project. To ensure that the mitigation measures are properly implemented, a monitoring program has been devised which identifies the timing and responsibility for monitoring each measure. The applicant (National Forest Foundation) will have the primary responsibility for implementing the measures, and the Pacific Southwest Research Station, Truckee Ranger District of the Tahoe National Forest will have the primary responsibility for monitoring and reporting the implementation of the mitigation measures. The Sierra Nevada Conservancy (SNC) will have the secondary responsibility monitoring and reporting the implementation of the mitigation measures.

**Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project (SNC 773)
Mitigation Monitoring and Reporting Program**

Mitigation Measure	Responsible Party or Parties	Timing for Mitigation Measure	Method of Verification	Verification of Compliance (Date/Initials)
I. Aesthetics				
The proposed project would not result in significant adverse impacts related to aesthetic resources. No mitigation is required.				
II. Agricultural Resources				
The proposed project would not result in significant adverse impacts related to agricultural resources. No mitigation is required.				
III. Air Quality				
AIR-1 The U.S. Forest Service, Truckee Ranger District prescribed fire planner would coordinate with the Air Quality Coordinator to design the burn plan and smoke management plan, approved by the Northern Sierra Air Quality Management District (NSAQMD). Burning permits would be acquired from the NSAQMD. The NSAQMD would determine days when burning activities are allowed. The California Air Resources Board (CARB) provides daily information on “burn” or “no burn” conditions. Burn plans prepared by the Truckee Ranger District would be designed and all fuel reduction burning would be implemented in a way to minimize particulate emissions. Prescribed fire implementation for the project would be coordinated daily and seasonally with other burning permittees both inside and outside the forest boundary to help meet air quality standards.	Sierra Nevada Conservancy; U.S. Forest Service (Pacific Southwest Research Station, Truckee Ranger District); Northern Sierra Air Quality Management District	Prior to Issuance of Grading or Building Permits; During Construction and Ground-Disturbing Activities	Onsite Inspection Separate Submittal – reports, studies, plans	
IV. Biological Resources				
The proposed project would not result in significant adverse impacts related to biological resources. No mitigation is required.				
V. Cultural Resources				
CULT-1 If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol,	Sierra Nevada Conservancy; U.S. Forest Service (Pacific Southwest Research Station, Truckee Ranger District);	During Construction and Ground-Disturbing	Onsite Inspection Separate Submittal - reports, studies, plans	

**Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project (SNC 773)
Mitigation Monitoring and Reporting Program**

Mitigation Measure	Responsible Party or Parties	Timing for Mitigation Measure	Method of Verification	Verification of Compliance (Date/Initials)
<p>guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of either the Sierra or Nevada County coroner. All reports, correspondence, and determinations regarding the discovery of human remains on the project site shall be submitted to the Sierra Nevada Conservancy and the Truckee Ranger District.</p> <p>According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).</p>	Project Contractor; Qualified Archaeologist	Activities		
<p>CULT-2 During any ground disturbance activities, if paleontological resources are encountered, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the University of California Museum of Paleontology at the University of California, Berkeley regarding any discoveries of paleontological resources.</p> <p>If the qualified paleontologist determines that the discovery represents a potentially significant</p>	Sierra Nevada Conservancy; U.S. Forest Service (Pacific Southwest Research Station, Truckee Ranger District); Project Contractor; Qualified Paleontologist	During Construction and Ground-Disturbing Activities	Onsite Inspection Separate Submittal - reports, studies, plans	

**Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project (SNC 773)
Mitigation Monitoring and Reporting Program**

Mitigation Measure	Responsible Party or Parties	Timing for Mitigation Measure	Method of Verification	Verification of Compliance (Date/Initials)
<p>paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource appropriate measures are recommended or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Sierra Nevada Conservancy and the Truckee Ranger District.</p>				
<p>CULT-3 If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified professional archaeologist, meeting the Secretary of the Interior’s Professional Qualification Standards for prehistoric and historic archaeologist, can evaluate the significance of the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified professional archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from project implementation. These additional studies may include avoidance, testing,</p>	<p>Sierra Nevada Conservancy; U.S. Forest Service (Pacific Southwest Research Station, Truckee Ranger District); Project Contractor; Qualified Archaeologist</p>	<p>During Construction and Ground-Disturbing Activities</p>	<p>Onsite Inspection Separate Submittal - reports, studies, plans</p>	

**Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project (SNC 773)
Mitigation Monitoring and Reporting Program**

Mitigation Measure	Responsible Party or Parties	Timing for Mitigation Measure	Method of Verification	Verification of Compliance (Date/Initials)
and evaluation or data recovery excavation. If a potentially-eligible resource is encountered, then the qualified professional archaeologist, the Sierra Nevada Conservancy, and the Truckee Ranger District shall arrange for either 1) total avoidance of the resource or 2) test excavations to evaluate eligibility and, if eligible, total data recovery. The determination shall be formally documented in writing and submitted to the Sierra Nevada Conservancy and Truckee Ranger District as verification that the provisions for managing unanticipated discoveries have been met.				
VI. Geology and Soils				
The proposed project would not result in significant adverse impacts related to geology or soils. No mitigation is required.				
VII. Greenhouse Gas Emissions				
The proposed project would not result in significant adverse impacts related to greenhouse gas emissions. No mitigation is required.				
VIII. Hazards and Hazardous Materials				
The proposed project would not result in significant adverse impacts related to hazards and hazardous materials. No mitigation is required.				
IX. Hydrology and Water Quality				
The proposed project would not result in significant adverse impacts related to hydrology and water quality. No mitigation is required.				
X. Land Use and Planning				
The proposed project would not result in significant adverse impacts related to land use and planning. No mitigation is required.				
XI. Mineral Resources				
The proposed project would not result in significant adverse impacts related to mineral resources. No mitigation is required.				
XII. Noise				
The proposed project would not result in significant adverse impacts related to noise. No mitigation is required.				

**Sagehen Basin Old Forest Sensitive Species Habitat Restoration Project (SNC 773)
Mitigation Monitoring and Reporting Program**

Mitigation Measure	Responsible Party or Parties	Timing for Mitigation Measure	Method of Verification	Verification of Compliance (Date/Initials)
XIII. Population and Housing				
The proposed project would not result in significant adverse impacts related to population and housing. No mitigation is required.				
XIV. Public Services				
The proposed project would not result in significant adverse impacts related to public services. No mitigation is required.				
XV. Recreation				
The proposed project would not result in significant adverse impacts related to recreation. No mitigation is required.				
XVI. Transportation				
The proposed project would not result in significant adverse impacts related to transportation. No mitigation is required.				
XVII. Utilities and Service Systems				
The proposed project would not result in significant adverse impacts related to utilities and service systems. No mitigation is required.				

**STATE OF CALIFORNIA
SIERRA NEVADA CONSERVANCY**

**Sierra Nevada Conservancy Grant Program
Safe Drinking Water, Water Quality and Supply, Flood Control,
River and Coastal Protection Bond Act of 2006 (Proposition 84)**

Applicant: City of Auburn Fire Department

Project Title: American River Canyon Shaded Fuel Break II

Subregion: Central

County: Placer

SNC Funding: \$157,110.00

Total Project Cost: \$288,206.00

Application Number: 788

Final Score: 97

PROJECT SCOPE

The American River Shaded Fuel Break II project continues work to protect “very high” fire risk areas on US Bureau of Reclamation Lands that are within the American River watershed and Auburn State Recreation Area and adjacent to the City of Auburn. The enhancement areas are located in drainages known as “chutes” or “chimneys” or very steep V shaped canyons/drainages, which are prone to severe erosion after an intense wildfire.

The project will treat fuels along a 300-400 feet wide by 4,000 feet long area most vulnerable to wildfire over approximately 45 total acres. In addition, three (3) locations consisting of approximately 10 acres, will receive fuel reduction enhancement work, complementing treatments completed in a previous grant from Sierra Nevada Conservancy (American River Shaded Fuel Break - SNC 567). Vegetation will be removed by hand; using hand saws, pole saws, and chainsaws. Cut materials will be hauled, stacked in piles, and chipped with a mechanical chipper. Chipped materials will be scattered within the project area and left on site for natural decomposition and soil stability enhancement. The Shaded Fuel Break involves carefully planned thinning of dense vegetation so that wildfire does not easily move from the ground into the overhead tree canopy where fire intensifies and spreads rapidly.

Outcomes from the fuel reduction work include:

- Protection for a portion of the American River watershed
- Increased fire safety to the Auburn community
- A more diverse and healthy ecological system
- Enhanced recreational opportunities

PROJECT SCHEDULE

DETAILED PROJECT DELIVERABLES	TIMELINE
Pre-implementation fieldwork and coordination: Assess project areas; establish operations plan; mark and flag project area, project boundaries, hazards, mitigation areas, and access locations; coordinate with project partners on treatment prescription; conduct training; review emergency procedures; secure vendor/contractor; signing and posting of recreational trails.	July – December 2014
Fuels thinning and chipping	September 2014 – December 2016
6 month Progress Reports	December 31, 2014 June 30, 2015 December 31, 2015 June 30, 2016
FINAL PAYMENT/FINAL PAYMENT REQUEST	December 31, 2016

PROJECT COSTS

PROJECT BUDGET CATEGORIES	TOTAL SNC FUNDING
Project Contractor/Consultants (Cal Fire CDCR Hand Crews)	\$19,210.00
Project Contractor/Consultants (Chipping vendors)	\$130,200.00
Project Signage (Carsonite markers)	\$3,300.00
Administrative Expenses	\$4,400.00
GRAND TOTAL	\$157,110.00

PROJECT LETTERS SUPPORT/OPPOSITION

- Support
 - Assemblyman Jim Nielson
 - Congressman Doug LaMalfa
 - US Bureau of Reclamation
 - Placer County

PROJECT PERFORMANCE MEASURES

There are four Performance Measures common to all grants. In addition, grantees are required to include between one and three project-specific measures. Performance Measures listed here represent those proposed by applicants and may be modified through further discussion with SNC staff.

- Acres of Land Improved or Restored
- Measurable Changes in Knowledge or Behavior

Notice of Exemption

Appendix E

To: Office of Planning and Research
PO Box 3044, 1400 Tenth Street, Room 212
Sacramento, CA 95812-3044

From: (Public Agency) Sierra Nevada Conservancy
11521 Blocker Drive, Suite 205
Auburn, CA 95603

Project Title: American River Canyon Shaded Fuel Break Project (SNC 788)

Project Location – Specific:

The project site is located near Robie Point within the western portion of the Auburn State Recreation Area, south of the City of Auburn, California, on U.S. Bureau of Reclamation Lands. The site lies approximately 0.65 mile south of the City of Auburn, approximately 3.8 miles southeast of Newcastle, and approximately 3.2 miles northwest of Pilot Hill, in Placer County, California.

Project Location – City: Auburn

Project Location – County: Placer

Description of Nature, Purpose and Beneficiaries of Project:

The Auburn City Fire Department requests \$157,110 in funding from the Sierra Nevada Conservancy's Proposition 84 Sierra Nevada Conservancy's Proposition 84 Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Grant Program to implement a fuel break program in high-fire-risk areas in the Auburn State Recreation Area adjacent to the City of Auburn on U.S. Bureau of Reclamation (BOR) Lands. The project will provide fuel reduction on approximately 45 acres that are vulnerable to wildfire within an approximately 300-400 foot wide by 4,000-foot long land area. Three additional smaller individual areas, located just to the southwest of the 45-acre main fuel break area (totaling approximately 10 acres), where similar prior projects have occurred, and that have been determined to require enhancement and additional fuel reduction, will also be treated. Construction methods will include removal of vegetation by hand, cutting and sawing, using hand saws, shears, and/or chainsaws. Cut materials will be hauled by hand, stacked in piles, and chipped with a mechanical chipper. Chipped materials will be scattered within the project area and left onsite for natural decomposition, although pile burning may be used on a limited basis (e.g. to eliminate invasive plant species where chipping could broadcast seedling and expand, rather than remove, such species). The targeted areas are located in steep V shaped canyons that allow wildfire to burn with fierce intensity, leaving the canyons prone to erosion and soil runoff during precipitation events. The canyons direct runoff from the watershed into the American River. By reducing existing vegetation, fire risk will be reduced and fire suppression will be more effective, and damage to the watershed will be reduced, thereby reducing deposit of debris and silt into the American River.

The project is part of the larger American River Canyon Shaded Fuel Break Project that is aimed at fuel reduction over approximately 250 total acres. Similar vegetation clearing activities for the Shaded Fuel Break Project have been exempted under a Notice of Exemption (NOE) from the City of Auburn and are currently performed by the Fire Department on BOR lands through a Categorical Exclusion from the U.S. Dept. of the Interior. As needed, the project applicant will coordinate activities with the U.S. BOR, California State Parks, Cal Fire, and/or other agencies for implementation of the project, as has occurred in the past.

Threatened and endangered plant and animal species such as elderberry, nesting birds, and other special status species, are not to be removed or treated, or otherwise adversely affected, within any shaded fuel break. Surveys to confirm location of special status species will be conducted prior to commencement of any onsite activities. Further, the proposed action does not have the potential to affect Indian Trust Assets (ITA).

The purpose of the American River Canyon Shaded Fuel Break Project is to provide protection from wildfire and improve forest health by thinning dense flammable vegetation and creating fuel breaks to limit fire and aid fire suppression activities. The project would also reduce potential for deposit of silt and earthen debris via runoff into the American River watershed; maintain and enhance wildlife habitat; and, preserve cultural and recreational resources.

Name of Public Agency Approving Project: City of Auburn
Name of Person or Agency Carrying Out Project: City of Auburn Fire Department

Exempt Status: *(check one)*

- Ministerial (Sec. 21080(b)(1); 15285);
- Declared Emergency (Sec 21080(b)(3); 15269(2));
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- Categorical Exemption. State type and section number: 15304 (Class 4), "Minor Alterations to Land"
- Statutory Exemptions. State code number: _____

Reasons why project is exempt:

The proposed American River Canyon Shaded Fuel Break Project is categorically exempt from the provisions of CEQA pursuant to CEQA Guidelines Section 15304, Class 4, which permits minor public or private alterations in the condition of the land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes. The project consists of minor land alterations to reduce the risk and spread of wildfire and potential resulting soil erosion and deposit of silt and other debris during precipitation events into downstream waterbodies (e.g. American River). The project will also serve to protect the forested environment, recreation resources in the American River Watershed; habitat for multiple species; and, cultural resources. No significant adverse impacts to natural or cultural resources will occur as a result of the project.

Lead Agency Contact Person: Matthew Daley
Area Code/Telephone/Extension: (530) 823-4698

Signature: _____ Date: _____ Title: Executive Officer
 Jim Branham

Date Received for Filing at OPR:

Revised 2005

**STATE OF CALIFORNIA
SIERRA NEVADA CONSERVANCY**

**Sierra Nevada Conservancy Grant Program
Safe Drinking Water, Water Quality and Supply, Flood Control,
River and Coastal Protection Bond Act of 2006 (Proposition 84)**

Applicant: USDA Forest Service, Sierra National Forest, High Sierra Ranger District

Project Title: Soaproot Restoration Project

Subregion: South

County: Fresno

SNC Funding: \$349,788.00

Total Project Cost: \$840,577.00

Application Number: 786

Final Score: 97

PROJECT SCOPE

A history of logging practices, grazing, and fire suppression characterize the conditions in the Soaproot Stewardship vicinity. The forest structure consists of dense, even-aged forests that are increasingly susceptible to severe wildfire, drought, insects, and disease. Severe storms and insect outbreaks in combination with fire suppression over the past century create a hazardous fuels situation, making high-severity fires more likely.

One of the goals of this project is to reduce hazardous fuels by treating the fuels through mechanical methods. Watershed restoration treatments, such as surface and ladder fuel reduction, are necessary to return the Project area to a landscape resilient to wildfire impacts. Vegetative treatments would reduce tree and brush density in several areas, reducing fuel loads and the risk of large, high intensity events. Maintaining vegetative conditions would be accomplished through future planned underburning and vegetative treatments.

The analysis area of the Soaproot Restoration Project Environmental Assessment was selected by the Dinkey Collaborative (a group of diverse stakeholders assembled to direct the planning approach for the project) to reduce hazardous fuels and restore ecological components within the Dinkey Landscape Restoration Project (DLRP). The DLRP was developed under the Collaborative Forest Landscape Restoration Program (CFLRP), and includes 154,000 acres on national forest and adjacent private lands. A cross-disciplinary approach was used for the collaborative process to incorporate the various insights and perspectives of group members. Dinkey Collaborative members

discussed the Soaproot NEPA analysis area in several meetings and site visits, as either a full group or smaller subcommittee to work out the details of the proposed action for the Soaproot NEPA Environmental Assessment. The Dinkey Collaborative provided input and viewpoints during the development of alternatives to consider for the Soaproot NEPA analysis.

The Soaproot Stewardship Project is located in the Upper Big Creek subdrainage, one of the Sierra National Forest’s designated priority watersheds for restoration treatments. Big Creek, Summit Creek, and Providence Creek are the three main streams at risk from the negative effects of high intensity wildfires. Proposed treatments to reduce fire severity would protect these stream reaches from disturbance. Downstream from the Soaproot Stewardship is Pine Flat Reservoir. This major reservoir on the Kings River provides Valley farmers irrigation water and produces electricity. Should the project area experience a large, high-severity fire in its present condition, sedimentation from the area over time would reduce the amount of storage in Pine Flat Reservoir and the benefits resulting from this stored water. The project will reduce the chances of such an occurrence by reducing hazardous fuels and creating a more resilient forest in which fire can better play its naturally occurring role in ecological processes.

The proposed scope of work, designed to maintain the suitability of sensitive species habitat while remaining consistent with fuels and fire objectives, includes:

- Biomass Thinning (262.3 acres): Within the units prescribed for restoration and ladder fuel treatments, small trees (4 to 9.9 inches DBH) will be thinned to a spacing of 20 feet and the trees yarded to a central landing with mechanized equipment such as a feller buncher and rubber-tired skidder. Depending on economics this biomass material will either be removed off-site or burned. There are several units within plantations that will also have small trees thinned to a spacing of 20 feet to accelerate development of large trees and meet ecological restoration objectives.
- Tractor (470.5 acres) and Grapple (305 acres) Pile Slash: The fuel prescriptions involve the mechanical rearrangement of fuels created from harvesting activities, natural processes or dense brushy areas. After proposed vegetation treatments, dead and down woody material treatment will occur. Areas of dense, green brush will be tractor piled as a separate treatment. FS personnel will later burn piles. In watersheds where cumulative watershed effects (CWEs) are a concern, grapple piling is prescribed.

PROJECT SCHEDULE

DETAILED PROJECT DELIVERABLES	TIMELINE
Biomass Thin and Pile at Landing on 262.3 acres (units 16, 21, 24, 25, 27, 43, 54, 67, 91, and 92) Contractor will sub-contract with logging operator to accomplish this work with an excavator equipped with cutting head. Biomass trees will either be removed from landing as fuelwood or burned at the landing.	June 1-September 1, 2014

Tractor pile slash on 470.5 acres (units 3, 8, 15, 16, 17, 21, 29, 30, 32, 37, 48, 54, 59, 78, 91, and 92). Contractor will sub-contract with logging operator to accomplish this work with a dozer equipped with brush rake.	June 1-October 1, 2014
Grapple pile slash on 305 acres (units 1, 2, 10, 12, 22, 26, 27, 28, 31, 51, 58, 63, 63A, 76, and 84). Contractor will sub-contract with local grapple pile operator to accomplish this work with an excavator equipped with grapple head. Down woody material will be piled following specifications in the stewardship contract.	June 1-September 15, 2014
Submit 6 Month Report to SNC	December 1, 2014
Submit SNC Final report	June 1, 2015
FINAL PAYMENT	August 1, 2015

PROJECT COSTS

PROJECT BUDGET CATEGORIES	TOTAL SNC FUNDING
Direct*	\$349,788.00
Indirect**	\$0.00
Administrative***	\$0.00
GRAND TOTAL	\$349,788.00

* Direct: Direct costs are expenses necessary to acquire, construct, or to adapt property to a new or different use, or to improve property including land, buildings and equipment. The property/expense must have a useful life longer than one year.

** Indirect: Expenses involve ongoing operations, repair or maintenance costs, regardless of whether the repair or maintenance may last more than one year.

*** Administrative: Expenses associated with the administration of a project and may not exceed 15 percent of the total SNC grant request for direct and indirect costs.

PROJECT LETTERS SUPPORT/OPPOSITION

- Support
 - Steven A. Brink, California Forestry Association
 - Patrick Emmert, Private landowner adjacent to project area
 - Tim Kroeker, Department of Fish and Wildlife
 - Kirby D. Molen, Registered Professional Forester #2313
 - Dinkey Forest Collaborative

PROJECT PERFORMANCE MEASURES

There are four Performance Measures common to all grants. In addition, grantees are required to include between one and three project-specific measures. Performance Measures listed here represent those proposed by applicants and may be modified through further discussion with SNC staff.

1. Number and Diversity of People Reached
2. Number and Types of Jobs Created
3. Number and value of New, Improved or preserved Economic Activities
4. Resources Leveraged for the Sierra Nevada
5. Acres of land Improved or Restored

**Final
Initial Study/Mitigated Negative Declaration:
Soaproot Stewardship Project**

Lead Agency

Sierra Nevada Conservancy
11521 Blocker Drive, Suite 205
Auburn, CA 95603
Contact: Matthew Daley, Senior Grants Analyst
530-823-4698

March 2014

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR THE PROPOSED SOAPROOT STEWARDSHIP PROJECT

Public Notice is hereby given that an Initial Study and Draft Mitigated Negative Declaration (IS/MND) is available for public review for the Soaproot Stewardship Project.

Project Location: The proposed project is located in the High Sierra Ranger District on the Sierra National Forest, in the Soaproot Management Unit, northeast of Cherry Flat and southwest of Grand Bluffs, south of State Route 168 and Dinkey Creek Road, approximately 5 miles south of Shaver Lake and approximately 30 miles northeast of Fresno, Fresno County, California. Township (T) 10 South (S), Range (R) 25 East (E), Sections 9, 10, 12, 15, 16, 22-24, 26, 29-33; T11S R25E Sections 3-8; T10S R24E Sections 24 and 25; and T10S R26E Section 18, Mount Diablo Base and Meridian. Latitude / Longitude: 37.01955 / -119.264145.

Project Description: The High Sierra Ranger District is requesting approximately \$350,000 in funding from the Sierra Nevada Conservancy's Proposition 84 Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Grant Program to reduce hazardous fuels and restore ecological components in the Soaproot Stewardship Project area in the Sierra National Forest. This project would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth.

The project includes restoring key features of diverse, fire-adapted forests, including heterogeneity at multiple scales, reduced surface and ladder fuels, improved watershed resilience and function, and improve habitats for sensitive wildlife and botanical species within the Soaproot Stewardship Project. Restoration treatments would be applied to approximately 1,035 acres of an approximately 7,120-acre project area involving a combination of biomass removal, tractor and grapple piling, and pile burning treatment methods. The project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest. Refer to Section 2.0, below, for a detailed project description.

Document Adoption: The public comment period began January 3, 2014 and extended to February 3, 2014. The MND will be considered by the Sierra Nevada Governing Board at a public meeting on March 13, 2014 located at: California Department of Food and Agricultural Auditorium, 1220 N Street, Sacramento, CA 95814 Questions regarding the March 2014 Governing Board meeting may be provided to Matthew Daley, Senior Grants Analyst, at Matthew.Daley@sierranevada.ca.gov or at the following address:

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

MITIGATED NEGATIVE DECLARATION

Project Title: Soaproot Stewardship Project (SNC 786)

Project Location: The proposed project is located in the High Sierra Ranger District on the Sierra National Forest, in the Soaproot Management Unit, northeast of Cherry Flat and southwest of Grand Bluffs, south of State Route 168 and Dinkey Creek Road, approximately 5 miles south of Shaver Lake and approximately 30 miles northeast of Fresno, Fresno County, California. Township (T) 10 South (S), Range (R) 25 East (E), Sections 9, 10, 12, 15, 16, 22-24, 26, 29-33; T11S R25E Sections 3-8; T10S R24E Sections 24 and 25; and T10S R26E Section 18, Mount Diablo Base and Meridian. Latitude / Longitude: 37.01955 / -119.264145.

Date: March 13, 2014

Project Applicant: United States Forest Service, Sierra National Forest, High Sierra Ranger District

Lead Agency: Sierra Nevada Conservancy

Contact Person: Matthew Daley, Senior Grants Analyst, Sierra Nevada Conservancy, (530) 823-4698

Project Description: The High Sierra Ranger District is requesting approximately \$350,000 in funding from the Sierra Nevada Conservancy's Proposition 84 Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Grant Program to reduce hazardous fuels and restore ecological components in the Soaproot Stewardship Project area in the Sierra National Forest. This project would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth.

The proposed project includes restoring key features of diverse, fire-adapted forests, including heterogeneity at multiple scales, reduced surface and ladder fuels, improved watershed resilience and function, and improve habitats for sensitive wildlife and botanical species within the Soaproot Stewardship Project. Vegetative treatments would be applied to approximately 1,035 acres of an approximately 7,120-acre project area involving a combination biomass removal, tractor and grapple piling, and pile burning treatment methods. The project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest. Refer to Section 2.0, below, for a detailed project description.

Declaration: The Sierra Nevada Conservancy has determined that there is no substantial evidence that the above project, as mitigated, may have a significant effect on the environment and adopts a Mitigated Negative Declaration. The determination is based on the attached initial study and the following findings:

- a) *The project will not degrade environmental quality, substantially reduce habitat, cause a wildlife population to drop below self-sustaining levels, reduce the number or restrict the range of special-status species, or eliminate important examples of California history or prehistory.*
- b) *The project does not have the potential to achieve short-term, to the disadvantage of long-term, environmental goals.*
- c) *The project will not have impacts that are individually limited, but cumulatively considerable.*
- d) *The project will not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.*
- e) *No substantial evidence exists that the project will have a negative or adverse effect on the environment.*

- f) *The project incorporates mitigation measures identified in the initial study and the Soaproot Restoration Project Environmental Assessment/Finding of No Significant Impact prepared by the High Sierra Ranger District of the Sierra National Forest.*
- g) *This mitigated negative declaration reflects the independent judgment of the lead agency.*

Submit questions to:

Matthew Daley

Senior Grants Analyst

Sierra Nevada Conservancy

11521 Blocker Drive, Suite 205

Auburn, CA 95603

(530) 823-4698

Matthew.Daley@sierranevada.ca.gov

Jim Branham, Executive Officer

(530) 823-4670

Phone #

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Appendix A	Design Criteria
Appendix B	Best Management Practices

1.0 INTRODUCTION

1.1 PROJECT INFORMATION

1. Project Title:

Soaproot Stewardship Project (SNC 786)

2. Lead Agency Name and Address:

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

3. Contact Person and Phone Number:

Matthew Daley, Program Coordinator (530) 823-4698

4. Project Location:

The proposed project is located in the High Sierra Ranger District on the Sierra National Forest, in the Soaproot Management Unit, northeast of Cherry Flat and southwest of Grand Bluffs, south of State Route 168 and Dinkey Creek Road, approximately 5 miles south of Shaver Lake and approximately 30 miles northeast of Fresno, Fresno County, California. Township (T) 10 South (S), Range (R) 25 East (E), Sections 9, 10, 12, 15, 16, 22-24, 26, 29-33; T11S R25E Sections 3-8; T10S R24E Sections 24 and 25; and T10S R26E Section 18, Mount Diablo Base and Meridian. Latitude / Longitude: 37.01955 / -119.264145.

5. Project Sponsor's Name and Address:

United States Forest Service
Sierra National Forest, High Sierra Ranger District
P.O. Box 559
Prather, CA 93651

6. General Plan Designation:

Sierra North Regional Plan Area: Public Lands

7. Zoning:

RC40 - Resource Conservation; adjacent to TPZ – Timberland Preserve and AE 40 – Exclusive Agriculture

8. Description of Project:

The High Sierra Ranger District is requesting approximately \$350,000 in funding from the Sierra Nevada Conservancy's Proposition 84 Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Grant Program to reduce hazardous fuels and restore ecological components in the Soaproot Stewardship Project area in the Sierra National Forest. This proposed project would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth.

The proposed project includes activities that will ultimately aid in restoring key features of diverse, fire-adapted forests, including heterogeneity at multiple scales, reduced surface and ladder fuels, improved watershed resilience and function, and improve habitats for sensitive wildlife and botanical species within the Soaproot Stewardship Project. Vegetative treatments

would be applied to approximately 1,035 acres of an approximately 7,120-acre project area involving a combination of biomass removal, tractor and grapple piling, and pile burning treatment methods. The proposed project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest. Refer to Section 2.0, below, for a detailed project description.

9. Surrounding Land Uses and Setting:

The proposed project is within the Sierra National Forest. The proposed project is entirely in the wildland urban intermix area where human habitation is mixed within areas of flammable wildland vegetation that extends out from private developed land into land under private, state, and federal jurisdictions. Nearby communities include Shaver Lake, Ockenden, Pineridge, Cressmans, and Dinkey Creek. Several creeks are within the project area as well.

10. Other public agencies whose approval is required:

High Sierra Ranger District, Sierra National Forest, United States Forest Service*
California Department of Fish and Wildlife (Lake and Streambed Alteration Agreement)**
California Regional Water Quality Control Board**

San Joaquin Valley Air Pollution Control District (burn approval)

*Approved the Environmental Assessment/Finding of No Significant Impact (NEPA)

**As required for riparian, watershed, and stream crossing activities

1.2 PROJECT BACKGROUND AND PREVIOUS ENVIRONMENTAL DOCUMENTATION

The High Sierra Ranger District of the Sierra National Forest acted as Lead Agency under the National Environmental Policy Act (NEPA) in July 2012 and prepared an Environmental Assessment (EA) and adopted a Finding of No Significant Impact (FONSI) in September 2012. This Initial Study and Draft Mitigated Negative Declaration (IS/MND) relies on the *Soaproot Restoration Project Environmental Assessment/Finding of No Significant Impact* and the following related technical studies:

- Botanical Resources Biological Evaluation and Biological Assessment and Noxious Weed Risk Assessment for the Soap Root Restoration Project (no date)
- Riparian Conservation Objectives Consistency Report – Soaproot Restoration Project (August 2012)
- Aquatic Species Biological Assessment and Biological Evaluation for the Soaproot Project (May 2012)
- Migratory Landbird Conservation on the Sierra National Forest (June 2012)
- Biological Assessment and Biological Evaluation for Terrestrial Wildlife for the Soaproot Restoration Project (June 2012)
- Management Indicator Species Report for Soaproot Restoration Project (May 2012)
- Cultural Resource Management of the Soaproot Restoration Project, Archaeological Reconnaissance Report R2012051552001 (April 2012)
- Cumulative Watershed Effect Analysis, Soaproot Project – Baseline and Detailed CWE Analysis FSH 2509.22 (May 2012)
- Water Resources Specialist Report (May 2012)
- Air Quality Specialist Report, Soaproot Restoration Project (June 2012)

2.0 PROJECT DESCRIPTION

The Soaproot Stewardship Project (proposed project) is located in the High Sierra Ranger District on the Sierra National Forest, in the Soaproot Management Unit, northeast of Cherry Flat and southwest of Grand Bluffs, south of State Route 168 and Dinkey Creek Road, approximately 5 miles south of Shaver Lake and approximately 30 miles northeast of Fresno, Fresno County, California (Figure 2-1). In the proposed project, vegetative treatments would occur on approximately 1,035 acres of an approximately 7,120-acre project area to reduce hazardous fuels. This involves a combination of biomass removal, tractor and grapple piling, and prescribed fire treatment methods in stands and plantations to accomplish the project objectives. There are no treatments proposed within Bretz Campground. Within the project boundary, there would be stands with no treatment and others that include multiple treatments to meet the goals and desired conditions of the proposed project.

While the High Sierra Ranger District analyzed a larger project (Soaproot Restoration Project) within the NEPA EA/FONSI, the proposed project is smaller in size and does not include as many treatments. Only those vegetative treatments that are identified in Table 2-1 are discussed in further detail below. Appendix A provides design criteria for the larger Soaproot Restoration Project (High Sierra Ranger District, September 2012); however, only the criteria related to the proposed project, as defined by the Sierra Nevada Conservancy (SNC) for the purposes of the California Environmental Quality Act (CEQA), would be applied.

Table 2-1. Summary Totals of Proposed Treatments (in acres)

Treatment	Acres
Biomass Removal	262.3
Tractor Pile	470.5
Grapple Pile	305

Vegetative treatments are designed to decrease fuel loads and stand densities in order to restore the landscape to a healthy, diverse, fire-resilient one that would aid in disrupting severe wildfires that may occur around the wildland urban intermix. This would be accomplished by reducing surface and ladder fuels, promoting and maintaining heterogeneity at multiple scales, maintaining and improving habitat for sensitive wildlife species, improving watershed function and resilience, and restoring native species composition.

2.1 TREATMENTS

Vegetative treatments would reduce tree and brush density in several areas within the project boundary, creating a situation where wildfire suppressions has greater probability of success should a wildfire occur. The proposed project would involve biomass thinning treatments as well as tractor and grapple piling of slash, to promote heterogeneity and allocate growing space consistent with historical stand structures. The prescriptions are designed to maintain the suitability of sensitive species habitat, while remaining consistent with fuels and fire objectives. Vegetation treatments proposed would occur as three different prescriptions and are based on whether they occur inside of fisher den buffers and spotted owl protective activity centers (PACs), outside of these areas, or within plantations. The prescriptions are described below.

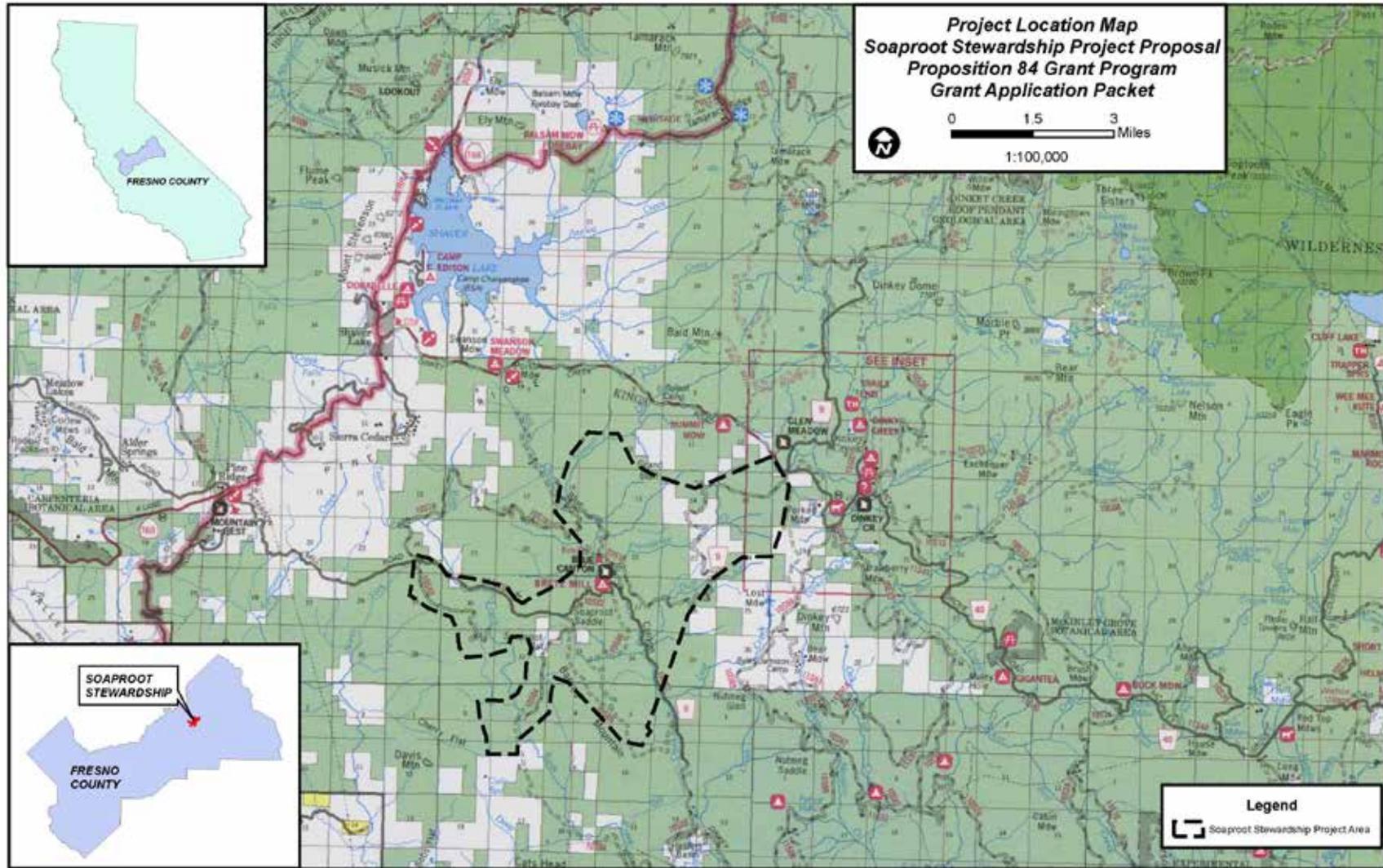


Figure 2-1. Project Vicinity and Location Map
 (Source: High Sierra Ranger District)

2.1.1 Biomass Thinning Prescription

Small trees (4 to 9.9 inches DBH) would be thinned to a spacing of 20 feet and the trees yarded to a central landing, within those areas identified for vegetative treatments. There are approximately three stands with plantations that would also have small trees thinned to a spacing of 20 feet to accelerate development of large trees and meet ecological restoration objectives. This material would also be removed to landing and either removed or burned. Mechanized equipment such as masticators or mechanical harvesters (i.e., feller buncher and rubber-tired skidder) would be utilized.

Current and past fisher den sites consisting of the highest quality habitat would require a 700 acre buffer. Designation of den buffers would be achieved using new information that comes from current research up until a contract for the proposed project would be awarded. After that point, new information would still be collected and utilized but the prescription in the buffers would not change for this proposed project (High Sierra Ranger District, September 2012).

2.1.2 Fuel Prescription – Tractor and Grapple Pile Slash

In stands where the level of dead and down woody debris exceed the fuels objectives of 10 to 15 tons per acre, fuels reduction treatments would be used to lower the volume of flammable brush and slash across the project area. The fuels prescriptions involve the manual and mechanical rearrangement of fuels created from harvesting activities or natural processes. These activities would occur after proposed vegetation treatments are completed and would be followed by prescribed fire or another method to reduce the fuels (High Sierra Ranger District, September 2012).

Dead and down woody material would be mechanically piled depending on the area and would be later burned. Tractor piles of fuels in treatment areas would be created using a brush rake attached to a tracked vehicle. Areas of dense green brush would be tractor piled as a separate treatment. Piles would be later burned with forest service personnel. In watersheds where cumulative watershed effects (CWEs)¹ are a concern, grapple piling would occur in riparian conservation areas (RCAs)² to minimize ground disturbance, especially on slopes greater than 25 percent.

2.1.3 Prescribed Fire – Pile Burns

Ecosystem strategies include emphasis of the use of prescribed fire both as a fuel treatment and as a tool for restoring natural processes. Four prescribed fire methods would be used: burn piles, jackpot burn, underburn, and broadcast burn. If determined appropriate by the High Sierra Ranger District, biomass would be removed to an off-site location or would be burned. Piles generated from mechanical equipment (tractor and grapple) would be burned within the treatment areas or on landings. Therefore, of the four prescribed fire methods, the proposed project would conduct pile burns.

The proposed project would include pile burning, while the larger Soaproot Restoration Project would conduct prescribed burns. All burns would be conducted in accordance with Title 17 of the California Code of Regulations (CCR). The project proponent, High Sierra Ranger District, would submit a smoke management plan to the San Joaquin Valley Air Pollution Control District (SJVAPCD) and: 1) receive a permit to burn, 2) receive authorization to burn on a given day, and 3) maintain communication with the local air district and report on the status of the burn until it is concluded (High Sierra Ranger District, June 2012).

¹ CWEs are watersheds that may respond to disturbances when they reach a Threshold of Concern (TOC). Within the project boundary, 12 of 15 subdrainages exceed their TOC (High Sierra Ranger District, May 2012).

² RCAs are delineated around perennially and seasonally flowing streams and special aquatic features. They extend 300 feet from perennial features and 150 feet from seasonal areas (Refer to Appendix A for further detail).

3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology / Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology / Water Quality |
| <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation / Traffic | <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION: (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Jim Branham, Executive Officer

Date

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a, c.) **Less Than Significant.** The proposed project area is visible primarily from State Route (SR) 168, Dinkey Road, and Bretz Campground. Tree stumps would be cut to a maximum of six inch heights from the uphill side or as low as possible. Where feasible, burn piles would be located in areas where they would not be highly visible from private property, Peterson Mill Road and Dinkey Creek Road, SR-168, Forest Service (FS) roads 10S01, 10S17, and 10S18, and Bretz Campground. If a burn pile is not burned to 90 percent consumption, the remnant slash would be scattered throughout the site. Where feasible, landings would be located in areas where they would not be highly visible and would be minimized in size and restricted to existing openings.

There would be no impacts to scenery from SR-168 or Dinkey Creek Road, as the proposed project would not be visible due to the “walls” of trees and land forms that screen views beyond the immediate foreground. Given the nature of the proposed project, to enhance forest health, and the specific project design criteria outlined by the High Sierra Ranger District, the proposed project would have a less than significant impact on surrounding roadways, private property, and Bretz Campground. Proposed project impacts are considered less than significant. No mitigation is required.

b.) **Less Than Significant.** As part of the proposed project activities, buffer areas would be set up around rock outcroppings and cultural resource sites. A 100-foot buffer of 100 percent soil cover would be left below large rock outcrops to maintain erosion control as well as their aesthetic integrity. No ground disturbing activities would occur within cultural resource sites and any resources identified through consultation with Native American tribes, individuals, and other interested parties would be protected through avoidance. Therefore, the proposed project would have a less than significant impact on scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings. No mitigation is required.

d.) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. The proposed project would not introduce a new source of light of glare into the region. Therefore, no impact would occur. No mitigation is required.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. -- Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non- agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a-e.) **No Impact.** The proposed project site is within the Sierra National Forest. The proposed project site does not contain Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or active agricultural operations. The project involves forest land, but would not involve the loss of any forest land. The proposed project would benefit the forest as it would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. The proposed project does not include any changes that could result in conversion of any farmland to a non-agricultural use or forest land to non-forest land use. Accordingly, there would be no impact related to agricultural or forest resources. No mitigation is required.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

a, b, d, e) **Less Than Significant.** The proposed project is located within the San Joaquin Valley air basin within the jurisdiction of the San Joaquin Valley Unified Air Pollution Control District (SJVAPCD). The Fresno Metropolitan area, the communities of Shaver Lake, Tollhouse, and the Dinkey Creek Recreation Area, schools, airports and recreation sites are considered smoke sensitive receptors where smoke and air pollutants can adversely affect public health, safety and welfare. Table 4-1 identifies sensitive receptor areas within 10 miles of the project area. These areas could be affected by smoke if weather patterns produce a stable air mass and smoke is unable to vent into the upper atmosphere.

Table 4-1. Sensitive Receptors Identified within 10 Miles of the Soaproot Project*

Sensitive Receptor Type	Location
Towns, Communities	Peterson Mill, Pineridge, Cressman Road, Shaver Springs, Shaver Lake, Sierra Cedars.
Recreation Areas	Blue Canyon, Haslett Basin, Dinkey Creek Recreation Area, Shaver Lake Recreation Area, McKinley Grove.
Campgrounds	Bretz Mill, Swanson Meadow, Dorabella, Camp Edison, Dinkey Creek, Sawmill Flat, Camp Fresno, and McKinley Grove.
FS Work Center/Ranger Station	Blue Canyon Work Center, Mountain Rest Station, Dinkey Creek Ranger Station, Glen Meadow Work Center, and Dinkey Creek Work Center.
Roads	State Highway 168, Forest Service and County Roads
Class I Federal areas	See Table 1 for Class I areas
Other	Private lands within and adjacent to the project area

Source: High Sierra Ranger District, *Air Quality Specialist Report*, June 2012.

* Distances are as identified for the larger Soaproot Project as identified for NEPA by the High Sierra Ranger District.

Direct Impacts: Prescribed burns (pile burns) would occur as part of the proposed project. Burns are conducted on authorized burn days only, in consultation with the SJVAPCD. Since smoke is made up of inhalable particulates (smoke particles that measure less than ten microns in size [PM₁₀], and of less than 2.5 microns in size [PM_{2.5}]) and ozone are public health hazards; prescribed burns (pile burns) would be planned during periods of unstable air, which would allow for proper ventilation. The High Sierra Ranger District would obtain a burn permit prior to pile burns, as discussed below, and would coordinate with SJVAPCD for burn activities. Burn activities would be implemented under optimum conditions using Best Available Control Measures (BACMs) to prevent smoke concentrations from affecting local communities (High Sierra Range District, June 2012). This impact would be less than significant and no mitigation measures are required.

The objective of pile burning would be to reduce fuel loadings while protecting the residual overstory trees from damage caused by heat and flames. Pile burning could produce more particulate matter per acre than understory burning because the standing biomass would be cut and piled producing higher fuel loads. However, piled material is allowed to cure and can be ignited with lower fuel moistures, which ensures complete and efficient consumption and less particulate matter being produced. If fuel loading does not meet the desired condition after the biomass reduction is complete, then an understory burn is prescribed. Understory burning would not be a part of the proposed project. The proposed project includes pile burn activities that would occur in the fall of 2014. Pile burning would only be allowed with a burn permit from the SJVAPCD, obtained by the High Sierra Ranger District, and would only occur on designated burn days. This pile burning would not interfere with the strategies employed to attain the National Ambient Air Quality Standards. The High Sierra Ranger District would be required to maintain burn ignitions and acres within rules and guidelines developed by the SJVAPCD, as provided by the California Air Resources Board (CARB) (High Sierra Range District, June 2012).

In addition, the use of the existing unpaved Forest Service roads could potentially generate dust. The project area is above 3,000 feet in elevation and is exempt from Regulation VIII, Rule 8011 General Requirements, though dust abatement is still required by the Forest Service. Impacts are considered less than significant and no mitigation measures are required.

Mechanical equipment would be used for vegetation removal, thinning, and piling activities. Equipment hours are based on average production rates from similar projects on the High Sierra Ranger District. Most of the material would be thinned by chainsaw or mechanical harvester and skidded. Piling of activity created slash and brush would be with a track type tractor. The proposed project would include equipment such as wheeled skidders and loaders, and heavy duty diesel powered highway truck and track type dozer or dozer with grapple head. Exhaust hydrocarbons (EH) and pollutant levels produced from thinning activities are lower than historical levels of logging and similar activities for the Sierra National Forest. Historical timber harvesting and thinning operations were at all-time highs in 1987 with 154 million board feet of timber harvested. This proposed project would thin approximately 0.5 percent of that historical level. Therefore, exhaust from proposed project activity equipment would have a less than significant impact on air quality. No mitigation measures are required.

Indirect Impacts: These areas could be affected by smoke if weather patterns produce a stable air mass and smoke is unable to vent into the upper atmosphere. Since PM₁₀ and ozone are public health hazards, prescribed burns (i.e., pile burns) would be planned during periods of unstable air, which would allow for proper ventilation of smoke and temperatures less than 95 degrees Fahrenheit (°F). No prescribed underburns would occur as a part of this proposed project. All prescribed fire activities are coordinated through the High Sierra Ranger District with SJVAPCD and would be implemented under optimum conditions using best available control measures to

prevent smoke concentrations from affecting local communities. Thus impacts are considered less than significant and no mitigation measures are required.

- c.) **Less Than Significant.** The combination of the proposed project with past, present and reasonably foreseeable projects such as the Southern California Edison Company's forestry and prescribed fire program, the Keola project, cattle grazing, off-highway vehicle recreation and ranching use, and private land management activities and timber sales could result in cumulative impacts. However, all projects are required to comply with SJVAPCD rules and guidelines. In addition, all prescribed fire activities are coordinated with SJVAPCD and would be implemented under optimum conditions using best available control measures to prevent smoke concentrations from affecting local communities. Therefore, cumulative impacts are considered less than significant and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a.) **Less Than Significant.** The Sierra National Forest contains many special status wildlife and plant species. However, proposed project activities have been designed to minimize any impacts to special status species. Specific design criteria are provided in Appendix A, and include prohibiting vegetation treatments: 1) within 0.25-mile of a Northern goshawk nest site between February 15 and September 15; 2) within 0.25-mile of a great grey owl nest sites between March 1 and August 15; 3) within 0.25-mile of California spotted owl activity centers between March 1 and August 15; and 4) set up a 700-acre buffer around Pacific fisher den sites between March 1 and June 30. Pre-treatment surveys would be conducted for special status wildlife species, including nesting birds, and appropriate buffers would be established if necessary, based on consultation with the U.S. Forest Service biologists and the appropriate state or federal agencies. Proposed project activities near riparian areas would maintain an 80 percent canopy cover in the Streamside Management Zones (SMZ) and 60 percent cover in riparian conservation areas (RCAs) in order to maintain appropriate water temperatures for aquatic species. Pre-treatment surveys would be conducted for special status plant species and any populations would be flagged and avoided during proposed project activities. Design criteria and BMPs identified to help reduce erosion and runoff would further reduce indirect impacts to any special status plant species in the project area. With the proposed project design criteria (refer to Appendix A) and the BMPs (refer to Appendix B), the

proposed project would have a less than significant impact on special status wildlife and plant species. No mitigation measures are required.

- b, c.) **Less Than Significant.** The proposed project would not include watershed restoration. Proposed project activities, including the design criteria provided in Appendix A, would occur within riparian areas. Vegetation treatments would include biomass thinning and tractor and grapple piling. In watersheds where cumulative watershed effects (CWEs) are a concern, grapple piling, rather than tractor use, would occur in RCAs to minimize ground disturbance, especially on slopes greater than 25 percent. Pile burning would occur as a part of the proposed project.

Sedimentation could be slightly increased in some subdrainages in the short term; however, treatments would follow BMPs (refer to Appendix B) and the design criteria (refer to Appendix A). However, upon proposed project completion, it is anticipated that there would be a reduction in sediment delivery that could reduce fine sediment within the creeks in the project area. Burning prescriptions would be designed to minimize riparian disturbance. The amount of high soil burn severity is not expected to be concentrated in the RCAs, SMZs, and riparian management areas (RMAs) because they would not be directly lit and they tend to hold more moisture than surrounding areas. Groundcover treatments would occur; however, the remaining groundcover would be 50 percent.

While riparian habitat and riparian areas may have temporary, indirect impacts during vegetative treatment activities, the proposed project would improve riparian habitat health, improve water quality, reduce sedimentation, and improve the ultimate health of the watershed. Therefore, the proposed project would have a less than significant impact on riparian areas, riparian habitat and watersheds. No mitigation measures are necessary.

- d.) **Less Than Significant.** The proposed project would include noise during treatment activities. However, snags and woody debris, riparian buffers, and maintenance of canopy closures, as outlined in the project description and the design criteria (refer to Appendix A), would minimize any impacts to migratory species. Therefore, the proposed project would have a less than significant impact on migratory species. No mitigation measures are required.
- e-f.) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. The proposed project would not conflict with policies or ordinances protecting biological resources nor would it conflict with any adopted conservation plans. The proposed project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest. No impacts to recreation would occur. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a-d.) **Less Than Significant With Mitigation.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. These activities could result in ground disturbance that could impact cultural and paleontological resources; however, procedures from the *First Amended Regional Programmatic Agreement Among the USDA Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and Advisory Council on Historic Preservation Regarding the Process for Compliance with Section 106 of the National Historic Preservation Act for Undertakings on the National Forests of the Pacific Southwest Region* (Regional PA) would be utilized for the protection and management of cultural resources within the project area.

Cultural resources have been identified within the project area. Archaeological resources would be excluded from proposed project activities that could result in ground disturbance within the site boundaries (i.e., the use of ground-based mechanical equipment and piling). Sites would be avoided by flagging site boundaries and allowing only hand treatments near the boundaries. Vegetation to be burned would not be piled within the boundaries of a historic property or other cultural resource site. Any equipment to be used within cultural resource site boundaries (i.e., tracked equipment, rubber-tired equipment, or off-site equipment) would be approved by the High Sierra Ranger District's heritage resource manager (High Sierra Ranger District, April 2012).

In the event that an inadvertent effect of new discovery occurs during project implementation, the High Sierra Ranger District would comply with the stipulations of the Regional PA. Impacts as a result of the proposed project would be less than significant; however, there is the potential to disturb previously unidentified resources or unknown human remains outside of a designated cemetery. Therefore, mitigation is required.

Ground disturbing activities would occur surficially with mechanical thinning. It is not anticipated that paleontological resources would be disturbed as a result of the proposed project. As part of the proposed project activities, buffer areas would be set up around rock outcroppings and cultural resource sites. A 100-foot buffer of 100 percent soil cover would be left below large rock outcrops. Thus, the proposed project would have a less than significant impact to paleontological resources or rock outcrop; however, there is the potential to disturb previously unidentified paleontological resources. Therefore, mitigation is required.

Mitigation Measures

CULT-1 If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the Fresno County coroner. All reports, correspondence, and determinations regarding the discovery of human remains on the project site shall be submitted to the Sierra Nevada Conservancy and the High Sierra Ranger District.

According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).

CULT-2 During any ground disturbance activities, if paleontological resources are encountered, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the *Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County regarding any discoveries of paleontological resources.

If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource appropriate measures are recommended or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Sierra Nevada Conservancy and the High Sierra Ranger District.

CULT-3 If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, can evaluate the significance of the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified professional archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation.

If a potentially-eligible resource is encountered, then the qualified professional archaeologist, the Sierra Nevada Conservancy, and the High Sierra Ranger District shall arrange for either

1) total avoidance of the resource or 2) test excavations to evaluate eligibility and, if eligible, total data recovery. The determination shall be formally documented in writing and submitted to the Sierra Nevada Conservancy and High Sierra Ranger District as verification that the provisions for managing unanticipated discoveries have been met.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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VI. GEOLOGY AND SOILS: Would the project:

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|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii) Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a, d, e) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. The proposed project would not expose people or structures to potential substantial adverse effects involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides. While the proposed project may remove some understory ladder fuel, the proposed project would ultimately improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest. Therefore, people residing, working, or recreating in the Sierra National Forest would not be exposed to potential seismic activity or landslides beyond the existing threat. No impacts to recreation would occur. No mitigation measures are required.

b-c.) **Less Than Significant.** The proposed project would include ground disturbing activities and the potential for soil erosion or loss of topsoil. The proposed project would include a 100-foot buffer of 100 percent soil cover around, and below, large rock outcrops to avoid potential runoff generated by these areas that can cause accelerated erosion on soils downslope. Mechanical equipment operations would be conducted when the soil is sufficiently dry in the top 12 inches to prevent unacceptable loss of soil porosity (soil compaction). Under moist soil condition, field checking by a soil scientist would be done to determine if operations could continue. Mechanical operations would be limited where slopes exceed 35 percent. Fifty (50) percent soil cover would be maintained in all areas. Where shrub species predominate, they would be crushed before piling to create small woody fragments left scattered over the site for soil cover and erosion protection. Any

tractor piling that would occur in CWEs would be limited and a grapple piler would be used, especially on slopes greater than 25 percent.

Given the activities included in the proposed project, as summarized above, the proposed project would have a less than significant impact on the erosion. No mitigation measures are required.

In addition, given that the proposed project would provide for a healthier forest and includes erosion controls for slopes greater than 25 percent, the proposed project would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. The proposed project would have a less than significant impact in this regard and no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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VII. GREENHOUSE GAS EMISSIONS: Would the project:

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|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

a-b.) **Less Than Significant.** Projected climate change impacts include temperature increases, sea level rise, changes in timing, location and quantity of precipitation and the increased frequency of extreme weather events such as heat waves, droughts and floods. The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. Prescribed burns (pile burning) would occur as part of the proposed project. Prescribed burns are conducted on days when atmospheric ventilation transports smoke and pollutants away from the San Joaquin Valley and pollutants are not normally a problem. Burns are conducted on authorized burn days only in consultation with the SJVAPCD.

The proposed project would use mechanized equipment such as masticators or mechanical harvesters (i.e., feller buncher and rubber-tired skidder). Changes in combustion efficiency change the amount of CO₂ release per ton of fuel (High Sierra Ranger District, June 2012). The larger Soaproot Restoration Project underburn activities are estimated to produce 9,460 tons of CO₂ emissions, or 2.21x10⁻⁵ percent of California’s 2007 statewide GHG emissions total and 2020 GHG emissions limit (High Sierra Ranger District, June 2012). However, the proposed project would include only pile burning, which is one of four burn prescriptions identified in the Soaproot Restoration Project. In addition, the proposed project would improve forest health and reduce fuel load, which would reduce the risk of wildfire, thus reducing the release of additional CO₂ as a result of severe wildfire. While the proposed project would increase CO₂ emissions in the near-term, emissions overall would be reduced because wildfire severity would be reduced. Impacts are considered less than significant. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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VIII. HAZARDS AND HAZARDOUS MATERIALS:

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

a-c.) **Less Than Significant.** The proposed project would not include the use of hazardous materials. The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. The proposed project would not transport, use, or dispose of hazardous materials. The proposed project would not release hazardous materials into the environment. The proposed project would result in equipment emissions as well as particulate matter from proposed project activities; however, the project area is not located within 0.25 mile of a school. In addition, the High Sierra Ranger District would be required to provide appropriate dust control measures, obtain a burn permit, and burn on days when atmospheric ventilation transports smoke and pollutants away from the San Joaquin Valley and pollutants are not normally a problem. Burns would be conducted on authorized burn days only in consultation with the SJVAPCD. The proposed project would have a less than significant impact as related to hazardous materials. No mitigation measures are required.

d-g.) **No Impact.** The proposed project is located within the Sierra National Forest. It is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, nor would it create a hazard to the public. The proposed project is not within an airport or private airstrip plan area. The nearest public airport is the Fresno Yosemite International Airport in Fresno, approximately 30 miles southwest.

The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. The proposed project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest. Therefore, the proposed project area would not interfere with air traffic circulation nor would it interfere with an adopted emergency response plan or an emergency evacuation plan. The proposed project would thus, have no impact in this regard. No mitigation measures are required.

h.) **Less Than Significant.** The proposed project is located within a Wildland Urban Intermix area. In general, wildfire ignitions are a mix of human caused and lightning. Dead fuel moistures can indicate a wildfire's ability to spread. Wildfires usually spread in a continuous flaming front. When the 10-hour fuel moisture (measured in dead fuels that are ¼ to 1 ¼ inches in diameter) drops below a rating of six, wind can throw embers ahead of the flaming front and start multiple small fires called spot fires. Generally the higher the wind speed, the further the spot fires occur from the main fire. As these spot fires burn together they cause the speed and intensity of the fire to increase dramatically. Multiple spot fires are an indication of extreme fire behavior. It is not uncommon for these conditions to exist during the height of the fire season every year (High Sierra Ranger District, September 2012).

Prescribed fire operations, in the form of slash pile burning, can usually start in late October and may continue until precipitation makes the fuels too wet to ignite, usually sometime in November, but as late as January in extremely dry years. Prescribed fire operations in the fall months face three obstacles:

- The demand for fire crews to remain in a state of readiness for the southern California Santa Ana fire season precludes long-term commitment of fire crews to prescribed fires.
- Without adequate precipitation, fuel moisture remains too low to meet prescribed fire objectives or once the rainfall starts, it comes too frequently to allow fuels to dry sufficiently enough to carry fire.
- Fall weather patterns in the San Joaquin Valley Air Basin create poor air movement, which traps smoke and other pollutants in the populated valley thus causing unhealthy conditions. Adequate air movement that would disburse smoke from prescribed fires usually only occurs during weather frontal passages. These frontal passages sometimes provide small windows of opportunity to conduct prescribed fire operations.

Because of these factors, fall prescribed burns are typically short in duration and easy to managed (High Sierra Ranger District, September 2012).

Altered fire frequencies caused by a century of fire suppression in ponderosa pine forests characterized by a frequent low-intensity fire regime, coupled with prolonged drought and epidemic levels of insects and diseases, have coincided to produce extensive forest mortality and the eventual increase in fuels and has contributed to greater stand densities and an increase of crown fire potential. Fuel loading within the project boundary has also increased due to winter storm damage in 2009/2010 and 2010/2011. The fire regime is now shifting towards one

of infrequent higher severity fires due to the increase in fuel loads which has increased the potential for crown fire. Within the project area, there is little ground that has seen enough fuel reduction treatments to effectively reduce surface fuels to a light fuel load that would prevent passive and active crown fire. (High Sierra Ranger District, September 2012).

The direct effect of the proposed project is the reduction of high-severity and high-intensity fires within the treated stands. The combination of treatment strategies (mechanical and prescribed fire) that include surface, ladder and crown fuel treatments reduce surface flame lengths, moderate fire severity across the landscape, and reduce the potential for active and passive crown fire within the project area. Removal of trees can reduce the potential for crown fires but this is dependent on surface fuel loading. Reasons for removal of trees up to 30 inches DBH is generally to reduce stand density and bug induced mortality for forest health. These treatments may have a desired effect on fire behavior especially on steep slopes and in places with extenuating topography or road system circumstances. In addition, reducing flame lengths through the proposed project would create more resilient conditions where fire acts in a role closer to its natural disturbance process (High Sierra Ranger District, September 2012).

The wildland urban intermix is always given priority to suppression activities. For fire suppression efforts, the effect of reducing hazard fuels in the wildland urban intermix is a reduced number of suppression resources needed for structure protection, which allows the resources to be redeployed to perimeter control, thus reducing fire size if fire behavior is controllable. Smaller fires require fewer firefighters, which in turn reduces the number of firefighters exposed to hazards. In addition, smaller fires expose fewer numbers of the public to the hazards of wildfires.

All pile fire activities would be coordinated with SJVAPCD and would be implemented under optimum conditions using best available control measures to prevent smoke concentrations from affecting local communities. The proposed project would only burn piles that have a good base to keep the pile from toppling and would have enough distance between piles to prevent premature ignition during burning. The proposed project would ignite piles with drip torches, except within riparian conservation areas. Controls are set forth with the design of the proposed project, as well as requirements from the Sierra National Forest and the SJVAPCD. Therefore, the threat that the burn piles would burn beyond the delineated area is low.

An indirect effect of the proposed project is the increased fire resilience of the landscape, which is the ability of the forest to withstand the effects of wildfires (passive and active crown fire) under 90th percentile weather conditions (High Sierra Ranger District, September 2012).

Given the proposed project's outcome in reducing ladder fuel, fire intensity, and flame height, and increasing fire resilient conditions to the project area, the proposed project would have a less than significant impact on wildfires. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a, c, d, f.) **Less Than Significant.** The proposed project would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. The proposed project includes biomass thinning, tractor and grapple piling, and pile burning. These activities include ground disturbing activities, which could result in an increase in sediment within runoff. However, the proposed project would include a 100-foot buffer of 100 percent soil cover around, and below, large rock outcrops to avoid potential runoff generated by these areas that can cause accelerated erosion on soils downslope. Any tractor piling that would occur in CWEs would be limited and a grapple piler would be used, especially on slopes greater than 25 percent. The proposed activities would help to reduce runoff and erosion in the long-term, which would ultimately improve water quality. The main water quality concern in the project area is sand-sized sediment that can be derived from roads, hillslope disturbances, or in-stream erosion.

Proposed project activities could indirectly impact water quality, as discussed above; however, the proposed project activities and design criteria provided in Appendix A would ensure a less than significant impact during project implementation. Therefore, the impacts to water quality would be less than significant. No mitigation measures are required.

- b.) **No Impact.** The proposed project would ultimately improve watershed, riparian and forest health. No water supply would be required for the proposed project. Thus, the proposed project would not impede groundwater recharge, as vegetative treatments would not include the introduction of impervious surfaces. There would be no impact to water supply as a result of the proposed project. No mitigation measures are required.

- e.) **No Impact.** The proposed project would not result in an increase in runoff and would not contribute to polluted runoff. The proposed project is located within the Sierra National Forest; there is not stormwater drainage system within the project area. Ground disturbing activities would result from the proposed project, however, design criteria (refer to Appendix A) and BMPs (refer to Appendix B), would minimize the potential of increased sediment in runoff, as discussed above. The proposed project would not impact runoff amount or runoff water quality. No mitigation measures are required.

- g-j.) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. The proposed project would not introduce houses or businesses to the area. Therefore, the proposed project would not introduce people, houses, or other structures to a 100-year flood hazard area, would not redirect a 100-year flood event, would not introduce people or structures to an area that would flood, including flooding from a failed dam or levee, and would not introduce people or structures to an area that would experience inundation from seiche or tsunami. In addition, the threat of a mudflow would not be any greater than the existing conditions. Therefore, the proposed project would have no impact in this regard. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a-c.) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. No changes in land use designations or zoning would occur as a result of the proposed project. The proposed project would not physically divide an established community. The proposed project would enhance the forest healthy, thus the proposed project would not conflict with any conservation plans for the Sierra National Forest. No impact would occur as a result of the proposed project. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally- important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a-b.) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. No changes in land use would occur as a result of this proposed project. Therefore the proposed project would not result in the loss of available known mineral resources. No impacts to mineral resources would occur as a result of the proposed project. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a, b, d.) **Less Than Significant.** The proposed project would increase noise levels temporarily during activities such as mechanical thinning and tractor and grapple piling. However, the design criteria for the proposed project, as outlined in Appendix A, would result in impacts that are less than significant. In addition, the anticipated mechanical equipment used for proposed project activities are not anticipated to result in excessive groundborne vibration levels. Many of the treatment sites are located away from any private land owners or campgrounds. Activities would be temporary in nature, as they would cease upon project completion. Design criteria (refer to Appendix A) include noise criteria, mainly with respect to disturbance of special status species. Therefore, the proposed project would have a less than significant impact. No mitigation measures are required.

c.) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. While temporary noise would occur as a result of the mechanical thinning and tractor and grapple piling, these noise increases would be temporary in nature and would cease upon project completion. Therefore, the proposed project would not permanently increase ambient noise levels above existing noise levels. No mitigation measures are required.

e, f.) **No Impact.** The proposed project is not located within an airport land use plan or in the vicinity of a private airstrip. The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. The proposed project would not expose people to excessive noise levels as a result of the proximity to an airport or private airstrip. No impacts to recreation would occur. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XIII. POPULATION AND HOUSING: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a-c.) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. No changes in land uses would occur as a result of the proposed project. The proposed project does not include the development of new homes or businesses. The proposed project would not displace existing homes or people. There is one campground located in the project area; this campground would remain open during normal operating season. No impacts would occur as a result of the proposed project. No mitigation measures are required.

Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XIV. PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a.) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. The proposed project would not result in an increase need for public services. While pile burning is an element of the proposed project, the High Sierra Ranger District would provide appropriate staff for these proposed project activities. Thus, the proposed project would not result in an increase need for fire protection. The project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest. No impacts to public services would occur. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XV. RECREATION

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a-b.) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. The proposed project would not increase the use of existing neighborhood and regional parks, nor would it increase the use of the National Forest. The proposed project would not require the expansion or construction of recreational facilities. The project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest. No impacts to recreation would occur. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XVI. Transportation / Traffic: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a-f.) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. A temporary increase in traffic may occur while equipment is being move to the project area or out of the project area. However, because of the nature of the proposed project activities, it is not anticipated that the proposed project would conflict with applicable plans, ordinances, policy establishing measures, congestion management plans or programs, or policies or programs regarding alternative transportation (public transit, bicycles, or pedestrian facilities).

The proposed project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest. Thus, the proposed project would not impact air traffic patterns.

The proposed project includes vegetative treatments that would be applied to approximately 1,035 acres. No roadway construction or improvements would occur as a result of the proposed project. Therefore, the proposed project would not increase hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). No mitigation measures are required.

The proposed project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest. This would improve emergency access to the Sierra National Forest in case of wildfire or other forest emergency. No impacts from the proposed project would occur. No mitigation measures are necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a-g.) **No Impact.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. The proposed project would not require wastewater treatment, water supply, or solid waste disposal, as the proposed project does not include utilities and service systems. The proposed project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest. No impacts to utilities and service systems would occur. No mitigation measures are required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

- a.) **Less Than Significant.** The proposed project would include activities that would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth. The proposed project activities as described in Section 2.0, Project Description, as well as the design criteria provided in Appendix A and the BMPs listed in Appendix B would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest health. Temporary impacts would be less than significant. No mitigation measures are required.
- b.) **Less Than Significant.** The proposed project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest health. While air quality and greenhouse gas emissions could result in cumulative impacts as a result of the proposed project, all projects are required to comply with SJVAPCD rules and guidelines. In addition, all prescribed fire activities are coordinated with SJVAPCD and would be implemented under optimum conditions using best available control measures to prevent smoke concentrations from affecting local communities. The proposed project would reduce the threat of severe wildfire, and, therefore, long term impacts would not be cumulatively considerable. Impacts are considered less than significant.
- c.) **Less Than Significant.** The proposed project would improve forest health, reduce fuel loading and thus threat of wildfire, and maintain and enhance existing forest health. While smoke would occur during pile burns, overall impacts to human beings would be beneficial in nature, as wildfire threat and severity would be reduced as a result of the reduction in ladder fuels. Therefore, impacts would be less than significant.

5.0 RESPONSE TO COMMENTS

5.1 PURPOSE

As defined by Section 15050 of the California Environmental Quality Act (CEQA) Guidelines, the Sierra Nevada Conservancy (SNC) is serving as "Lead Agency," for preparation of the Mitigated Negative Declaration (MND) for the Soaproot Stewardship Project (proposed project). The Final MND presents the environmental information and analyses that have been prepared for the proposed project, including comments received addressing the adequacy of the Initial Study (IS)/Proposed MND and responses to those comments. The Final IS/MND, which includes these responses to comments, the Draft IS, and the technical appendices, will be used by the SNC Governing Board (SNC Board) in the decision-making process for the proposed project.

5.2 ENVIRONMENTAL REVIEW

The SNC prepared and distributed the IS/Draft MND, dated January 2014, for the proposed project (State Clearinghouse [SCH] No. 2014011007). The IS/MND was circulated for a 30-day review period which began on January 3, 2014 and extended to February 3, 2014. SNC received three (3) written comment letter and no verbal comments on the IS/MND. The agency that has commented on the Draft IS/MND is listed in Table 5-1, *Public Comments Received on the Draft IS/MND*.

Table 5-1. Public Comments Received on the Draft IS/MND

Letter/Comment No.	Commenter	Commenter Type
1	Governor's Office of Planning and Research – State Clearinghouse	State
2	Fresno County Library and Heritage Center	Local
3	California Department of Fish and Wildlife	State

Pursuant to State CEQA Guidelines Section 15074, the SNC Governing Board shall consider the IS/MND together with any comments received during the public review process. The SNC Governing Board shall adopt the proposed MND only if it finds on the basis of the whole record, including the IS and public comments, that there is no substantial evidence that the proposed project would have a significant effect on the environment and that the MND reflects the lead agency's independent judgment and analysis. The responses to comments are contained in this chapter, Chapter 5, *Response to Comments*, of this IS/MND. A copy of the numbered comment letters and lettered responses to each comment is provided in Section 5.4, *Response to Comments*, of this chapter.

5.3 REVISIONS TO THE DRAFT IS/MND

Revisions made to the text of the IS/MND are shown within this document. Clarifications to this IS/MND text are shown with underlining and text removed from the IS/MND is shown with ~~strikeout~~. Page numbers for the revisions are provided within the appropriate response in Section 5.4, *Response to Comments*, below.

5.4 RESPONSE TO COMMENTS

The letter comments received on the Draft IS/MND are addressed in their entirety in this section. Each comment contained in the letters has been assigned a reference code. The responses to reference code comments follow each letter. Three (3) written comment letter were received and no verbal comments were received during the public comment period.

Comment Letter 1



Edmund G. Brown Jr.
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit



Ken Alex
Director

February 4, 2014

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

Subject: Soaproot Stewardship Project
SCH#: 2014011007

Dear Matthew Daley:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on February 3, 2014, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse



Enclosures

cc: Resources Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95612-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

**Document Details Report
State Clearinghouse Data Base**

SCH# 2014011007
Project Title Soaproot Stewardship Project
Lead Agency Sierra Nevada Conservancy

Type MND Mitigated Negative Declaration
Description The High Sierra Ranger District is requesting approximately \$350,000 in funding from the Sierra Nevada Conservancy's Proposition 84 Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Grant Program to reduce hazardous fuels and restore ecological components in the Soaproot Stewardship Project area in the Sierra National Forest. This project would reduce fuel loads and fire hazards, improve wildlife habitat and watershed conditions, and encourage forest growth.

Lead Agency Contact

Name Matthew Daley
Agency Sierra Nevada Conservancy
Phone 530 823 4698
email
Address 11521 Blocker Drive, Suite 205
City Auburn
State CA **Zip** 95603
Fax

Project Location

County Fresno
City
Region
Lat / Long
Cross Streets SR 168 and Dinkey Creek Road
Parcel No.
Township **Range** **Section** **Base** MDB&M

Proximity to:

Highways Hwy 168
Airports None within 30 miles
Railways
Waterways
Schools
Land Use

Project Issues Archaeologic-Historic

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 4; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 6; Air Resources Board; State Water Resources Control Board, Division of Financial Assistance; Native American Heritage Commission

Date Received 01/02/2014 **Start of Review** 01/03/2014 **End of Review** 02/03/2014

Response to Comment Letter 1: Governor's Office of Planning and Research - State Clearinghouse (February 4, 2014)

- A. Thank you for your comment. The participation of the State Clearinghouse in the public review of this document is appreciated. The commenter states that the State Clearinghouse distributed the Draft IS/MND for selected agencies to review; in compliance with the California Environmental Quality Act (CEQA). One comment letter was received from the California Department of Fish and Wildlife (CDFW) (January 30, 2014) and was attached to the comment letter. Responses to the CDFW letter are provided in Comment Letter 3. The comments have been noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.

Comment Letter 2

Redd, Christa

From: Daley, Matthew@SNC <Matthew.Daley@sierranevada.ca.gov>
Sent: Tuesday, January 14, 2014 10:28 AM
To: Redd, Christa
Cc: Namba, Valerie@DGS
Subject: Soaproot Documents
Attachments: Monache.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Christa,
I received this from the Fresno County Public Library

Thanks,
Matthew

From: Coletti, Karen [Karen.Coletti@fresnolibrary.org]
Sent: Monday, January 13, 2014 11:24 AM
To: Daley, Matthew@SNC
Subject: FW:

Matthew,
This is the information that was gathered. If you would like a hard copy I will be happy to send that as well. We are also having our Reference Department look at this as well.

Karen Coletti
Administrative Assistant
Fresno County Public Library
2420 Mariposa
Fresno, CA 93721
559-600-6237
Karen.Coletti@fresnolibrary.org

A

HANDBOOK OF NORTH AMERICAN
INDIANS
WILLIAM C. STURTEVANT
1978

Monache

ROBERT F. G. SPIER

Language, Territory, and Environment

The Monache (mō'nā, chē) were not a single people but comprehended at least six tribal groups: the Northfork Mono ('mō,nō), the Wobonuch ('wōpō,nōch), the Entimbich ('entimbich), the Michahay (michā'hī), the Waksachi (wāk'sā, chē), and the Patwisha (pāt'wishā). No federation or nation linked these independent tribes, which were distinguished from their Penutian-affiliated Foothill Yokuts neighbors primarily in language, although some units among them were bilingual. The Monache, often called the Western Mono, shared a distinct language in the Western branch of the Numic family with their neighbors to the east, the Eastern Mono and the Owens Valley Paiute (Lamb 1958; see "The Numic Languages," vol. 11).^{*} The Monache refer to themselves in their own language as *ni'mmi* 'person, people' and in English as Mono (Lamb 1958:96-97, personal communication 1975; Gifford 1932:16; Kroeber 1925:584).

The social and cultural identity of these tribes was primarily linguistic and locational. They differed from the Foothill Yokuts and the Southern Sierra Miwok (sometimes called Pohonichi) in language, with the possible exception of the "transitional" Michahay and Waksachi (Gayton 1948, 2:213, 254). The Monache differed from the Eastern Mono in being located west of the Sierra Nevada crest and in acculturation to the California scene (fig. 1).

The Northfork Mono were readily distinguished from other Monache by isolation, being separated from the Wobonuch by the essentially unattributable terrain between the headwaters of the San Joaquin and Kings rivers. Gayton (1948, 2:254) discusses a group of unorganized kin groups, evidently without tribal identity, that may have been in this region.

The Wobonuch are recognized as a unit even though their constituent tribelets were more or less independent. The organizing force may have been the example of

^{*} The sound system of the Northfork dialect of Monache has been analyzed by Lamb (1958a). The orthography he describes (substituting a few symbols to accord with Handbook practice) includes the stops *p*, *t*, *k*, *q*, *kʷ*, *qʷ*, *ʔ*; the affricate *c*; the spirants *s*, *x*, *h*; nasals *m*, *n*; semivowels *y*, *w*; front vowels *i*, *e*; back unrounded vowels *ɨ*, *u*; back rounded vowels *ɤ*, *o*. Vowel length can be written with a raised dot; long fortis consonants can be written double.

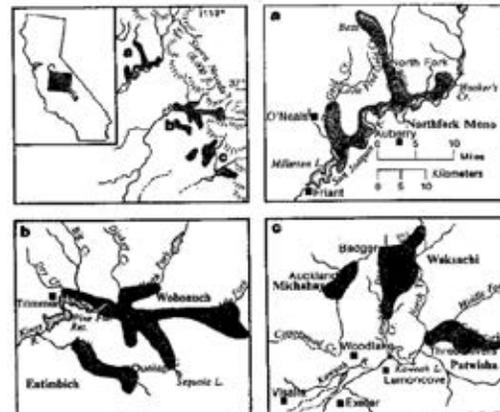


Fig. 1. Tribal territory including: a, Northfork Mono; b, Wobonuch and Entimbich; c, Michahay, Waksachi, and Patwisha.

Foothill Yokuts, such as the Choynimni, to the southwest.

The major affiliation of the Entimbich is still open to question, whether Monache or Yokuts. Gayton (1948, 2:254-255), who probably had the best basis for judgment, inclines to the view that the tribe had lineages derived from both peoples but may have originally been Yokuts. The Wobonuch had been infiltrating Entimbich territory since 1875 (Merriam 1930).

The Michahay, Waksachi, and Patwisha (whom Kroeber 1925:586 calls Balwisha) are deemed basically Monache (Numic-speaking) peoples who have partially absorbed Yokuts culture. As with the Entimbich, the classification chosen verges on being arbitrary until better information emerges. All of these peoples, like their neighbors along the western Sierra slope, were markedly bi- or multilingual.

The Monache were a second tier of aboriginal groups occupying the western slope of the Sierra Nevada. At lower levels along most of the same territory were Foothill Yokuts tribes, from the Chukchansi of the north to the Wikchamni at the southern end of the Monache range. The Foothill Yokuts occupied lands from the valley edge up to about 3,000 feet elevation (essentially the Upper Sonoran life-zone). The Monache lived principally between 3,000 and 7,000 feet elevation (correspond-

ing mostly to the Transition life-zone) but were able to move unhindered to higher elevations. They crossed the Sierra crest on trading expeditions at elevations between 11,000 and 12,000 feet.

The Northfork Mono moved about—seasonally, by reason of a death, or simply for variety—within a home territory centered on the North Fork of the San Joaquin River. Some hamlets were on the adjacent Fine Gold Creek and others were at Hooker's Cove on the San Joaquin. A detailed list of their settlements is furnished by Gifford (1932:18, 57-61).

The Wobonuch lived along various forks of the Kings River from its confluence with its own North Fork upstream. On the North Fork there were habitation sites up to the present Black Rock Reservoir. North of the river they evidently shared the stretch between Trimmer Springs and the confluence of the North Fork with the Tuhukwaj, one of the untribalized Monache groups. Mill Flat Creek, which drained Sequoia Lake into Kings River, was the location of at least two villages; from this area the Wobonuch were forced southward to the vicinity of Dunlap by sawmill operations in the twentieth century.

The Entimbich lived to the south and west of the Wobonuch and at a lower elevation, one comparable to that of Foothill Yokuts. Their principal village was at the present town of Dunlap and was shared beginning with the twentieth century with some displaced Wobonuch. Other sites lay down Mill Creek to its junction with White Deer and Rancheria creeks. Below that point was Foothill Yokuts (Choyminni) territory (Gayton 1948, 2:254-258).

The Michahay lived on the headwaters of Cottonwood Creek north of the present town of Auckland. The Patwishas' westernmost village lay on the left bank of the Kaweah River just below the confluence of its North and Middle Forks, close to the present town of Three Rivers. Eastward Patwisha territory probably extended up the Middle Fork of the Kaweah to Salt Creek or the East Fork (Gayton 1948, 1:58, map B).

The Waksachi territory was higher than that of Michahay and Patwisha, centering on Eshom Creek, a minor tributary of the Kaweah River's North Fork. Other Waksachi sites were along Dry Creek and Limekiln Creek from the present town of Badger downstream for 15 miles (Gayton 1948, 2:212-214, map E).

External Relations

All the Monache maintained close relationships with their neighbors, whether Monache or not. These external contacts included trading, traveling, intertribal assemblies for ceremonies, visiting, incursions into others' territories or common territory for resource exploitation, and marriage.

MONACHE

Intertribal coresidence should be considered a form of external relations, for it must have accelerated linguistic and cultural diffusion. For example, at the village of Tušao, about four miles northeast of Auckland, the Michahay, Waksachi, and Chukaymina lived together. The first two tribes are considered transitional Yokuts-Monache, but the last is unequivocally central Foothill Yokuts (Gayton 1948, 2:213).

Captive eagles (less commonly vultures or other birds) were displayed and danced over. The captors of these moiety-affiliated birds were given money and gifts, ostensibly the property of the captive. Groups went from village to village and from tribe to tribe to participate and to secure birds (Gifford 1932:39-41).

The joint use, by Waksachi, Patwisha, and Wikchamni (a Foothill Yokuts tribe), of uninhabited lands north of present Three Rivers for hunting and foraging illustrates another type of contact (Gayton 1948, 2:213).

The Monache generally traded with their Numic relatives on the east side of the Sierra Nevada, with trading expeditions moving in both directions. The exchange was principally in natural products with acorns being moved eastward while pine nuts, obsidian, and rabbitskins went in the other direction. In addition to securing items for their own use, the Monache were also middlemen in trades between the Yokuts proper and the Eastern Mono.

Hostilities involving the Monache and other tribes usually stemmed from injuries, often attributed to malevolent shamans, occurring to individuals. These people or their survivors sought revenge, usually by killing the person held responsible and sometimes his family as well. Occasionally a third party might become involved through harboring a fugitive or aiding one bent on revenge. Rarely did such incidents lead to wholesale hostilities.

The cultural summary that follows is based on data for the Wobonuch insofar as it is tribally specific, with notice taken of variations among other Monache.

Subsistence

Hunting, fishing, and the gathering of wild-plant foods were the basis of Monache subsistence. Their pursuit called for seasonal movements to various elevations on the Sierra slopes. The Northfork Mono also visited the eastern slope of the Sierra to gather pine nuts, while other Monache traded with Eastern Mono to secure the nuts.

Deer, which were a prime staple, were taken by stalking in a disguise, by driving into an ambush, by tracking a deer until it became exhausted, and by trapping with a spring-pole device that caught the deer by the leg. Deer were customarily shot with bow and arrow to kill them. Sharing of meat and other products was mainly voluntary and done more commonly by the better hunters.

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Foothill Yokuts

ROBERT F. G. SPIER

The Foothill Yokuts are a group of about 15 named Yokuts tribes who occupied the western slopes of the Sierra Nevada from the Fresno River southward to the Kern River (fig. 1). A further division into Northern Foothill (including the Chukchansi, Dumna, Kechayi, and Gashowu of the Fresno and San Joaquin river drainages), Central Foothill (including the Choynimni, Chukaymina, Gawia, Yokod, Wikchamni, and Yawdanchi of the Kings, Kaweah, and Tule river drainages), and Southern Foothill (primarily the Palewyami of the Poso Creek drainage) has been customary (Kroeber 1925; Gayton 1948). Problems of tribal synonymy do not loom large, but the enumeration of tribes is complicated by extinctions, the substantial independence of small groups of people, and confusion from the marked differences between singular and plural forms of tribal names. Kroeber (1925:478-482) has named at some length the

tribes of the foothills, and later authors have substantially agreed with him in their names and locations (Swanton 1952:523-525).

The several Yokuts tribes have sometimes been called "subtribes" or "tribelets" in order to reserve the tribal label for all the Yokuts. However, there was no Yokuts nation or any overarching political unity of these tribes within recorded times. The number of the Yokuts tribes, perhaps as many as 50, and the marked differences between peoples only a few miles apart make it unlikely that close alliances existed. This unusual situation, in the California context, is discussed briefly by Kroeber (1925:474-475). The distinctions between groups were most obviously linguistic and territorial; the people of one group spoke a distinct dialect of the Yokuts language and were the denizens of a particular place. Cultural differences were on a grosser scale, as between northern

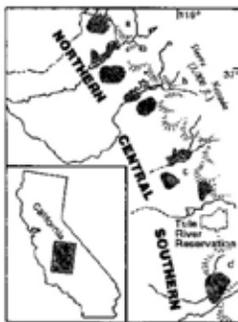
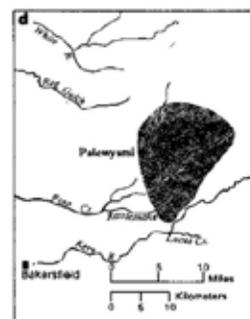
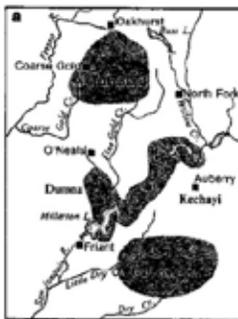


Fig. 1. Tribal territory including: a, Chukchansi, Dumna, Kechayi, and Gashowu tribes; b, Choynimni and Chukaymina tribes; c, Gawia, Wikchamni, Yokod, and Yawdanchi tribes; d, Palewyami tribe.



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and southern foothill peoples or between the foothill and valley Yokuts. It is possible to offer a generic cultural description that applies, with only minor exceptions, to all the Foothill Yokuts.

The individual identity of each Foothill Yokuts tribe is based primarily on residence in a recognized territory, use of a dialect of the Yokuts language, and practice of a way of life slightly different from that of its neighbors. Of these differences, the territorial one is most obvious and the others less clear. Each tribe inhabited one or several villages that were collectively central to the tribal lands. That is, the areas around these villages were considered to be home and to be exploited more or less exclusively by their residents. It appears that generally the territory of a tribe lay within one or two drainage systems, with creeks or valleys forming the stems along which villages were located. It must also be recognized that major rivers, such as the Fresno or the San Joaquin, were often nominal boundaries between tribes. However, the division of Foothill Yokuts tribes into Northern, Central, and Southern groups (a classification of questionable native origin) clusters tribes that fall within a major river drainage, so the boundary effect of rivers was probably more potential than real.

Most of the Yokuts identify more strongly with their individual tribal name or with that of the home village than with the generic Yokuts entity. The tribal names are not necessarily translatable, but the village names often refer to a plant or other physical feature of the location.

Even though intertribal marriages were frequent, at least in the nineteenth and twentieth centuries, and some involved alliances with non-Yokuts peoples, there still existed a strong tribal identification with the father's group. It is difficult to say whether the tribe or the village was the paramount unit of affiliation, but it was probably the tribe. People did move from village to village during a lifetime but remained within the tribe except for outmarriages by the women.

The unity among Yokuts tribes was not so strong as to preclude extra-Yokuts relations locally. The Chukchansi, northernmost of the Foothill Yokuts, had close alliances with the Southern Sierra Miwok, so much so that there is confusion about the tribal affiliation of some border villages. The Central Foothill Yokuts came into increasingly close contact with the Monache in the latter half of the nineteenth century.

Environment and Territory

The Sierra Nevada foothills rise, in 15 to 25 miles, from the San Joaquin valley floor (300-400 feet above sea level at its eastern edge) to elevations over 6,000 feet. Although the major streams generally flow westward or southwestward, their tributaries are irregular in direction and reflect a disorderly arrangement of ridges and valleys.

The rivers have cut few deep gorges so that it is feasible to follow the streams, too swift for navigation, on foot. This habitat includes two major life-zones: the Upper Sonoran, from 600 to 3,300 feet; and the Transition, from 3,300 feet to 6,200 feet. Above the Transition zone lay the more difficult environment of the High Sierra, which had few resources and did not encourage settlement. Most settlements for the Foothill people were between 2,000 and 4,000 feet. Thus a short journey afoot took an individual down to the San Joaquin valley floor or up through the coniferous forests. This close spacing of markedly differing zones broadened the scope of readily available resources.

Tribal boundaries among the Foothill Yokuts were somewhat vague. Streams formed the axis of tribal settlement as often as the boundary. In the Northern Foothill area tribal locations were disrupted by the activities of the Mariposa Battalion in 1851 (Eccleston 1957). Finally, the Yokuts tribes often gathered together or shared ranges during certain seasons of the year (Gayton 1948, 2:159).

Subsistence

The subsistence of the Foothill Yokuts was based on hunting and gathering with fishing as a supplement. Deer, quail, and acorns were prominently mentioned by informants. Beyond these mainstays there were many sources of food: pine nuts, ground squirrels, rabbits, wild oats, manzanita berries, ducks, trout, mussels, and wasp grubs among others. Importantly, the distinctive feature of subsistence was not a dependence upon one abundant resource, but the omnivorous character of the diet. As Kroeber (1925:523-526) has pointed out this diversity gave protection against famine as all these sources were unlikely to fail simultaneously.

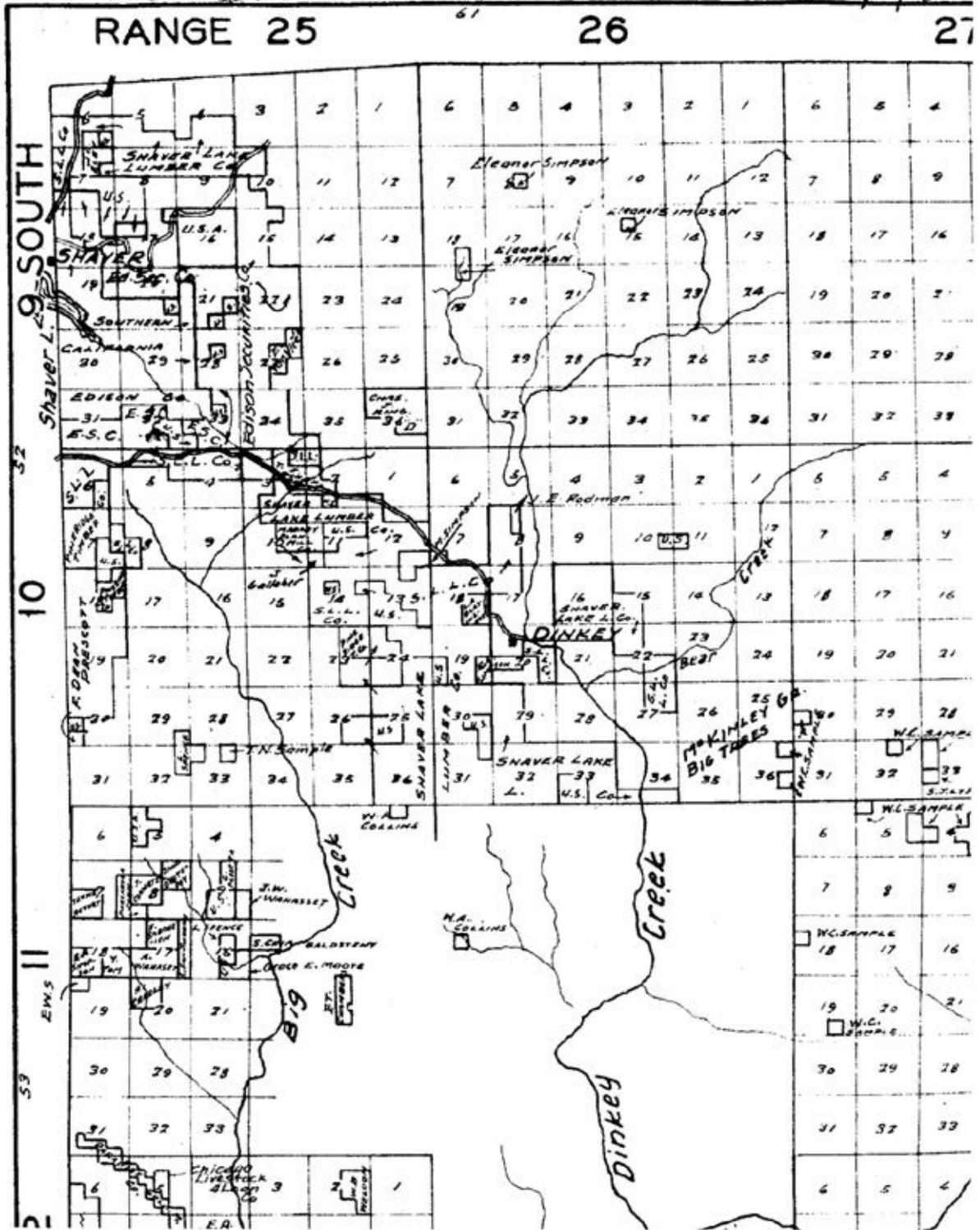
Deer were killed with the bow and arrow following still-stalking, driving (sometimes with fire), or an ambush from a booth at a permanent waterhole. Deer disguises, using head, antlers, and skin, are reported as having been used by all Foothill Yokuts except the Chukchansi. There is no evidence for the trapping of deer.

Quail were taken by extensive trapping and by shooting them as they roosted in trees. The quail traps called for substantial community effort, as reported among the Chukchansi. A fence, like a miniature stockade, was made of sticks closely set in the ground and extending upward to a height of a few feet. Noose traps, powered by a bent stick under tension, were set in openings in the fence at intervals of 20 to 50 or more feet. The ground-feeding quail would attempt to walk through these openings rather than fly over the obstacle across their path. These fences, reported as having been as long as a mile, yielded a good supply of birds when regularly patrolled.

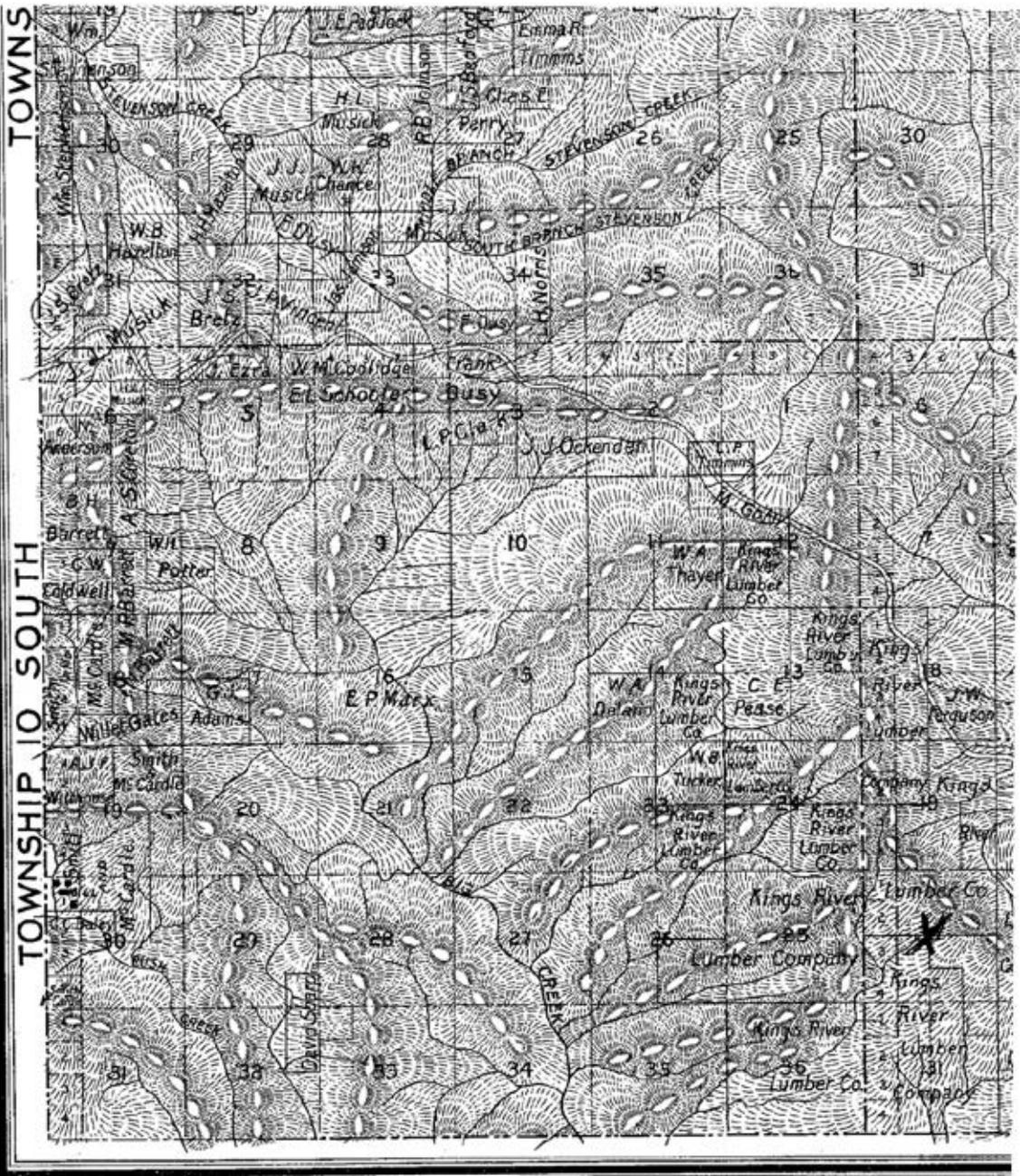
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PROGRESSIVE ATLAS OF FRESNO COUNTY
1935 ED.

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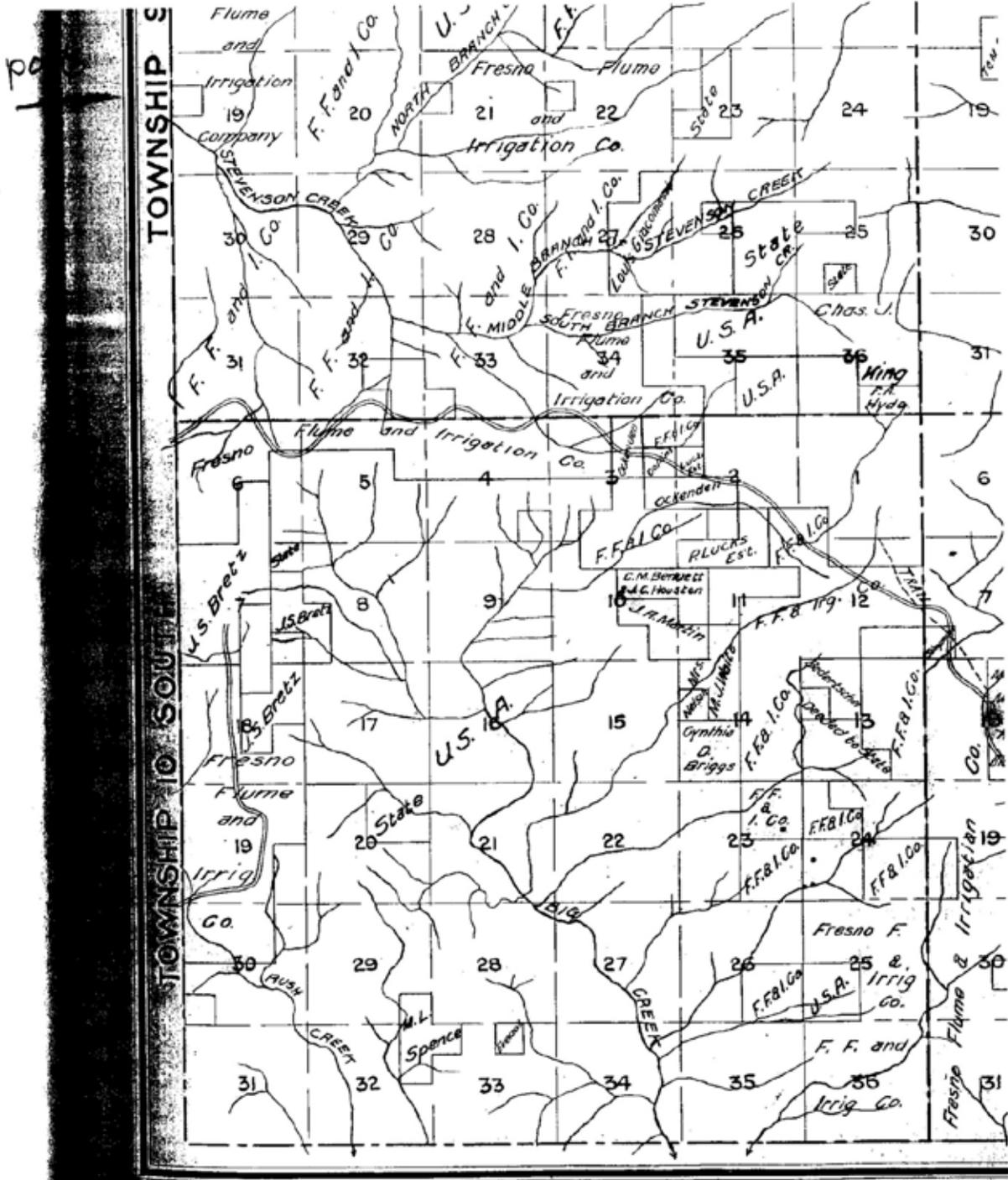


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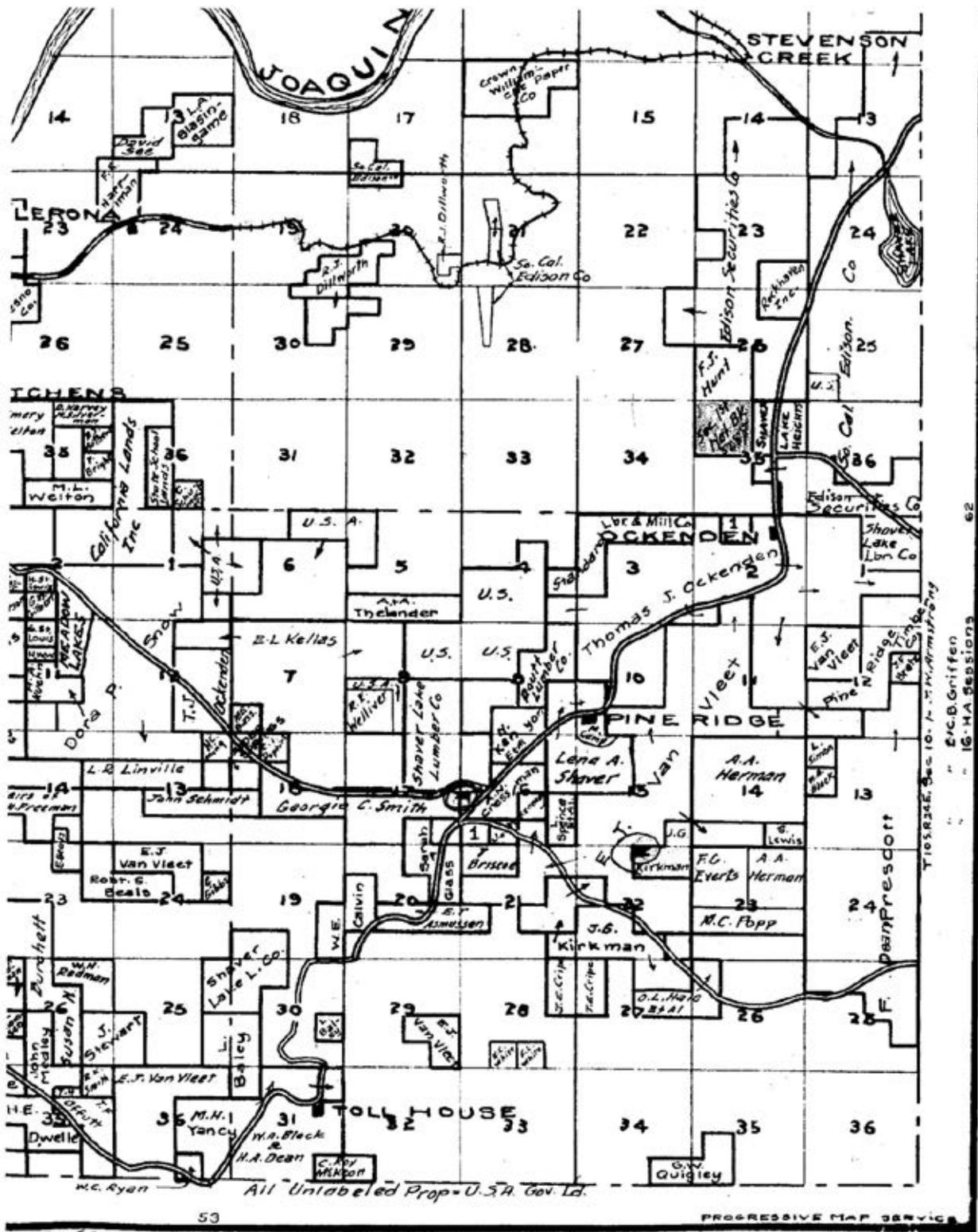
ATLAS OF FRESNO COUNTY CALIFORNIA WITH ILLUSTRATIONS

THOS. H THOMPSON 1891

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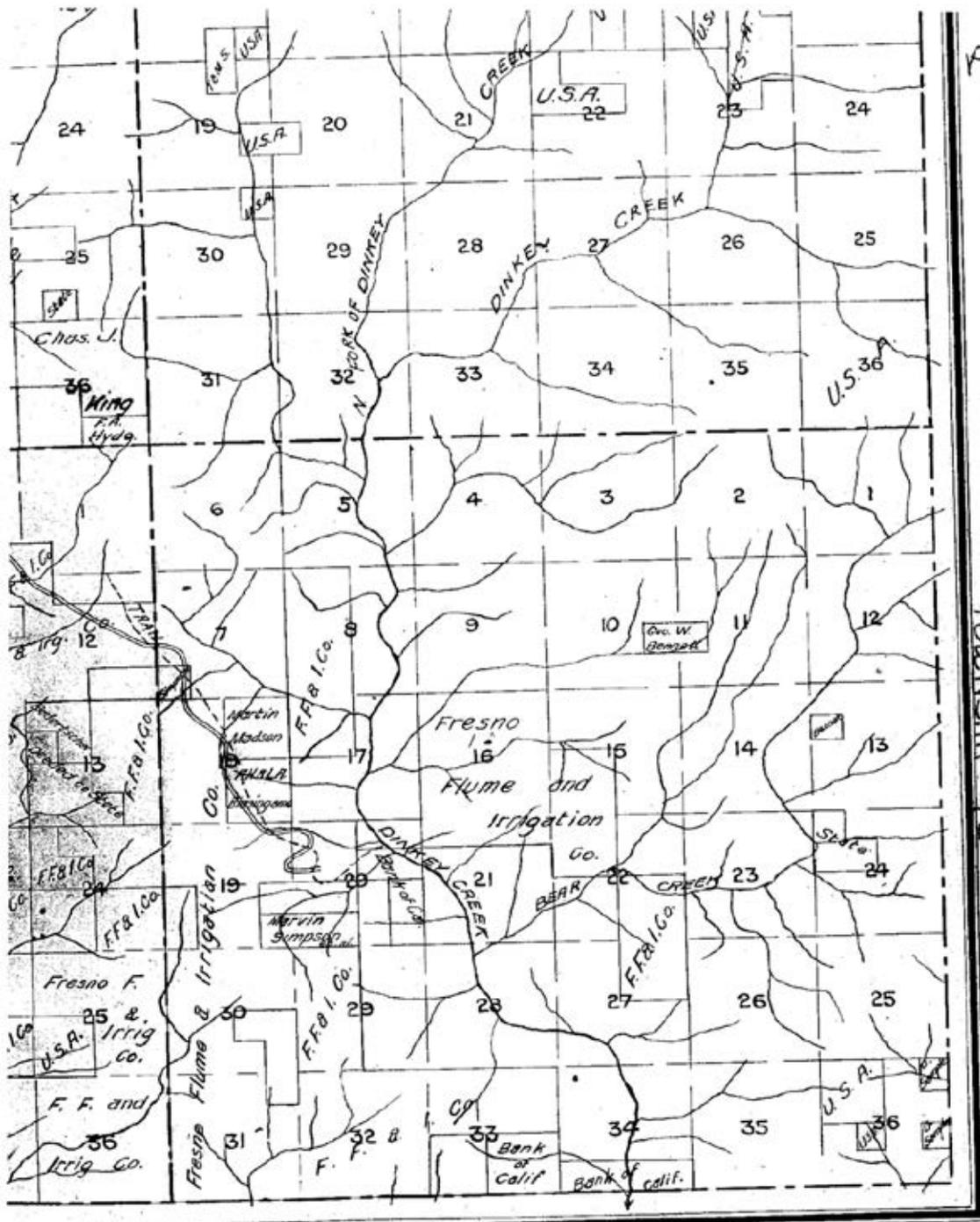
RANGE 25 EAST
 ATLAS OF FRESNO COUNTY CALIFORNIA
 WILLIAM HARVEY SR. 1907



Pg. 52

RANGE 24 EAST

ATLAS: 1935

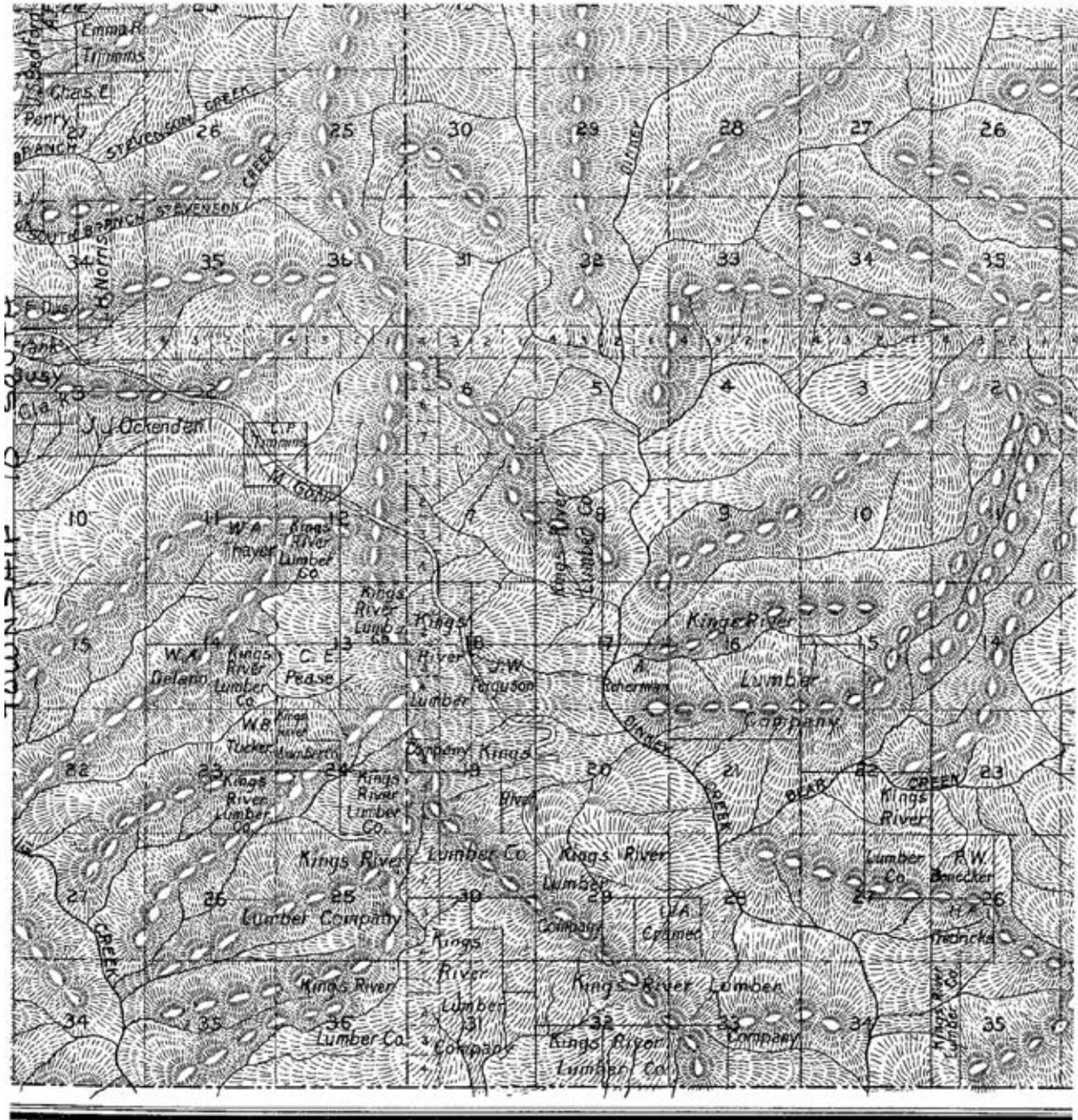


pg 6

TOWNSHIP 10

RANGE 24 EAST

ATLAS OF FRESNO COUNTY CALIFORNIA
WILLIAM HARVEY SR. 1907



RANGE 26 EAST

ATLAS OF FRESNO COUNTY CALIFORNIA WITH ILLUSTRATIONS

THOS. H. THOMPSON 1891

pg 50

***Response to Comment Letter 2: Fresno County Library and Heritage Center
(January 14, 2014)***

- B. Thank you for your comment. The participation of the Fresno County Library and Heritage Center in the public review of this document is appreciated. The commenter provides written information regarding the native people in the area from the *Handbook of North American Indians*, as well as historic maps of the project area. The comment does not present significant new environmental information, raise significant environmental issues, or directly challenge the information and adequacy related to the Draft IS/MND. The comment is noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.

Comment Letter 3



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director



January 30, 2014

Mathew Daley
Senior Grants Analyst
Sierra Nevada Conservancy
11521 Blocker Drive, Suite 205
Auburn, California 95603

**Subject: Mitigated Negative Declaration (MND)
Soaproot Stewardship Project
SCH# 2014011007**

Dear Mr. Daley:

The California Department of Fish and Wildlife (Department) has reviewed the Mitigated Negative Declaration (MND) prepared by the Sierra Nevada Conservancy (Conservancy) for the Soaproot Stewardship Project (Project). The Conservancy is acting as the Lead Agency for the Project under the California Environmental Quality Act (CEQA) for the issuance of grant monies to the United States Department of Agriculture, Sierra National Forest, High Sierra Ranger District (Forest Service) for aspects of the Forest Service Soaproot Restoration Project. The CEQA document only covers a portion of activities analyzed in the larger Soaproot Restoration Project Environmental Assessment (EA). The Forest Service issued a Decision Notice and a Finding of No Significant Impact in September 2012 for the Soaproot Restoration Project. The EA is incorporated into the CEQA document by reference. The proposed Project includes the vegetation treatment of approximately 1,035 acres within the 7,120-acre Soaproot Restoration Project, located in the Sierra National Forest south of Shaver Lake. Vegetation treatments include a combination of biomass thinning and prescribed fire, and are designed to decrease fuel loads and stand densities in order to restore the landscape to a more fire-resilient condition while maintaining and improving habitat for sensitive wildlife, restoring watershed function, and restoring native species composition.

A

The EA, along with several technical documents, are only incorporated into the MND by reference, and while the EA is available on the Forest Service website, several of the technical documents are not. Further, the MND does not include a References section and it is assumed the citations are the identical ones included in the EA. In order to adequately assess the potential impacts of the Project to biological resources, results of special status species surveys need to be incorporated into the CEQA document prepared for the Project in order to determine whether or not any special status species, or their habitat(s), are present. This information is necessary to identify the appropriate

Conserving California's Wildlife Since 1870

mitigation, minimization, and avoidance measures which need to be implemented to minimize the potential impacts to less than significant levels and which should be included in the CEQA document prepared for this Project.

Specifically, the Department is concerned with the potentially significant impacts to the State endangered and State fully protected bald eagle (*Haliaeetus leucocephalus*); the State endangered great gray owl (*Strix nebulosa*); the State threatened Sierra Nevada red fox (*Vulpes vulpes necator*) and Sierra Nevada yellow-legged frog (*Rana sierrae*); the State Candidate fisher (*Martes pennanti*); the Species of Special Concern, spotted owl (*Strix occidentalis*), northern goshawk (*Accipiter gentilis*), foothill yellow-legged frog (*Rana boylei*); the State rare Tracy's eriastrum (*Eriastrum tracyi*); the State Species of Special Concern Western mastiff bat (*Eumops perotis californicus*), and the California Rare Plant Rank 1B.2 listed orange lupine (*Lupinus citrinus* var. *citrinus*), Abrams' onion (*Allium abramsii*), Mariposa pussypaws (*Calyptidium pulchellum*), Madera leptosiphon (*Leptosiphon serrulatus*), Yosemite lewisia (*Lewisia disepala*), Yosemite bog orchid (*Platanthera yosemitensis*), aromatic canyon gooseberry (*Ribes menziesii* var. *ixoderme*), Shevock's cooper moss (*Schizymerium shevockii*), and slender-stalked monkeyflower (*Mimulus gracillipes*). The MND includes several avoidance and minimization measures for some of the above listed species and other sensitive biological resources; however, not all of the Department's concerns are fully addressed in the MND. Our comments follow.

A

Department Jurisdiction

Trustee Agency Authority: The Department is a Trustee Agency with responsibility under CEQA for commenting on projects that could impact plant and wildlife resources. Pursuant to Fish and Game Code Section 1802, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of those species. As a Trustee Agency for fish and wildlife resources, the Department is responsible for providing, as available, biological expertise to review and comment upon environmental documents and impacts arising from project activities, as those terms are used under CEQA (Division 13 [commencing with section 21000] of the Public Resources Code).

B

Responsible Agency Authority

California Endangered Species Act (CESA): The Department has regulatory authority over projects that could result in the "take" of any species listed by the State as threatened or endangered, pursuant to Fish and Game Code Section 2081. If the project could result in the "take" of any species listed as threatened or endangered under the California Endangered Species Act (CESA), the Department may need to issue an Incidental Take Permit (ITP) for the project. CEQA requires a mandatory Finding of Significance if a project is likely to substantially impact threatened or endangered species (sections 21001(c), 21083, Guidelines sections 15380, 15064, 15065). Impacts must be avoided or mitigated to less than significant levels unless the

CEQA Lead Agency makes and supports a Statement of Overriding Consideration (SOC). The CEQA Lead Agency's SOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code Section 2080. Issuance of an ITP is subject to CEQA review. The Department recommends that the CEQA document prepared for this Project describes and addresses the potential impacts to listed species; otherwise, preparation of a supplemental CEQA document would be necessary if issuance of an ITP is necessary.

Fully Protected Species: The Department has jurisdiction over fully protected species of birds, mammals, amphibians, reptiles, and fish, pursuant to Fish and Game Code sections 3511, 4700, 5050, and 5515. "Take" of any fully protected species is prohibited, and the Department cannot authorize their "take". The bald eagle is a fully protected species that is known to occur in the Project area vicinity. The Department recommends the CEQA document prepared for this Project evaluate and address potential Project-related impacts to this species and include appropriate species specific avoidance and minimization measures.

Unlisted Species: Species of plants and animals need not be officially listed as Endangered, Rare, or Threatened (E, R, or T) on any State or Federal list to be considered E, R, or T under CEQA. If a species can be shown to meet the criteria for E, R, or T as specified in the CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, and Section 15380), it ought to be fully considered in the environmental analysis for the Project. If special status animal or plant species are detected during ground disturbing activities, consultation with the Department is warranted to discuss potential avoidance, minimization, and mitigation measures.

Bird Projection: The Department has jurisdiction over actions which may result in the disturbance or destruction of active nest sites or the unauthorized "take" of birds. Fish and Game Code sections that protect birds, their eggs, and nests include sections 3503 (regarding unlawful "take", possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful "take" of any migratory non-game bird). Unless the Project-related activities will be conducted outside the bird nesting season, the Department recommends that the lead agency require appropriate avoidance and minimization measures for raptors and other nesting birds in the Project area be included in the CEQA document prepared for this Project.

Project Recommendations

Nesting Migratory Birds: Migratory birds protected by the Migratory Bird Treaty Act of 1918, have the potential to nest within the Project area. It is unclear if the Forest Service plans on conducting nesting bird surveys as part of this Project. The Department recommends that *prior* to treatment activities that a qualified Forest Service wildlife biologist or Forest Service contractors conduct surveys for nesting migratory birds. The Department recommends a minimum no-disturbance buffer of 250 feet be delineated around active nests of migratory birds and 500 feet around active nests of

B

C

non-listed raptors until the breeding season has ended or until a qualified wildlife biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

C

Northern Goshawk and California Spotted Owls: The trees and snags within and in the vicinity of the Project may provide potential nesting habitat for the northern goshawk (NOGO) and California spotted owl (CSO). The MND states NOGO and CSO nest sites will have a ¼ mile no-vegetation treatment limited operation period (LOP) of February 15 to September 15 for NOGO and March 1 to August 15 for CSO. Neither the MND nor the EA indicate if surveys for the NOGO and CSO will occur prior to Project-related activities. Based on the Project description it is unclear if avoidance measures will be employed in the event that a CSO, or NOGO *detection* is made at a previously undocumented and/or unrecognized location within the Project area. If Project activities will occur during the northern goshawk nesting season or the CSO nesting season the Department recommends surveys following established protocols for active nests be conducted by a qualified wildlife biologist no more than 10 days prior to the start of the of the Project within potential nesting habitat. If northern goshawk or CSO active nest(s) are detected the Department recommends a minimum no-disturbance buffer of 0.25 miles be delineated around the nest until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

D

The MND states the above LOPs may be waived, where necessary, to allow for early season prescribed fire treatments. It is unclear who will make the decision to waive the LOP(s) and what criteria will be used to justify removing or minimizing the LOP. The Department recommends a qualified wildlife biologist make the determination that variances to the LOP(s) can occur and that the variance be based on compelling biological or ecological reasons. If variance from these LOP(s) occurs, the Department recommends a qualified biological monitor continuously monitor the nesting site(s) during the first 24 hours prior to any Project related activities to establish a behavioral baseline. Once work commences, nests should be continuously monitored to detect any behavioral changes as a result of the Project. If behavioral changes are observed, the work causing that change should cease. It is recommended the Department be notified in advance of implementation of a LOP variance.

Great Gray Owl (GGO): GGOs are known to occur in the Project area. The GGO population in California is extremely small and is isolated from other GGO populations putting the species in danger of extinction within the state. Hull et. al (2010) indicates that the Sierra Nevada population is a distinct lineage with respect to the larger species range in North America, and should be designated as a separate subspecies based on molecular data and life history differences. Studies have found that the majority of GGO nest sites are located within 600 feet of meadow edges (Winter 1980). Meadows and meadow complexes and adjacent timber stands in the Project area may be highly suitable GGO foraging, roosting and nesting habitat. Maintaining and enhancing these areas in a condition that can support the foraging and roosting needs of GGO breeding pairs and in a condition that provides potential future nesting sites for expanding local

E

populations is an important component of statewide GGO conservation. The Department recommends there be no Project treatments within 1,100 feet of meadows or meadow complexes totaling 10 acres or more until a complete two year GGO protocol survey has been completed using the methodology described by Beck and Winter (2000). If GGOs are detected, the Department recommends implementing mitigation measures to protect the meadows and surrounding forest habitat by establishing buffers of at least 600 feet from the meadow edge around meadows or complexes of meadows totaling 10 acres or more in which no treatments occur per Winter's (1982) recommendation. If treatments do occur within the 600 foot zone the Department recommends that they are limited to those necessary to enhance and maintain GGO habitat per Beck and Craig's 1991 Habitat Suitability Index model.

E

The MND states that active GGO nest will have a ¼ mile LOP, prohibiting vegetation treatments and road construction, during the nesting season (approximately March 1 through August 15). The Department recommends the LOP be extended through September 30, which would encompass the time that young disperse from nest stands. The Department recommends that LOP be maintained until young have fledged, and only lifted after a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. The Department advises avoidance and mitigation measures for GGO be fully addressed in the CEQA document prepared for the Project and made enforceable conditions of Project approval.

Willow Flycatcher: Riparian habitat within and in the vicinity of the Project area may provide potential nesting and roosting habitat for the willow flycatcher. Neither the MND nor the EA discuss the willow flycatcher, and it is unclear if surveys and avoidance and minimization measures for this species will be included in the Project design. The Department recommends a qualified wildlife biologist conduct a habitat assessment for willow flycatcher nesting and roosting habitat within the Project area, and if potential habitat exists, that focused surveys following established protocols, such as the Willow Flycatcher Survey Protocol for California (Bombay et. al, 2003), be conducted by a qualified wildlife biologist. If nesting willow flycatchers are observed, the Department recommends the establishment of a ¼ mile no-disturbance LOP buffer from May 1 to August 31, or until a qualified wildlife biologist has determined that the young have fledged and are no longer reliant on parental care for survival. Further, the Department advises potential nesting and roosting habitat be retained to encourage occupancy by willow flycatchers within the entire Project area.

F

Bald Eagle: The bald eagle is a State fully protected species, and bald eagles have been known to occur near Providence Creek Road and the Project area may contain suitable foraging habitat for the bald eagle. Neither the MND nor the EA discuss the bald eagle. The Department advises the bald eagle be fully addressed in the CEQA document prepared for the Project, including all avoidance, minimization, and mitigation measures, and that these measures be made enforceable conditions of Project approval.

G

Fisher: The fisher is a candidate species for listing under the CESA. The MND states fisher den sites will have a LOP buffer from March 1 to June 30, however, the MND does not state the size of the buffer nor how dens sites will be identified and monitored. Per the EA, the Project is within the Southern Sierra Fisher Conservation Area (SSFCA) and fishers are known to occur within the Project area. The EA indicates fisher den sites will have a 700-acre buffer consisting of the highest quality habitat, and that there are four known fisher den sites within the Project area and an additional eight sites within a three mile buffer of the Project boundary. Based on the Project description it is unclear if avoidance measures will be employed in the event that denning fisher is detected at a previously undocumented and/or unrecognized location within the Project area. The Department recommends the fisher LOP be extended through July 31, which would encompass the full maternal denning period. If Project related activities will occur during the maternal denning period the Department recommends a qualified wildlife biologist develop site specific take avoidance measures, which are advised to be incorporated into the CEQA document for this Project and made enforceable conditions of Project approval.

H

The MND indicates that the design criterion includes the protection of important fisher habitat structures within the SSFCA. The Project boundary also includes non-SSFCA land; the Department recommends treatments within and outside the SSFCA include the same proposed criterion and treatments that are designed to retain sufficient overstory and habitat elements (e.g. live trees with cavities, broken tops, snags, platforms) to sustain or encourage occupancy by fishers in the entire Project area. The Department advises avoidance and mitigation measures for fisher be fully addressed in the CEQA document prepared for the Project and made enforceable conditions of Project approval.

Sierra Nevada Red Fox: The Project area is within the range of the Sierra Nevada (SN) red fox, and may contain potential denning habitat for the species. Neither the MND nor the EA address the SN red fox, and it is unclear if avoidance, minimization, and mitigation measures for the SN red fox, and its habitat, will be incorporated into the Project design. The Department recommends potential den sites (i.e. burrows, rock outcrops, hollow logs and stumps) which cannot be completely avoided be checked by a qualified wildlife biologist for evidence of use by the species. If denning SN red fox are found within the Project area, the Department recommends the establishment of a 100 acre buffer of the highest quality habitat and a LOP from May 1 through July 31.

I

Sierra Nevada yellow-legged frog: The Project is within the range of the SNYF, and may contain potential habitat for the species. Neither the MND nor the EA addressed the SNYF. The EA briefly references the 2012 Aquatic Species Biological Assessment and Biological Evaluation (BA/BE) for the Soaproot Project; however, this document is not included as an appendix or attachment to either the MND or the EA. Further, the Aquatic BA/BE is not available on the Forest Service website for the Soaproot Restoration Project, thus the Department is unable to review the Forest Service's assessment of the SNYF and potential SNYF habitat within the Project area.

J

Wengert (2008) found that stream-dwelling SNYF in the Plumas National Forest infrequently moved overland long distances from the main channel of the stream. When they were observed outside of the stream channel, they were found from one (1) meter to 22 meters from the channel. A Federal Register proposal for Critical Habitat designation for the Sierra Nevada yellow-legged frog (78 FR 24522) (USFS 2013) states that upland areas adjacent to, or surrounding, breeding and non-breeding aquatic stream habitats that provide area for feeding and movement, consist of an area extending 25 meters from the bank or shoreline of the watercourse.

Based on the above information the Department recommends watercourses, within the Project area, be assessed by a qualified biologist for potential SNYF habitat, and that focused surveys be conducted by a qualified biologist in areas where potential habitat exists. It is advised that surveys be conducted prior to Project related activities and be conducted within 25 meters of watercourses. Upon detection of any life-stage of SNYF (adult, metamorph, larvae, egg mass) the Department recommends the establishment of a 25-meter no-operations buffer from the observed location, as well as from the high water mark of adjacent potential habitat. The Department requests notification of any SNYF detected as a result of surveys or observations made during Project-related activities. The Department advises the SNYF be fully addressed in the CEQA document prepared for the Project, including all avoidance, minimization, and mitigation measures, and made enforceable conditions of Project approval.

Special Status Plants: Neither the MND nor the EA state if surveys for special status plants will occur. The Department recommends following the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (November 24, 2009). This protocol, which is intended to maximize detectability, includes the identification of reference populations to facilitate the likelihood of field investigations occurring during the appropriate floristic period. The Department recommends special status plant species are avoided whenever possible by delineation and observing a no-disturbance buffer of at least 50 feet from the outer edge of the plant population(s) or specific habitat type(s) required by special-status plant species. If a Federally listed plant species is identified during botanical surveys then consultation with the United States Fish and Wildlife Service (USFWS) is warranted. The Department recommends mitigation measures for special status plants be fully addressed in the CEQA document prepared for the Project and made enforceable conditions of Project approval.

Federal Endangered Species Act: If biological surveys result in the detection of federally listed species or their habitat, survey results should be submitted to the USFWS who has jurisdiction over species listed under the Federal Endangered Species Act.

The Department supports the goal of increasing forest resilience to fire through this Project. Achieving that goal will provide significant long term benefits to the conservation of special status species and other forest dependent species. We hope

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K

L

Mathew Daley
January 30, 2014
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you will incorporate the above feasible recommendations to provide additional short term protections to special status species during treatment implementation. If you have any questions about the comments please contact Margarita Gordus, Senior Environmental Scientist (Specialist), at the address provided on this letterhead, by telephone at 559-243-4014, extension 236, or by electronic mail at Margarita.Gordus@wildlife.ca.gov.

L

Sincerely,



Jeffrey R. Single, Ph.D.
Regional Manager

cc: Regional Water Quality Control Board
Central Valley Region
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**Response to Comment Letter 3: California Department of Fish and Wildlife (CDFW)
(January 30, 2014)**

- A. Thank you for your comment. The participation of the California Department of Wildlife (CDFW) is greatly appreciated. The commenter summarizes the proposed project, feels that sufficient references were not provided in the Draft IS/MND, and states that the Environmental Assessment (EA)³ was available on the U.S. Forest Service website, but technical studies were not. The commenter feels that without the availability of the technical studies, the biological resources impacts could not be adequately reviewed. The comment letter lists multiple plant and wildlife special-status species that are of concern to CDFW and acknowledges that some of the species listed in the letter are addressed in the IS/MND and that species where CDFW had further concern were called out specifically in the comment letter.

Those reference documents used as a basis for the Initial Study/Mitigated Negative Declaration (IS/MND) are listed in Section 1.2, *Project Background and Previous Environmental Documentation*. For further clarity, the Final IS/MND has been revised to include Chapter 8.0, *References*, and contains the complete list of references provided in Section 1.2. In addition, the U.S. Forest Service Biological Assessment and Biological Evaluation for Terrestrial Wildlife (Terrestrial Wildlife BEBA) (High Sierra District, June 2012) was referenced throughout the IS/MND and is part of the administrative record, which was available upon request. It did not separately appear in the initial references list in Section 1.2, but has been added to both Section 1.2 and Chapter 8.0 of this IS/MND, for clarification. . These changes provide minor clarification to the text in the IS/MND and do not constitute a “substantial revision” pursuant to Section 15073.5 of the State CEQA Guidelines.

The Sierra Nevada Conservancy (SNC), as the Lead Agency, maintains the administrative record for this proposed project. The administrative record includes all references within this IS/MND and is kept on-file with SNC. The Notice of Intent incorporated in this IS/MND, as well as the Notice of Completion and Environmental Document Transmittal provided to the State Clearinghouse, both provided contact information for the Lead Agency if reviewers had questions or required additional information during the public review period. .

As stated by CDFW, some of the species within the list on page 2 are addressed adequately in the IS/MND and the specific species of CDFW concern are highlighted in the letter as individual comments (Comments 3-C through 3-L). Therefore, the Lead Agency has addressed the specific concerns raised by CDFW pertaining to the proposed project regarding specific species, CDFW jurisdiction and authority, permit requirements, and the Federal Endangered Species Act (FESA) in Responses to Comments 3-B through 3-L, below.

- B. The commenter provides definitions for CDFW’s authority as terms such as “take”, fully protected species, unlisted species, and bird protection. The commenter defines the terms “fully protected species”, “unlisted species”, and “bird protection” and requests that the IS/MND include potential impacts to these resources, if applicable. The commenter states that if evaluations for the resources that are present within the project boundaries are not provided, then the proposed project would need an incidental take permit, which is issued by CDFW. This response, Response to Comment 3-B, applies to CDFW’s jurisdiction and authority. For details regarding specific concerns for certain species or groups, please refer to Responses to Comments 3-C through 3-K, below.

³ The EA is a document that was prepared by the U.S. Forest Service, Sierra National Forest, High Sierra Ranger District pursuant to the National Environmental Policy Act (NEPA), as referenced on page 2 of this IS/MND.

The SNC acknowledges CDFW's jurisdiction and authority over biological resources pursuant to the Fish and Game Code Section 1802 and the California Endangered Species Act (CESA). As discussed on page 13 of the IS/MND, the Sierra National Forest contains many special status wildlife and plant species. Given the potential for state and federal special status wildlife and plant species to occur in the project area, the applicant prepared multiple technical studies to evaluate potential impacts to resources within the project area covered under the previously approved Environmental Assessment (EA), which includes the entire area of the proposed project considered in the IS/MND. A list of these technical studies is provided in Section 1.2, *Project Background and Previous Environmental Documentation*, page 2 of this IS/MND, and again in Chapter 8.0, *References*. Specific to biological resources, the following technical studies were prepared by the applicant in order to evaluate potential impacts to fully protected species, unlisted species, and nesting birds and raptors:

- Botanical Resources Biological Evaluation and Biological Assessment and Noxious Weed Risk Assessment for the Soap Root Restoration Project (no date)
- Riparian Conservation Objectives Consistency Report – Soaproot Restoration Project (August 2012)
- Aquatic Species Biological Assessment and Biological Evaluation for the Soaproot Project (May 2012)
- Migratory Landbird Conservation on the Sierra National Forest (June 2012)
- Biological Assessment and Biological Evaluation for Terrestrial Wildlife for the Soaproot Restoration Project (June 2012)
- Management Indicator Species Report for Soaproot Restoration Project (May 2012)
- Cumulative Watershed Effect Analysis, Soaproot Project – Baseline and Detailed CWE Analysis FSH 2509.22 (May 2012)

In addition to the above-listed evaluations, the applicant received management direction regarding desired conditions for listed, proposed, and/or sensitive species and their habitats in the Sierra National Forest from the following (High Sierra District, June 2012):

- Sierra National Forest Land and Resource Management Plan;
- Sierra Nevada Forest Plan Amendment Final EIS and Record of Decision (which contains forest-wide management standards and guidelines);
- Forest Service Manual and Handbooks;
- National Forest Management Act;
- National Environmental Policy Act;
- Endangered Species Act;
- Healthy Forest Restoration Action of 2004; and
- Pacific Southwest Regional Forester policy and management direction

These resources are discussed in detail in the Biological Evaluation and Biological Assessment (BEBA) reports listed above.

As stated in the IS/MND, and further addressed in the BEBAs prepared for the proposed project, the proposed activities have been designed to minimize potential impacts to state and federal special status species. Specific design criteria are provided in Appendix A of this IS/MND, which reduce impacts to special status wildlife and plant species. In addition, the BEBAs provide detailed analysis of special status wildlife and plant species, as well as management indicator species.

With the design criteria (refer to Appendix A), the proposed project would have a less than significant impact on special status wildlife and plant species. Thus, the Lead Agency and the applicant (U.S.

Forest Service) have concluded appropriately that an incidental take permit is not required. The comment is noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.

- C. The commenter recommends that prior to any treatment activities, a qualified U.S. Forest Service wildlife biologist conduct surveys for nesting migratory birds. The commenter also recommends that a no-disturbance buffer be set up for migratory bird nests and non-listed raptors.

Impacts to birds were evaluated in the *Migratory Landbird Conservation on the Sierra National Forest* (High Sierra District, June 2012) and the Terrestrial Wildlife BEBA (High Sierra District, June 2012). Potential impacts to migratory bird species would be minimized through the adherence of the Sierra Nevada Forest Land and Resource Management Plan Standards and Guidelines for snags/down wood debris, riparian resource buffers, limited ground disturbance, and maintenance of canopy closure. The design criteria for this proposed project are provided in Appendix A of the IS/MND and include buffer zones as related to state and federal special status species, which are generally 0.25 mile (1,320 feet). In addition, the design criteria require limited operating periods (LOPs) that further reduce potential impacts to migratory species. Surveys for special status birds are on-going within the project area. Prior to the initiation of treatment, all work would be coordinated with a U.S. Forest Service biologist to determine nesting status. Prior to treatment activities, a qualified U.S. Forest Service biologist would survey the project area and would work with the Pacific Southwest Research (PSW) Station to establish the appropriate nest buffers for any nesting birds identified. The proposed project would ultimately improve the health of the forest, as well as migratory bird habitat, and would be a benefit to wildlife species within the project boundary. The comment is noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.

- D. The commenter states that there is potential habitat in the project area for both northern goshawk and California spotted owl. The commenter requests pre-treatment surveys, avoidance measures if the species are found in undocumented or unrecognized areas. In addition, the commenter questions who is responsible for determining the need for an LOP waiver, requests surveys prior to activity, and requests continuous surveys during treatment activity.

The Terrestrial Wildlife BEBA (High Sierra District, June 2012) provides an evaluation of wildlife species and their habitat, including the northern goshawk and California spotted owl. The proposed project would ultimately improve the health of the forest as well as habitat and would be a benefit to wildlife species within the project boundary.

Northern goshawk: Northern goshawk territories are managed on the Sierra National Forest as protected activity centers (PACs) as set forth in the Sierra Nevada Forest Plan Amendment prepared in 2004 (High Sierra District, June 2012). The Sierra National Forest conducted northern goshawk surveys, in coordination with the PSW Station, for the larger Soaproot Restoration Project in 2004, 2005, 2006, and 2010. According to protocol, these results are only applicable for one year (High Sierra District, June 2012). Thus, as discussed below under the heading *survey requirements*, prior to treatment activities, the U.S. Forest Service biologist would be consulted and surveys would be conducted per protocol.

With respect to the LOP waiver, this determination would be made by the U.S. Forest Service District Ranger with recommendations from the U.S. Forest Service biologist. If an LOP waiver is determined appropriate, there would be continuous monitoring. However, there must be a biological reason for the LOP to be waived. In order to consider waiving the LOP, protocol level surveys would need to be conducted and compliance with guidelines in the Sierra Nevada Forest Plan Amendment

would be required. Therefore, the applicant (U.S. Forest Service) and the Lead Agency do not anticipate that an LOP waiver would be issued by the U.S. Forest Service District Ranger for the proposed project.

California spotted owl: The Sierra National Forest has conducted surveys for California spotted owl presence and reproductive status across the forest, including the project area, since the early 1980s. The California spotted owls that are within the project area continue to be surveyed by the PSW Station. The U.S. Fish and Wildlife Service (USFWS) issued a 12-month finding in May 2006 that concluded that the scale, magnitude, and intensity of effects on the California spotted owl resulting from fire, fuels treatments, timber harvest, and other activities did not rise above the threshold necessitating protection of the species under the Endangered Species Act (ESA) (High Sierra District, June 2012).

Survey requirements: As stated in the IS/MND, as well as the NEPA EA and the Terrestrial Wildlife BEBA, there would be a no-disturbance buffer during the breeding season (February 15 through September 15 for northern goshawk and March 1 through August 15 for California spotted owl), unless there are no nesting species. If a bird or nest is found outside the PAC, the U.S. Forest Service, in conjunction with the PSW Station, would delineate the appropriate buffer (0.25-mile) and implement the LOP for the appropriate season (February 15 through September 15 for northern goshawk and March 1 through August 15 for California spotted owl). In addition, prior to the initiation of treatment, all work would be coordinated with a U.S. Forest Service biologist to determine nesting status or if additional pre-treatment surveys need to be conducted (High Sierra District, June 2012). The comment is noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.

- E. The commenter states that the great gray owl is known to occur in the Sierra National Forest and recommends that there be no treatments within 1,100 feet of meadow or meadow complexes totaling 10 acres or more until a complete protocol level survey is conducted. The commenter also recommends that the LOP be extended through September 30 or until a qualified biologist determines that the young have fledged.

The Terrestrial Wildlife BEBA (High Sierra District, June 2012) provides an evaluation of wildlife species and their habitat, including the great gray owl. The great gray owl is found in coniferous forests and usually nests within 600 feet of the forest edge of meadows and adjacent open foraging habitat. There have been incidental sightings on the southwest portion of the larger Soaproot Restoration Project area as well as a pair of great gray owls that reproduced in 2011 and had two young. The U.S. Forest Service has delineated a Protected Activity Center (PAC) with approximately 213 acres of habitat for the great gray owl. While the GIS survey identified approximately 0.6 acre of meadow in the vicinity of the larger Soaproot Restoration Project area, field reconnaissance and survey efforts by the U.S. Forest Service found that there are areas of wet ground but these areas are not characterized as meadow (High Sierra District, June 2012). Therefore, there are no meadows or meadow complexes in the project area that total the 10-acre threshold mentioned by the commenter.

There would be no entry into meadows by mechanical equipment as part of the proposed project. In addition, design criteria (refer to Appendix A) require a 100-foot buffer around perennial waters and meadows where no entry by mechanical equipment is allowed. As with the northern goshawk and the California spotted owl (refer to Response to Comment 3-D), prior to the initiation of treatment, surveys would be conducted for the great gray owl and all work would be coordinated with a U.S. Forest Service biologist (High Sierra District, June 2012). As discussed in the IS/MND, vegetation treatments are prohibited within 0.25-mile of a great gray owl nest between March 1 and August 15.

Because there are no meadow or meadow complexes within the project area, an increase in the buffer (1,100 feet) or an extension of the LOP (to September 30) is not warranted. The proposed project would ultimately improve the health of the forest as well as habitat and would be a benefit to wildlife species within the project boundary. The comment is noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.

- F. The commenter states that the project area may contain habitat for willow flycatcher and that the IS/MND should evaluate any impacts. The commenter also recommends that protocol level surveys be conducted by a qualified biologist and requests a 0.25-mile no-disturbance buffer between May 1 and August 31 if nests are identified. The willow flycatcher is considered a U.S. Forest Service sensitive species. The Terrestrial Wildlife BEBA (High Sierra District, June 2012) provides an evaluation of wildlife species and their habitat, including the willow flycatcher. The habitat type for the willow flycatcher is not within the project boundary. There are no known sightings of the willow flycatcher within the project boundary. Thus, no impact would occur as a result of the proposed project. The proposed project would ultimately improve the health of the forest, as well as the willow flycatcher habitat, and would be a benefit to wildlife species within the project boundaries. The comment is noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.
- G. The commenter states that the bald eagle is a State fully protected species and is known to occur near Providence Creek Road and the project area may contain suitable foraging habitat and feels that the bald eagle should be evaluated appropriately. The bald eagle is also considered a U.S. Forest Service sensitive species. The Terrestrial Wildlife BEBA (High Sierra District, June 2012) provides an evaluation of wildlife species and their habitat, including the bald eagle. The habitat type for the bald eagle is not within the boundary of the proposed project. The last known sighting was an incidental sighting in 1976. Thus, no impact would occur as a result of the proposed project. The proposed project would ultimately improve the health of the forest, as well as the bald eagle habitat, and would be a benefit to wildlife species within the project boundary. The comment is noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.
- H. The commenter states that the fisher is a candidate species for listing under CESA and feels that the IS/MND does not state the size of a buffer for den sites, if measures will be employed in the event that denning fisher is detected and undocumented or unrecognized areas as well as areas outside the SSFCA, and recommends that the LOP be extended thought July 31.

With respect to the information regarding den site buffers within the IS/MND, the fisher den site buffer is discussed on page 5 of the IS/MND. Specifically, Section 2.1.1, *Biomass Thinning Prescription*, states that current and past fisher den sites consisting of the highest quality habitat require a 700-acre buffer. Designations of den buffers would be achieved using new information that comes from current PSW Station research up until a contract for the proposed project would be awarded. After that point, new information would still be collected and utilized but the prescription in the buffers would not change for this proposed project. Page 13 of the IS/MND has been revised to restate this buffer area. These changes provide minor clarification to the text in the IS/MND and do not constitute a “substantial revision” pursuant to Section 15073.5 of the State CEQA Guidelines.

The Terrestrial Wildlife BEBA (High Sierra District, June 2012) provides an evaluation of wildlife species and their habitat, including the Pacific fisher. The fisher has been extensively researched within and around the Sierra National Forest since the mid-1990s. These studies include the Kings

River Fisher Project, which is centrally located within the southern Sierra on the Sierra National Forest and includes the project area. The Sierra Nevada Adaptive Management Project is also conducting an intensive investigation into fisher habitat and response to management disturbance; the area of this study is mainly within the Sierra National Forest (High Sierra District, June 2012).

On the High Sierra Ranger District, den site buffers have been delineated for 21 sites, of which four are within or adjacent to the larger Soaproot Restoration Project and eight are within 3.1 miles of the larger Soaproot Restoration Project (High Sierra District, June 2012). As stated in the Terrestrial Wildlife BEBA, den buffers were developed for each female that had denned at least once since 2007. It is unlikely that new occurrences would be identified due to the extensive and ongoing surveys by the PSW Station and surrounding research projects; however, if there is an area that has not been previously surveyed, presence is assumed and pre-treatment surveys would be identified during biology consultation, as discussed below. However, the PSW Station provides continuous monitoring of the species in the Sierra National Forest, including the project area. In addition, prior to the initiation of treatment, all work would be coordinated with U.S. Forest Service and PSW Station biologists to determine denning status and the need for additional surveys would be identified during this consultation (High Sierra District, June 2012). If additional surveys are needed, they would be conducted prior to commencement of the treatment.

Design criteria, refer to Appendix A, contain measures that would be implemented for the proposed project and would reduce impacts to less than significant levels. Design Criteria 25 through 28 are specific to the Pacific fisher and its habitat. The proposed project would also follow the Sierra Nevada Forest Plan Amendment Final EIS and Record of Decision, which contains forest-wide management standards and guidelines, including ones specific to the fisher: 85 (establishes the LOP within the den buffers), 86 (requires avoidance of fuel treatments in den buffers), and 87 (identifies the den buffer radius). For the proposed project, the fisher den buffer is 700 acres, if they are found in the area during pre-treatment surveys. Therefore, the proposed project would implement design criteria and measures to protect the fisher within all areas of the proposed project boundaries.

With respect to the extension of the LOP, the PSW Station continuously monitors the Sierra National Forest for fisher, including the project area. The PSW Station provides the LOP based on their monitoring of the species. Therefore, the Lead Agency feels that because the fisher is continuously surveyed and monitored within the proposed project area, an extension of the LOP (to July 31) would not be necessary. In addition, any extension of the LOP would need to be approved by the PSW Station. The proposed project would ultimately improve the health of the forest, as well as fisher habitat, and would be a benefit to wildlife species within the project boundary. The comment is noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.

- I. The commenter states that the proposed project is within the Sierra Nevada red fox range and that the IS/MND should address the Sierra Nevada red fox. The Sierra Nevada red fox is also considered a Forest Service sensitive species. The Terrestrial Wildlife BEBA (High Sierra District, June 2012) provides an evaluation of wildlife species and their habitat, including the Sierra Nevada red fox. According to the California Wildlife Habitat Relationships (CWHR) version 8.2 modeling, and field reconnaissance, the project area has no habitat for the Sierra Nevada red fox in the Sierra mixed conifer zone or ponderosa pine zone, which includes the project area (High Sierra District, June 2012). There are no known sightings of the Sierra Nevada red fox within the project boundaries. Thus, no impact would occur as a result of the proposed project. The proposed project would ultimately improve the health of the forest, as well as Sierra Nevada red fox habitat, and would be a benefit to wildlife species within the project boundary. The comment is noted for the record and will

be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.

- J. The commenter states that the Aquatic Species BEBA was not an appendix to the IS/MND. The commenter recommends that the watercourses within the project area be assessed for the Sierra Nevada yellow-legged frog (SYLF) habitat and focused surveys be conducted. The commenter states that if there is detection of the Sierra Nevada yellow-legged frog, a 25-meter no-operations buffer should be established and that the CDFW be notified of any SYLF detections.

With respect to the availability of the technical studies for this proposed project, please refer to Response to Comment 3-A. The Sierra Nevada Conservancy (SNC), as the Lead Agency, maintains the administrative record for this proposed project. The administrative record includes all documents that the Lead Agency used in preparing this IS/MND. The administrative record is kept on-file with SNC. The Notice of Intent incorporated in this IS/MND, as well as the Notice of Completion and Environmental Document Transmittal provided to the State Clearinghouse, both provided contact information for the Lead Agency if additional information was required or questions arose during the public review period.

The High Sierra Ranger District analyzed a larger project (Soaproot Restoration Project) within the Aquatic Species BEBA. These reports discuss the mountain yellow-legged frog (MYLF). The MYLF was recently recognized as a separate species from the SYLF that is not on the Sierra National Forest. The Aquatic Species BEBA evaluated the MYLF because the report for the proposed project was completed prior to the split of the species by the Federal Register in April 2013. The information regarding the MYLF is applicable because at the time of the study, the MYLF and SYLF were considered the same species.

Sierra National Forest does provide habitat for, and has occurrences of, the SYLF. The nearest critical aquatic refuge (CAR) area is the Snow Corral CAR. GIS surveys identified suitable habitat for the MYLF/SYLF within the project area; this area is a high gradient stream with no connection to the Snow Corral CAR. The Aquatic Resources BEBA concluded that there is no suitable habitat within, or adjacent to, the project area for the MYLF/SYLF nor is there any critical habitat for the MYLF/SYLF. The Lead Agency coordinated with the U.S. Forest Service's aquatic biologist on February 10, 2014 regarding this issue.⁴ Based on the U.S. Forest Service aquatic biologist's evaluation of habitat, terrain, elevation (almost entirely below 5,000 feet above sea level), lack of connected waterbodies from higher elevations, and the known occurrences in the Sierra National Forest, the project area would not be considered suitable habitat for SYLF. In addition, there are no proposed project activities within the Snow Corral CAR (High Sierra District, May 2012).

To further address MYLF/SYLF, proposed project activities near riparian areas would maintain an 80 percent canopy cover in the Streamside Management Zones (SMZs) and 60 percent cover in riparian conservation areas (RCAs). Design criteria provided in Appendix A contain measures that would be implemented for the proposed project and would reduce impacts to less than significant levels. Design Criteria 49 through 98 are specific to general aquatics and special status aquatic wildlife and their habitat. As part of the design criteria, all perennial streams have a 100-foot no-mechanical entry SMZ area. Prior to the initiation of treatment, all work would be coordinated with a U.S. Forest Service biologist. Thus, impact would be less than significant as a result of the proposed project. In addition, as with other species, the proposed project would ultimately improve the health of the forest,

⁴ February 10, 2014 discussion between the Sierra Nevada Conservancy staff, RBF Consulting staff, Kimley-Horn staff, and the District Fisheries/Aquatic Biologist for the High Sierra Ranger Station, Sierra National Forest regarding the MYLF, SYLF, habitat presence, and the separation of the two species by the Federal Register.

as well as SYLF habitat, and would be a benefit to wildlife species within the project boundary. The comment is noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.

- K. The commenter recommends that protocol surveys for state special status plants be conducted for the proposed project. The commenter recommends that special status plant species be avoided and a no-disturbance buffer of at least 50 feet from the outer edge of the plant population or habitat type be provided. As listed in Section 1.2, *Project Background and Previous Environmental Documentation*, a Botanical Resources BEBA and Noxious Weed Risk Assessment (Botanical Resources BEBA) was prepared for the larger Soaproot Restoration Project (High Sierra District, no date). According to the Botanical Resources BEBA, initial record searches identified two plant species and one category of critical habitat that may be found within the Sierra National Forest.

Current U.S. Forest Service policy calls for a pre-field review of available information and then a field reconnaissance to determine if sensitive plants are found in the project area and if proposed activities pose a threat to identified sensitive plants. Botanical surveys for noxious weeds and special status plants species were conducted simultaneously for the Soaproot Restoration Project, which includes the proposed project. The Botanical Resources BEBA identified the *Carpenteria* as having one occurrence in a pre-commercial thinning, and pile burning areas. Thus the proposed project has the potential to impact this species. However, pre-treatment surveys would be conducted by the U.S. Forest Service botanist and populations would be flagged to be avoided prior to treatment activities (refer to Design Criteria, Appendix A of the IS/MND) (High Sierra District, no date). Veined water lichen was identified immediately north of the Soaproot Restoration Project boundary within Summit Creek. Direct impacts would not occur due to the RCAs and SMZs; however, indirect impacts would occur as a result of erosion from ground-disturbing activities. Project design criteria⁵ and best management practices (BMPs)⁶ (provided in Appendices A and B, respectively) would be implemented to reduce potential impacts to a less than significant level. Finally, there was one, 0.3-acre fen in the Soaproot Restoration Project area, within a small wet meadow that is surrounded by mixed-conifer forest. Similar to the veined water lichen, direct impacts would not occur; however, indirect impacts associated with soil compaction and erosion have the potential to occur. With the implementation of the pre-treatment surveys for flagging and avoiding special status plant species, and the implementation of design criteria and BMPs, that help to reduce both direct and indirect impacts, any impacts as a result of the proposed project would be less than significant.

In addition to the Botanical Resources BEBA conclusions, the proposed project would implement the design criteria (Appendix A of the IS/MND) and BMPs (Appendix B of the IS/MND). Prior to the initiation of treatment, all work would be coordinated with a U.S. Forest Service botanist and pre-treatment surveys for state and federal special status species would be conducted. If special status plant species or natural habitats are identified, the populations or areas would be flagged for avoidance. The comment is noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.

⁵ While impacts are less than significant with all of the design criteria, design criteria that help to reduce erosion and runoff further reduce indirect impacts to botanical resources. In addition, design criteria 99 through 108 are specific to botanical resources.

⁶ While the incorporation of all BMPs help to keep impacts less than significant, BMPs that help to reduce erosion and runoff further reduce indirect impacts to botanical resources and include, but are not limited to, BMPs 1-5, 1-10, 1-12, 1-13, 1-17, 1-18, 1-20, 1-22, 2-12, and 7-3.

- L. The commenter recommends that if federally listed species or their habitats are detected, the Lead Agency and the applicant should consult with USFWS. In addition, the commenter acknowledges the support of the goal of the project and feels it will provide long term benefits to the forest.

The applicant (U.S. Forest Service) has prepared several BEBAs for the proposed project to address terrestrial wildlife, aquatic wildlife and botanical species within the proposed project area, and consulted with the USFWS throughout the preparation of these studies. The U.S. Forest Service continues to coordinate with the USFWS with respect to the Soaproot Restoration Project. In addition, the U.S. Forest Service continues to conduct surveys in the area and coordinates with the appropriate state and federal agencies based on survey results. Therefore, the proposed project is in compliance with the Federal Endangered Species Act, the appropriate agencies are being consulted, and state and federal special status species are being appropriately addressed.

The support of CDFW on the long-term benefits of this proposed project is acknowledged and appreciated. The comment is noted for the record and will be provided to the Sierra Nevada Conservancy Governing Board for consideration. No further response or change to the Draft IS/MND is necessary.

6.0 DISTRIBUTION LIST

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8.0 REFERENCES

High Sierra Ranger District. No Date. *Botanical Resources Biological Evaluation and Biological Assessment and Noxious Weed Risk Assessment for the Soap Root Restoration Project.*

High Sierra Ranger District. 2012. *Riparian Conservation Objectives Consistency Report – Soaproot Restoration Project.* August 2012.

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High Sierra Ranger District. 2012. *Cultural Resource Management of the Soaproot Restoration Project, Archaeological Reconnaissance Report R2012051552001.* April 2012

High Sierra Ranger District. 2012. *Cumulative Watershed Effect Analysis, Soaproot Project – Baseline and Detailed CWE Analysis FSH 2509.22.* May 2012.

High Sierra Ranger District. 2012. *Water Resources Specialist Report.* May 2012.

High Sierra Ranger District. 2012. *Air Quality Specialist Report, Soaproot Restoration Project.* June 2012.

Appendix A
Design Criteria

DESIGN CRITERIA

To minimize potential adverse impacts to resources in the area from the proposed project, the High Sierra Ranger District identified the following design criteria within the NEPA Environmental Assessment/Finding of No Significant Impact prepared for the Soaproot Restoration Project. These design criteria are broken into resource groups but many of these features can reduce impacts to other resources as well. Project-wide design criteria are applicable to the proposed project as a whole and are not resource specific.

The following design criteria cover the entire Soaproot Restoration Project; this proposed project under consideration by SNC is a part of the larger Soaproot Restoration Project. Therefore, while there are many design criteria listed below, not all would be required under the proposed project. Only design criteria related to the proposed project as defined by SNC for CEQA purposes would be applied (as discussed in Chapter 2.0, Project Description). The design criteria are considered part of the proposed project activities, where applicable.

PROJECT-WIDE DESIGN CRITERIA

1. Trees 30 inches DBH and larger would be retained throughout the Project area.
2. Thinning in plantations and other areas would be limited to periods when slash would be less likely to provide habitat to the Ips species of bark beetle (December to June) to reduce the potential from insect attacks. These dates can be changed based on an evaluation of a certified silviculturist.

The following design criteria (#3 - #11) are standard operations procedures for protecting resources during piling and firing operations. Most have been developed from generations of firefighting and prescribed burning and are considered BMPs by fire managers.

3. All burn piles would have a good base to keep the pile from toppling and would have enough distance between piles to prevent premature ignition during burning. Piles would be located so that burning would cause minimal damage to standing green trees. Depending on the size of the residual (leave) trees, this would be at least 20 feet from the bowl of any live tree.
4. If the green conifer slash must be piled following vegetation treatments, slash piles would be located in open, sunny locations outside of the dripline of leave trees and kraft paper may be used to protect an ignition point from wet weather. Slash piling would occur from July 1 through October 31 to enhance the drying of created slash and reduce the build-up of detrimental insect populations (except when restricted by a limited operating period [LOP]).
5. Burning would only be initiated on “burn days” designated by the SJVUAPCD when satisfactory wind dispersal conditions prevail.
6. Piles are typically ignited with drip torches, except within RCAs. Fire would be allowed to creep between piles while maintaining a burn intensity that would minimize tree bole scorch height or mortality of the retained trees and would be ignited using a pattern that allows animals to escape the fire. For example, one end of the pile would be lighted or an area would be left unignited to serve as an escape route.
7. To mitigate the impacts of prescribed fire to air quality, best available control measures (BACMs) would be employed as required under Section 190 of the Clean Air Act, as amended in 1990. The U.S. Environmental Protection Agency developed implementation strategies and BACMs for areas that are designated as in serious non-attainment for PM10 in 1992. Specific techniques to reduce fire emissions include the following:

- Commonly used reduction techniques would be applied, such as burning units after harvest before new live fuels appear, burning in the springtime prior to “green-up,” burning when 1,000-hour fuel (woody debris larger than three inches in diameter) moistures are high, and burning when the duff is wet (after fall precipitation, or during winter and spring).
 - Avoidance techniques would be used, such as burning on cloudy days when the plume and residual smoke cannot be seen, burning during periods of atmospheric instability for better smoke dispersal, and burning during periods of low visitor use.
 - Techniques to optimize flaming combustion would be utilized, including burning piled fuels rather than broadcast burning, reducing the amount of soil in piles, and employing rapid ignition to create a high-intensity fire.
 - All activities would conform to the State Implementation Plan (SIP).
 - A full conformity analysis would be conducted, as required by the Clean Air Act and the SIP to assess whether the action produces less than the minimum emissions.
8. The following roads would be managed as strategic and tactical holding/ignition lines for prescribed fire operations and would be snagged prior to burn operations:
- Clarence Burn: FS roads 10S18, 10S02, and 10S404
 - Soaproot Units: FS roads 10S04 and 10S05
 - Rush and Little Rush Underburn Units: FS roads 10S43, 10S43X, and 10S02D
 - Virginia Burn: FS roads 10S50 and 10S02
9. All other roads within prescribed fire burn boundaries may be used as secondary control lines (to be determined by burn boss during ignition operations). Snags may be felled as necessary if they pose a threat to firefighter safety at time of burn. Tagged wildlife trees would be protected using measures designed to reduce direct effects of prescribed fire and would be avoided to the extent possible.
10. Large woody debris created from hazard tree operations would be removed to increase efficiency of fire control operations and improve firefighter safety.
11. Larger trees would be protected during understory burning to maintain stand structures that would contribute to future habitat diversity.
12. Prior to implementing the Project near private lands, landlines would be flagged to ensure that innocent trespass is avoided.
13. Legal access on existing roads through private lands would be acquired before Project implementation.

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14. Four of the largest snags per acre would be retained.
15. At least five well-distributed logs would be maintained per acre as large woody debris representing the range of decomposition classes defined in the SNF LRMP.
16. Thinning around individual oaks would occur to increase oak crown and acorn production. To provide for oaks for wildlife needs, five to 35 percent of growing space devoted to oaks would be maintained. All decadent oaks throughout the stands would be retained within the limits appropriate for each forest type. Overtopping of decadent oaks would not be prevented.

The following design criteria (#17 - #20) would apply to the Deer Winter Range within the Project area as covered under the North Kings deer herd management plan:

17. Where it exists, 40 to 50 percent brush cover would be retained. Where south slope cover is lacking, additional north slope cover would be retained to compensate.
18. Where it exists, roadside screening cover would be retained to improve cover where it is deficient.
19. Tree stocking densities in plantations on key winter range areas would be minimal to prolong understory life. Two hundred trees per acre or fewer would be suggested.
20. Prescribed burning would be done in fall to stimulate non-sprouting shrub species, and in spring for sprouting shrub species.

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21. All treatment units within one-quarter mile of a Northern goshawk nest site during the breeding season would have an LOP prohibiting vegetation treatments from February 15 to September 15, unless surveys confirm that goshawks are not nesting.
22. Breeding season LOP restrictions for goshawk may be waived, where necessary, to allow for use of early season prescribed fire treatments.
23. All treatment units within one-quarter mile of an active great gray owl nest stand during the nesting period would have an LOP prohibiting vegetation treatments and road construction from March 1 to August 15. The LOP would not be needed unless an owl is found, in which case the nest stand would get a one-quarter mile PAC established around it (per U.S. Forest Service District wildlife biologist).
24. In meadow areas of great gray owl PACs, herbaceous vegetation would be maintained at a height commensurate with the site capability and habitat needs of prey species.

The following design criteria would be implemented to protect the Pacific fisher and its habitat:

25. Pacific fisher den site buffers would have a LOP prohibiting vegetation treatments from March 1 to June 30, as long as habitat remains suitable.
26. Key large tree denning structures needed by Pacific fisher would be retained to the extent possible (to achieve desired conditions for fisher as stated in the SNFPA ROD 2004).
27. Within Pacific fisher den site buffers, prescribed fire may be used to treat fuels if no other reasonable alternative exists.
28. Within the Southern Sierra Fisher Conservation Area (SSFCA), prior to vegetation treatments, design criteria such as prescribed burning techniques would be implemented to protect important habitat structures as identified by the wildlife biologist. Important habitat structures include large diameter snags and oaks, patches of dense large trees (one-quarter to two acres in size), key large tree nesting structures, small understory trees, and coarse woody material. Mechanical treatments would be used when appropriate to minimize effects on preferred fisher habitat elements.

The following design criteria would be implemented to protect the California spotted owl and its habitat:

29. All treatment units within one-quarter mile of the activity center during the California spotted owl breeding season would have a LOP prohibiting vegetation treatments from March 1 to August 15, unless surveys confirm that owls are not nesting.
30. Breeding season LOP restrictions for spotted owl may be waived, where necessary, to allow for use of early season prescribed fire treatments.
31. Within HRCAs outside WUI defense zones, at least 50 percent canopy cover averaged within the treatment unit would be retained.
32. Outside of HRCAs and WUI defense zones, at least 50 percent canopy cover would be retained within the treatment unit. Where canopy cover must be reduced below 50 percent, then at least 40 percent canopy cover averaged within the treatment unit would be retained.
33. Mechanical treatments may be conducted to meet fuels objectives in 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 and fire and fuels strategy. Mechanical treatments should be designed to maintain habitat structure and function of the PAC.
34. Mechanical treatments would not occur within a 500 foot radius buffer around a spotted owl activity center within a designated PAC. Prescribed burning however is allowed within the 500 foot radius buffer.
35. Within PACs located outside the WUI, stand-altering activities would be limited to prescribed fire activities to reduce surface and ladder fuels. In forested stands with overstory trees 11 inches DBH and greater, prescribed fire treatments would be designed to have an average flame length (the average length of a flame at a given point – expressed in feet) of four feet or less.
36. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than six inches DBH) may be conducted prior to burning as needed to protect important elements of owl habitat.

WATERSHED & RIPARIAN

37. Applicable BMPs would be incorporated into all Project activities and implemented to protect water quality. Specific BMPs and the activities to which they apply are listed in Appendix B.
38. Streamside Management Zones (SMZs), Riparian Management Areas (RMAs), and RCAs, as identified in the SNF LRMP, would be applied to delineate areas where riparian habitat considerations would be emphasized. SMZ, RMA, and RCA widths are listed in Table 4. On steep slopes, SMZs are extended by three feet for each percent over 30 percent (for example, the SMZ would be 15 feet wider than the minimum width on a 35 percent slope). All guidelines and restrictions for these areas as established by the district hydrologist and aquatic biologist and defined in the SNF LRMP would be followed.

Table A-1. RCA, SMZ, and RMA widths (High Sierra Ranger District, September 2012).

Feature Type	RCA Width	Stream Class	SMZ Width	RMA Width	Corresponding GIS Layer Stream Order
Perennial Streams	300 feet	I *	At least 100 ft	100 feet	3+
Seasonally Flowing Streams (includes ephemeral streams)	150 feet	II	At least 75 ft	N/A	2
		III	At least 50 ft		-
		IV	At least 25 ft		1
		V	None required		-
Streams in Inner Gorge	Top of inner gorge	Varies			
Special Aquatic Features (fens, bogs, springs, seeps, lakes, ponds, wetlands, etc.)	300 feet	N/A	N/A	100 feet	Identified on GIS layers or in the field
Perennial Streams with Riparian Conditions extending more than 150 feet from edge of streambank		I	At least 100 ft		
Seasonally Flowing streams with riparian conditions extending more than 50 feet from edge of streambank					

39. In areas with known CWE concerns where tractor piling is required to achieve treatment objectives, all SMZ widths would be increased by 25 feet (Class IV = 50 feet; Class III = 75 feet; etc.), plus the slope adjustments described in Sierra Supplement No. 1.
40. Any seeps, springs, fens, and/or wet areas discovered during Project implementation that are not already identified on Project analysis maps would be treated as perennial areas with 300 foot RCA and 100 foot SMZ no equipment buffers, unless otherwise classified by the District hydrologist or aquatic biologist.
41. New or replacement culverts would be sized to accommodate the 100-year flow, including expected sediment and debris, and designed to minimize the potential for stream diversion onto the road.

All WIN sites would be coordinated with the District aquatic biologist for aquatic/riparian species or habitat occurrences at or around stream crossings. The following design criteria would apply to activities for WIN site #54381 (FS road 10S04 Rush Creek crossing improvement) (refer to aquatic species section for species specific design criteria):

42. All designs and improvement recommended for the stream crossing improvement would be coordinated with the District aquatic biologist and hydrologist and accepted prior to finalization.
43. Any removal of vegetation outside of the roadbed would be approved by the District aquatic biologist.
44. Bank destabilization or watershed issues created by Project activities would be repaired prior to the start of the first winter season.
45. If necessary, silt fencing would be installed to prevent or reduce sediment from entering the stream channel.
46. Fill materials would be approved prior to use.
47. Operations would cease for 24 hours after rainfall greater than 0.1 inches.
48. Removal of fill materials would be done after units have been harvested if it is causing stream degradation or downstream flow reduction.

GENERAL AQUATICS

49. Riparian vegetation would not be cut during Project activity unless approved by the District aquatic biologist.
50. Any discovery of amphibians or reptiles (e.g. frogs, toads, salamanders, and turtles) during Project sale preparation and implementation would be reported to the District aquatics biologist immediately.
51. If newly listed or unknown occurrences of federally listed T & E, proposed (P), candidate (C), or FS sensitive (FSS) aquatic species are found within the affected Project area during sale preparation or implementation, additional species protection measures may be needed (Endangered Species Act, SNF LRMP compliance).
52. To ensure that management activities that can reduce tree canopy cover within RCAs do not adversely affect water temperatures necessary for local aquatic- and riparian-dependent species assemblages, canopy cover would be maintained at 80 percent within the SMZ (or at existing conditions if canopy cover is less than 80 percent) and at 60 percent within the remaining RCA.
53. Stream crossing structures would not create barriers to upstream or downstream passage for aquatic-dependent species.
54. Direct lighting of riparian vegetation would be avoided. No direct lighting within SMZs. However, prescribed fires would be allowed to back into riparian areas.
55. When broadcast burning in RCA/SMZ areas, ignition would be stopped within 100 feet of the stream or aquatic feature and fire would be allowed to back down into the area.

56. Helicopter “ping pong ball” lighting within RCAs would not be allowed.
57. Dozer or hand fire line construction within RCAs would follow species specific design criteria and would adhere to BMPs outlined in the District hydrologist report.
58. Fire lines necessary within SMZs would cross perpendicular to streams, follow the natural landscape contour, and be hand cut unless consulted by the district hydrologist or aquatic biologist. Fire lines would be designed and constructed to reduce sediment entry into channels and would be waterbarred. At a minimum, a waterbar should be placed on either side of each stream crossing.
59. Fuels and other toxic materials would not be stored within RCAs except at designated administrative sites and sites covered by a Special Use Authorization.
60. Refueling of chainsaws or other equipment within RCAs would use the following guidelines:
 - Do not refuel within an RCA unless there are no other alternatives. Any locations within an RCA used for refueling must first be approved by the District hydrologist or aquatic biologist.
 - Site specific refueling area plans for difficult terrain within the Project area can be developed for refueling within an RCA if no other options are available (i.e. use of a spill pad under chainsaw while refueling within RCA).
 - If site specific refueling area plans are developed, at a minimum, refueling must take place outside of the SMZ (BMP 2.11).
 - Any spills (regardless of amount) would be cleaned up immediately. Refueling would occur on a spill pad to avoid soil and water contamination.
 - Ensure spill plans are reviewed and up-to-date (BMP 7.4).

The following design criteria would be implemented within SMZs or RCAs associated T&E, P, C, or FSS occupied aquatic/riparian species habitat (additional measures may apply for occupied habitats beyond the SMZs/RCAs):

61. Hand piles within occupied aquatic species habitat would be located outside of SMZs unless approved by the District aquatic biologist or a site specific plan is developed for that unit. See specific species guidelines for identified buffers in occupied habitat.
62. Trees within SMZs of occupied TES habitats would not be removed (drop and leave) unless the area is field reviewed for aquatic species habitat prior to Project work and approved by the aquatic biologist or unless the work can be accomplished from an existing FS roadside only and no soil disturbance occurs while implementing activities. If soil is disturbed during tree removal, Project activities in the SMZ would stop immediately and rehabilitation work would be completed after consultation with the District aquatic biologist and hydrologist.
63. End-lining, or skid trail construction in the SMZs of stream channels would not be allowed (BMPs 1.8, 1.19).
64. New landing construction or temporary road construction would not be allowed within SMZs. Any new landing sites proposed within an RCA would follow BMP 1.12 and would be reviewed by the hydrologist and aquatic biologist.
65. For use on existing landings within RCAs or SMZs, the “Flow Chart” would be followed. Existing landings located within an RCA or SMZ would be field reviewed and approved by the District hydrologist and aquatic biologist prior to use.

66. All cull and other materials would be removed from approved landings located within SMZs of meadows or perennial streams.
67. Temporary roads would not be constructed within SMZs unless approved by the District hydrologist and aquatic biologist.
68. Skid trails, landings, and temporary roads would be designed to eliminate the potential to capture surface run-off and then deliver sediment into or divert stream flow from occupied or suitable habitat for aquatic/riparian species.
69. Skid trails, landings, temporary roads, and end-lining activities would not cross through or within 500 feet of any stream, waterbody or meadow with occupied habitat for federally listed T&E or within 100 feet of C or FSS aquatic species habitat.
70. Skidding and end-lining would not be allowed in or across meadows, perennial, or intermittent streams.
71. Skid trails, landings, and temporary roads, would be properly cross-ditched after use or before winter precipitation, whichever comes first. These activities would also be slashed, ripped or mulched if necessary (BMP 1.16 and 1.17).
72. Any soil damage within RCAs as a result of skidding/end-lining would be rehabilitated.

If stream drafting is necessary, the following design criteria would be implemented (BMP 2.5):

73. Water drafting candidate sites should be selected by the sale administrator and approved by the hydrologist and aquatic biologist prior to use (BMP 2.5).
74. Water drafting sites should be at least 500 feet to 0.6 miles away from occupied aquatic species habitat (as determined by the aquatic biologist).

The following requirements would be monitored by the High Sierra Ranger District appointed hydrologist or aquatic biologist:

75. Drafting sites would be visually surveyed for frogs and their eggs before drafting begins.
76. A screened intake device and pumps with low entry velocity and suction strainers with screen less than two millimeters (1/8 inch) in size would be used to minimize removal of aquatic species, including juvenile fish, amphibian egg masses and tadpoles, from aquatic habitats.
77. The suction strainer would be inserted close to the substrate in the deepest water available and placed in a canvas bucket to avoid substrate and aquatic species disturbance).
78. Drafting would not be allowed unless immediate downstream discharge from drafting site is maintained at 1.5 cubic feet per second (cfs) or greater (BMP 2.5).
79. Water drafting would be permitted to remove no more than 50 percent of any stream's ambient discharge that is over 1.5 cfs (BMP 2.5).
80. Where treatments are proposed in habitat for T, E, C, or FSS aquatic and riparian species, only water would be used for dust abatement within RCAs.

SPECIAL STATUS AQUATIC WILDLIFE

The following design criteria would be implemented to protect the Western pond turtle (FSS species) and its habitat:

81. All activities within 325 feet of any stream channel identified as Western pond turtle occupied habitat would only occur between June 15 and October 15 (or first winter rain) to protect nesting, breeding, and overwintering sites. This also applies to WIN site treatments, unless approved prior to treatments by the District aquatic biologist. If Project activities need to occur in a unit outside of the LOP, the District aquatic biologist would be consulted for on-site surveys or additional measures needed to ensure species viability.
82. When possible, equipment and soil disturbance in units that overlap occupied terrestrial habitats would be minimized for the protection of underground Western pond turtle nests.
83. Mechanical equipment would not be allowed off of already established roads (FS roads 10S04, 10S04A, and 10S430) within 325 feet of Rush Creek and associated tributaries.
84. A strategy for piles that would need to be located within 325 feet from perennial streams identified as occupied habitat for the Western pond turtle along Rush Creek, Big Creek, or tributaries of Big Creek would be consulted with the District aquatic biologist.
85. Endlining and skidding would not be allowed within 325 feet of Rush Creek and associated perennial streams unless location is surveyed for potential nesting habitat for Western pond turtle prior to Project activities.
86. If Western pond turtles are located in the Project area during implementation, they would be gently moved into a similar and safe place nearby (i.e. stream channel) in the direction they were traveling. The District aquatic biologist would be notified of any sightings.

In addition to the design criteria for activities within 325 feet of occupied stream habitat, the following would apply to prescribed fire activities within this area:

87. Timing, special needs, new TES species occupancy information, and sensitivity of prescribed fire activity would be coordinated with District specialists prior to implementation.
88. Strategies that are employed must be weighed out to ensure the outcome would benefit the Project as a whole both short-term and long-term (i.e. implementing handline in or near a riparian zone in order to protect larger scale damage to the riparian zone or forest land).
89. Large gatherings of personnel and equipment would be avoided in riparian zones.
90. National fire retardant guidelines would be followed for perennial streams occupied with TES aquatic species.

The following design criteria would apply to activities for WIN site #54381 for protection of the Western pond turtle during those activities (additional measures may be added during Project implementation if necessary):

91. Project activities would occur during the fall (September to mid-October). If access is needed prior to September, field review of stream flow conditions would be conducted to evaluate for appropriateness of timing and additional effect to habitat and species.

- At a minimum, Project activities can occur within October 15th to June 15th to protect dispersal, breeding, nesting, and overwintering habitats.
92. Prior to daily Project activities, WIN site would be surveyed for any individuals utilizing the crossing habitat. Individuals would be moved upstream or downstream to a safe location. If individuals are found directly within the Project area during daily work, activities would be stopped until individuals can be moved by the District aquatic biologist or qualified person to a safe location.
 93. If water diversion is necessary during Project activities, selection and approval of diversion and outflow locations would be coordinated with the District aquatic biologist.
 - If pumps are needed to pump water from diversion around the Project area to a downstream location, all drafting requirements above would be followed. On a daily basis, diversion pool would be surveyed to ensure no Western pond turtle individuals have moved into the area. Individuals would be relocated to a safe place upstream or downstream in a similar habitat.
 94. Steam channel dewatered for Project would be kept to a minimum distance.
 95. Western pond turtle individuals located in stream habitat temporarily dewatered for Project work would be relocated by the District aquatic biologist or qualified person to an approved location.
 96. De-watering of the main channel (Rush Creek) outside of the approved crossing area would not occur downstream of the crossing, even temporarily.
 97. All equipment would be stored at a minimum of 325 feet away from Rush Creek unless site is approved by the District aquatic biologist and would be clean and free of mud and dirt prior to bringing to Project location.
 98. Equipment would not be allowed to turn within 100 feet of Rush Creek (back and forth only) and would not be allowed off the road bed unless approved by the District aquatic biologist.

BOTANICAL RESOURCES AND INVASIVE SPECIES

99. Any discovery of sensitive or special interest botanical species during Project sale preparation and implementation would be reported to District botanist.
100. If newly listed or unknown occurrences of federally listed T, E, P, C, or FSS plant species are found in the Project area during sale preparation and implementation, additional species protection measures may be needed.
101. Impacts to known occurrences of sensitive plants within the Project area would be avoided. The contract administrator or Project manager would consult with FS botanical staff prior to Project implementation to ensure appropriate buffers and flagging are in place.
102. Pile burning would not be conducted in sensitive plant occurrences.
103. To protect sensitive plant species that grow in rock outcrops and associated gravel soils, the following guidelines would be followed:
 - Trees would not be felled and equipment or vehicles would not be driven on rock outcrops or on thin, sandy or gravelly soils.
 - The District botanist would be consulted before cutting hand line through shallow, gravelly soils.

- Hand thinning of shrubs on rock outcrops or associated gravelly soils would be avoided unless approved by the District botanist.
 - Temporary road construction would not be allowed through areas of thin, gravelly soils until plant surveys of the proposed routes are complete, or the District botanist has approved the road location.
104. All off-road equipment used on this Project would be washed before moving into the Project area to ensure that the equipment is free of soil, seeds, vegetative material, or other debris that could contain or hold seeds of noxious weeds.
 105. Staging areas for equipment, materials, crews, or landings would be prohibited in areas with weed infestations. When working in known weed infested areas, equipment would be cleaned before moving to other areas which do not contain noxious weeds.
 106. Areas with weed infestations would be avoided during piling operations.
 107. Weed-free mulches and seed sources would be used. All activities that require seeding or planting would utilize locally collected native seed sources when possible. Plant and seed material should be collected from or near the Project area, from within the same watershed, and at a similar elevation when possible. Seed mixes must be approved by a FS botanist, noxious weed coordinator, or ecologist (Developing MOU with state of California).
 108. Weed infestation areas identified before or during Project implementation, within the treatment units or along travel routes near the treatment units, would be hand treated or “flagged and avoided”.

GEOLOGY AND SOILS

109. A 100 foot wide buffer of 100 percent soil cover would be left below large rock outcrops to avoid potential runoff generated by these areas that can cause accelerated erosion on soils down slope.
110. Mechanical equipment operations would be conducted when the soil is sufficiently dry in the top 12 inches to prevent unacceptable loss of soil porosity (soil compaction). Field checking by a soil scientist would be done to determine if operations could continue under moist soil conditions. Ninety percent of the soil porosity over 85 percent of an activity area (stand) found under natural conditions would be maintained.
111. Skid roads and trails would be subsoiled and waterbarred in areas where soil compaction exceeds 15 percent of a treatment area.
112. Mechanical operations would be limited where sustained slopes exceed 35 percent, except where supported by on-the-ground IDT evaluation.
113. Over all treatment areas, a 50 percent soil cover would be maintained. Where shrub species predominate, they would be crushed before piling to create small woody fragments left scattered over the site for soil cover and erosion protection.
114. Road surface stabilization (gravel) would be provided for on roads over five percent grade that are located on sensitive soils, including Auberry family, Holland family, and Ultic Haploxeralf soils and are affecting soil productivity and/or water quality.
115. Tractor piling in watersheds with CWE concerns would be limited and a grapple piler would be used, especially on slopes greater than 25 percent.

CULTURAL RESOURCES

Procedures from the First Amended Regional Programmatic Agreement Among the USDA Forest Service, Pacific Southwest Region, California State Historic Preservation Officer, and Advisory Council on Historic Preservation Regarding the Process for Compliance with Section 106 of the National Historic Preservation Act for Undertakings on the National Forests of the Pacific Southwest Region (Regional PA) would be utilized for the management of cultural resources within the Project area. Cultural resources shall be protected from those Project activities which can adversely affect the significant values of the property through implementation of Standard Protection Measures of the Regional PA. Site specific protection measures are described in the cultural resources report for this Project (High Sierra Range District, September 2012).

116. Cultural resource sites would be excluded from all Project activities that could result in ground disturbance within their boundaries (e.g. the use of ground based mechanical equipment, piling and burning). Material would be allowed to be cut and removed by hand from within the boundaries of cultural resource sites.
117. Ground disturbing activities would be avoided in historic properties. Archaeological resources would be excluded from proposed Project activities that could result in ground disturbance within their boundaries (i.e. use of ground based mechanical equipment, planting, piling and burning, fire line construction, road construction, etc.).
118. Certain non-disturbing activities, those that lack the potential to adversely affect the character of historic properties, would be allowed within site boundaries. These include:
 - Archaeological resources may not be “at risk” of effects from prescribed fire use. The standard resource protection measures would be applied only to those historic properties defined as “at risk” from the use of prescribed fire treatments.
 - Mechanical shredding or removal of fuels inside of site boundaries with an articulated boom shredder/harvester would not affect the archaeological materials, provided the tracked or wheeled equipment stays outside of the delineated site boundary and the machine head does not contact the ground surface or site features. Removal of fuels by hand (manual thinning with chainsaws) would not affect archaeological materials.
119. Traditional cultural properties, locations of contemporary Native American gathering, and other such non-archaeological cultural resources identified through consultation with Native American tribes, individuals, and other interested parties would be protected through avoidance by Project activity, or managed through Project implementation and consultation to benefit the resource. For example, planned prescribed fire can have positive effects to regenerate growth in certain plant species used by Native Americans in basketry or traditional food preparation.
120. In the event of inadvertent effects of new discovery during implementation, the SNF would comply with the stipulations of the Regional PA.

ENGINEERING

121. All FS roads would be maintained to standards established in the FSH 7709.58. Road maintenance and reconstruction activities would be performed to support Project access needs. Drainage structures would be designed to be functional and stable to prevent potential resource damage and degradation of water quality. (BMPs 2.3 and 2.4).
122. A final field review of Project roads would be performed to determine reconstruction needs prior to Project activities. Where economically feasible, aggregate would be placed on existing native surface

roads located in areas with High and Very High Soil Erosion Hazard ratings. Aggregate would be required on road slopes greater than five percent in areas with these ratings.

123. Upon completion of use, all temporary roads required for unit access would be closed; culverts would be removed, landings would be ripped and ditched, waterbars would be constructed, the entrance to the road would be blocked with a log and dirt berm and disguised with brush to discourage additional traffic (BMPs 1.16, 1.17, 1.19, 2.3, 2.7, 2.13).

VISUAL RESOURCES

The following design criteria developed for scenery would aid in achieving the SNF LRMP VQO of Modification for the Project area and would be applied to areas highly visible (i.e. within view of a 300 foot distance) to Bretz Mill Campground, private property, Peterson Mill Road, and FS roads 10S02, 10S17, and 10S18, unless otherwise noted:

124. Fire lines would follow natural contours whenever possible. Underburning operations would be modified to minimize the amount of overstory mortality in consultation with the Forest landscape architect. Islands of unburned vegetation would be retained in some areas to increase visual interest and attract wildlife. The edges of the islands would be irregularly shaped, feathered and undulated to create a near-natural appearance.
125. Tree stumps would be cut to a maximum of six inch heights from the uphill side or as low as possible, except along FS road 10S17.
126. Where feasible, burn piles would be located in areas where they would not be highly visible from the areas listed above. Piles in these areas would burn with more than 90 percent consumption. If 90 percent consumption is not reached (and the remaining fuels still meet the fuels objectives), the remnant slash would be scattered throughout the site. Efforts would be made to burn these piles within three years during low-use recreation season to reduce impacts to forest visitors.
127. Where feasible, landings would be located in areas where they would not be highly visible from the areas listed above. When possible, landing sizes would be minimized and restricted to existing openings. Where landings are visible, efforts would be made to remove the landing piles within three years during low-use recreation season to reduce impacts to forest visitors.
128. In areas where skid trails and/or fuel break lines are highly visible, they would be rehabilitated so that they are not visually evident within three years.

SNAGS LESS THAN 30 INCHES DBH

The following design criteria (#1- #4), developed by the District silviculture assistant and wildlife biologist, would only be applied to snags less than 30 inches DBH that occur in areas being treated with the restoration thinning prescription. These design criteria would not apply to hazard trees; all trees considered hazards to improvements, human safety, or private property would be removed, regardless of size.

1. Within WUI defense zones, four of the largest snags per acre would be retained. In the case where there is a group of large snags, four of the largest snags within the group would be retained per acre.
2. Within WUI threat zones, five of the largest snags per acre would be retained. In the case where there is a group of large snags, five of the largest snags within the group would be retained per acre.

3. In areas outside of the WUI, six of the largest snags per acre would be retained. In the case where there is a group of large snags, six of the largest snags within the group would be retained per acre.
4. In addition to the snag retention levels listed above, additional snags with the following properties would be retained: evidence of known or potential cavities; broken top (for snags at least 15 inches DBH at the break and at least 30 feet tall); mistletoe or other abnormal witches broom formation or other unusual tree growth formations due to disease or insect damage; teakettle branches; forked top; or broken large branches.

REFORESTATION

5. Reforestation stocking would meet standards described in the SNF LRMP (S&Gs 101, 102, 107 –110). The release of existing plantations would meet the growth and stocking standards outlined in growth and yield tables (Oliver and Powers 1978).
6. Reforestation treatments would occur in openings deemed appropriate on the ground throughout the Project area. Areas where other design criteria do not allow the use of herbicides, but herbicide is thought to be necessary for successful reforestation, are not appropriate for reforestation treatments.

HERBICIDE USE

7. No herbicide spraying would occur within SMZs or RMAs (SNFPA S&G 97).
8. Spraying would be limited to periods when rain events are not predicted in the near future to allow for maximum absorption into soils (BMP 5.7).
9. Herbicide applications for treatment of vegetation (site preparation and release) and noxious weed control may not affect historic properties where the application of herbicides does not have the potential to affect access to or use of resources by Native Americans.

Appendix B
Best Management Practices

BEST MANAGEMENT PRACTICES FOR THE SOAPROOT RESTORATION PROJECT

BMP Name, Objective, and Direction	Applies to These Actions	Application to the Soaproot Restoration Project
<p>BMP 1-1 Timber Sale Planning Process: To incorporate water quality and hydrologic considerations into the timber sale planning process.</p>	<p>Commercial thinning, pre-commercial thinning</p>	<p>Implemented through the Riparian Conservation Objectives/Forest Plan Consistency report, specification of operational BMPs, Environmental Analysis including interdisciplinary team office and field discussions, and incorporation of water quality protection measures in the contracts for the Soaproot Restoration Project.</p>
<p>BMP 1-4 Use of Sale Area Maps (SAM) and/or Project Maps for Designating Water Quality Protection Needs: To ensure recognition and protection of areas related to water quality protection delineated on a SAM or project map.</p>	<p>Commercial thinning; mastication; mechanical piling; herbicide use; road maintenance and reconstruction</p>	<p>The contract administrator and contractor will review these areas on the ground prior to commencement of ground disturbing activities. Examples of water quality protection features that will be designated on the project map include:</p> <ol style="list-style-type: none"> 1. Location of streamcourses and riparian zones to be protected, including the width of the protection zone for each area. 2. Wetlands (meadows, lakes, springs, etc.) and other sensitive areas (such as shallow soils) to be protected. 3. Boundaries of harvest units, specified roads and roads where hauling activities are prohibited or restricted, areas of different skidding and/or yarding methods, including post-harvest fuels treatments, and water sources available for purchaser's use.
<p>BMP 1-5 Limiting the Operating Period of Timber Sale Activities: To ensure that the contractor conducts their operations, including erosion control work, road maintenance, and so forth, in a timely manner, within the time frame specified in the contract.</p>	<p>Commercial thinning; mastication; mechanical piling; herbicide use; road maintenance and reconstruction</p>	<p>The contract operation period will be limited to contract-specified periods when adverse environmental effects are not likely. The contract administrator will close down operations due to rainy periods, high water, or other adverse operating conditions in order to protect resources.</p>
<p>BMP 1-8 Streamside Management Zone Designation: To designate a zone along riparian areas, streams and wetlands that will minimize potential for adverse effects from adjacent management activities. Management activities within these zones are designed to improve riparian values.</p>	<p>All</p>	<p>Streamside management zones (SMZs) have been supplemented with RMAs and RCAs (USDA 2004) as described in Table 3, above. In SMZs, the constraints defined in Sierra Supplement No. 1 (USDA FS 1989) apply. This includes no self-propelled ground based equipment, a minimum groundcover of 50%, and shade canopy may not be modified in a way that affects stream temperature.</p> <p>Modifications to these guidelines are possible where site-specific needs exist, if the action is reviewed by the District Hydrologist or Aquatic Biologist.</p>

BMP Name, Objective, and Direction	Applies to These Actions	Application to the Soaproot Restoration Project
<p>BMP 1-9 Determining Tractor Loggable Ground: To minimize erosion and sedimentation resulting from ground disturbance of tractor logging systems.</p>	<p>Commercial thinning, mastication, mechanical piling</p>	<p>Limit ground skidding and machine piling with tractors to slopes less than 35% (LRMP S&G 125). Endlining can be used to remove logs from steeper slopes, and fuels may be grapple or hand piled. Ground disturbance on areas of shallow soils, notably soils adjacent and abutting to rock outcrops, will be avoided.</p>
<p>BMP 1-10 Tractor Skidding Design: By designing skidding patterns to best fit the terrain, the volume, velocity, concentration, and direction of runoff water can be controlled in a manner that will minimize erosion and sedimentation.</p>	<p>Commercial thinning</p>	<p>The sale administrator and contractor will designate all skid trails prior to ground disturbing activities. If uncertainty arises regarding potential resource impacts of skid trail location, consult with an earth science specialist (i.e., Hydrologist, Aquatic Biologist, or Soil Scientist).</p>
<p>BMP 1-12 Log Landing Location: To locate landings in such a way as to avoid watershed impacts and associated water quality degradation</p>	<p>Commercial thinning</p>	<p>For use of existing landings, follow the “Flow Chart” (Eddinger 2001). The following criteria are to be used by the Sale Administrator when evaluating all landings:</p> <ul style="list-style-type: none"> a. The cleared or excavated size of landings will not exceed that needed for safe and efficient skidding and loading operations. Trees considered dangerous will be removed around landings to meet the safety requirements of OSHA. b. Selected landing locations will involve the least amount of excavation and fill possible. Landings must be located outside of SMZs. c. Locate landings near ridges away from headwater swales in areas that will allow skidding without crossing stream channels, violating SMZs, or causing direct deposit of soil and debris to a stream. d. Locate landings where the least number of skid roads will be required, and sidecast can be stabilized without entering drainages or affecting other sensitive areas. Keep the number of skid trails entering a landing to a minimum. e. Position landings such that the skid road approach will be nearly level as feasible, to promote safety and to protect soil from erosion. f. Avoid excessive fills associated with landings constructed on old landslide benches. g. Construct stable landing fills or improve existing landings by using appropriate compaction and drainage specifications. <p>Any new landing sites proposed will be reviewed by the hydrologist and aquatic biologist.</p>

BMP Name, Objective, and Direction	Applies to These Actions	Application to the Soaproot Restoration Project						
<p>BMP 1-13 Erosion Prevention and Control Measures during Timber Sale Operations: To ensure that the purchasers' operations will be conducted reasonably to minimize soil erosion.</p>	<p>Commercial thinning, mastication, mechanical piling</p>	<p>Apply appropriate erosion prevention measures on all ground disturbing activities prior to fall storms (October 1) and immediately upon completion of activity begun after November 1 (LRMP S&G 127).</p> <p>Contractor responsibilities for erosion control will be set forth in the contract. Equipment will not be operated when ground conditions are such that excessive damage will result. The kinds and intensity of control work required of the purchaser will be adjusted by the sale administrator to ground and weather conditions with emphasis on controlling overland runoff, erosion, and sedimentation.</p> <p>Erosion control work required by the contract will be kept current. At certain times of the year this means daily, if precipitation is likely or weekly when precipitation is predicted for the weekend.</p> <p>If the purchaser fails to perform seasonal erosion control work prior to any seasonal period of precipitation or runoff, the Forest Service may temporarily assume responsibility, complete the work, and use any unencumbered deposits as payment for the work.</p>						
<p>BMP 1-16 Log Landing Erosion Protection and Control: To reduce the impacts of erosion and subsequent sedimentation associated with log landings by use of mitigating measures.</p>	<p>Commercial thinning,</p>	<p>Landings will be properly cross-ditched, ripped (if soils are compacted), re-contoured (as necessary), and mulched after use and before the winter precipitation period, whichever comes first. Excess material not needed for erosion control can be piled and burned. Upon completion of the project, consult with the Hydrologist or Soil Scientist to determine the need for additional soil protection measures in areas over threshold for cumulative watershed effects (CWEs).</p>						
<p>BMP 1-17 Erosion Control of Skid Trails: To protect water quality by minimizing erosion and sedimentation derived from skid trails.</p>	<p>Commercial thinning,</p>	<p>Erosion control measures will be installed on all skid trails and temporary roads. Erosion control measures include, but are not limited to, cross ditches (water bars), organic mulch, and ripping.</p> <p>Cross ditches will be spaced according to the guidelines below, maintained in a functioning condition, and placed in locations where drainage would naturally occur (i.e., swales). The level of maintenance will be contingent upon existing or predicted weather patterns as determined by the Sale Administer (see BMP 1-13).</p> <p style="text-align: center;">Maximum Cross Drain Spacing</p> <table border="1"> <thead> <tr> <th>% Slope</th> <th>Maximum Spacing</th> </tr> </thead> <tbody> <tr> <td>0 - 15</td> <td>125 feet</td> </tr> <tr> <td>15 - 35</td> <td>45 feet</td> </tr> </tbody> </table>	% Slope	Maximum Spacing	0 - 15	125 feet	15 - 35	45 feet
% Slope	Maximum Spacing							
0 - 15	125 feet							
15 - 35	45 feet							
<p>BMP 1-18 Meadow Protection during Timber Harvesting: To avoid damage to the ground cover, soil, and hydrologic function of meadows.</p>		<p>Mechanical equipment is not permitted in meadows unless specifically authorized by the District Aquatic Biologist and District Hydrologist.</p>						

BMP Name, Objective, and Direction	Applies to These Actions	Application to the Soaproot Restoration Project
<p>BMP 1-19 Streamcourse and Aquatic Protection: The objectives of this BMP are:</p> <ol style="list-style-type: none"> 1) To conduct management actions within these areas in a manner that maintains or improves riparian and aquatic values. 2) To provide unobstructed passage of stormflows. 3) To control sediment and other pollutants entering streamcourses. 4) To restore the natural course of any stream as soon as practicable, where diversion of the stream has resulted from timber management activities. 	<p>Commercial thinning, mastication, mechanical piling</p>	<ol style="list-style-type: none"> a. The location and method of crossings on Class IV and V streams must be agreed to by the sale administrator (SA) prior to construction. b. Stream crossings on Class I – III streams must be approved by the hydrologist and aquatic biologist. c. Damage to stream banks and channels will be repaired to the extent practicable. d. All sale-generated debris will be removed from streamcourses, unless otherwise agreed to by the SA, and in an agreed upon manner that will cause the least disturbance. e. No endlining in SMZs without site-specific approval by the District Hydrologist or Aquatic Biologist. f. Methods for protecting water quality while utilizing tractor skid trail design in stream course areas where harvest is approved include: (1) end lining, (2) falling to the lead, and (3) utilizing specialized equipment with low ground pressure such as feller buncher harvester. g. Water bars or other erosion control structures will be located so as to disperse concentrated flows and filter out suspended sediments prior to entry into streamcourse. h. Material from temporary road construction and skid trail stream crossings will be removed and streambanks restored to the extent practicable.
<p>BMP 1-20 Erosion Control Structure Maintenance: To ensure that constructed erosion control structures are stabilized and working.</p>	<p>Commercial thinning, mastication, mechanical piling</p>	<p>During the period of the timber sale contract, the purchaser will provide maintenance of soil erosion control structures contracted by the purchaser until they become stabilized, but not more than one year after their construction. If the purchaser fails to do seasonal maintenance work, the Forest Service may assume the responsibility and charge the purchaser accordingly. The Forest Service sale administrator is responsible for ensuring erosion control maintenance work is completed.</p>
<p>BMP 1-21 Acceptance of Timber Sale Erosion Control Measures before Sale Closure: To ensure the adequacy of required erosion control work on timber sales.</p>	<p>Commercial thinning</p>	<p>The sale administrator must inspect erosion control measures to ensure their adequacy prior to accepting closure on the unit and/or sale.</p> <p>The effectiveness of erosion control measures will be evaluated using BMPEP protocols after the sale area has been through one or more wet seasons. This evaluation is to ensure that erosion control treatments are in good repair and functioning as designed before releasing the purchaser from contract responsibility.</p> <p>The purchaser is responsible for repairing erosion control treatments that fail to meet criteria in the Timber Sale Contract, as determined by the Sale Administrator, for up to one year past closure of the sale.</p>

BMP Name, Objective, and Direction	Applies to These Actions	Application to the Soaproot Restoration Project
<p>BMP 1-22 Slash Treatment in Sensitive Areas: To maintain or improve water quality by protecting sensitive areas from degradation which would likely result from using mechanized equipment for slash disposal.</p>	<p>Commercial thinning, pre-commercial thinning, piling</p>	<p>All burn piles made with mechanical equipment must be located outside of the SMZ.</p> <p>Hand piles will be kept at least 75feet away from all perennial streams, meadows, springs, seeps, and other sensitive aquatic areas and outside the SMZ for seasonal streams, unless approved by the District Aquatic Biologist. Burn piles within SMZs will be lit utilizing no-toxic methods (i.e. propane lighters).</p>
<p>BMP 2-1 General Guidelines for the Location and Design of Roads: To locate and design roads with minimal resource damage.</p>	<p>Road construction (including temp roads)</p>	<p>The following considerations are incorporated into the planning process of road location and design (including temporary roads). These measures are preventative, apply to all transportation activities, and indirectly protect water quality:</p> <ul style="list-style-type: none"> a) Transportation facilities will be developed and operated to best meet the resource management objectives with the least adverse effect on environmental values. b) The location, design, and construction of roads will include the use of the IDT. c) Sensitive areas such as wetlands, inner gorges, and unstable ground will be avoided to the extent practicable. d) Stream crossings will be designed to provide the most cost efficient facility consistent with resource protection, facility needs, and legal obligations. <p>No temp roads will be constructed in SMZs unless approved by the hydrologist and aquatic species biologist.</p>
<p>BMP 2-3 Timing of Construction Activities: To minimize erosion by conducting operations during minimal runoff periods and when soils are dry and less prone to compaction.</p>	<p>Road maintenance or reconstruction, road construction (including temp roads)</p>	<p>Ground-disturbing activities will occur when soils are moist to dry. Ground-disturbing work that occurs off of existing roads will occur during the dry season and will reduce ground disturbance as much as possible.</p>
<p>BMP 2-5 Road Slope Stabilization Construction Practices: To reduce sedimentation by minimizing erosion from road slopes and slope failure along roads.</p>	<p>Road construction (including temp roads)</p>	<p>An adequate soils and geologic investigation will be conducted when finalizing new road construction designs for: correct cut and fill steepness based on the angle of repose for the type of material; methods to handle surface runoff; and necessary compaction standards and surfacing needs.</p>
<p>BMP 2-7 Control of Road Drainage: To minimize the erosive effects of water concentrated on roads, to disperse runoff from road surfaces, to lessen sediment yield from roaded areas, and to minimize erosion of the road prism.</p>	<p>Road maintenance or reconstruction, road construction (including temp roads)</p>	<p>Newly constructed or reconstructed roads will be designed to reduce hydrologic connectivity and soil erosion wherever feasible.</p> <p>The sale administrator or other Forest Service representative will ensure that roads are adequately maintained during project implementation to ensure that road drainage features function as designed.</p>

BMP Name, Objective, and Direction	Applies to These Actions	Application to the Soaproot Restoration Project
<p>BMP 2-8 Constraints Related to Pioneer Road Construction: To minimize sediment production and mass wasting from pioneer road construction.</p>	<p>Road construction (including temp roads)</p>	<ul style="list-style-type: none"> a. Roads will be constructed within the planned roadway limits unless otherwise specified or approved by the District Ranger and ER or COR. b. Pioneer roads will be located to prevent undercutting of the designated final cut slope, avoid deposition of materials outside the designated roadway limits, and accommodate drainage with temporary culverts or log crossings. c. Erosion control work will be completed prior to the rainy season and in accordance with the contract. d. Crossing sites on live streams will be dewatered during construction with diversion devices (see BMP 2-15).
<p>BMP 2-9 Timely Erosion Control Measures on Incomplete Roads and Stream Crossing Projects: To minimize erosion and sedimentation from disturbed ground on incomplete projects.</p>	<p>Road construction (including temp roads)</p>	<p>Erosion control must be completed before the rainy season (usually October in the Soaproot project area). Preventative measures for timely erosion control include:</p> <ul style="list-style-type: none"> a. Removal of temporary culverts, culvert plugs, diversion dams, or elevated stream crossings. b. Installation of temporary culverts, side drains, flumes, cross drains, diversion ditches, energy dissipaters, dips, sediment basins, berms, debris racks, or other facilities needed to control erosion. c. Removal of debris, obstructions, and spoil material from channels and floodplains. d. Planting vegetation, mulching, and/or covering exposed surfaces with jute mats or other protective material.
<p>BMP 2-10 Construction of Stable Embankments: To construct embankments with materials and methods which minimize the possibility of failure and subsequent water quality degradation.</p>	<p>Road maintenance or reconstruction, road construction (including temp roads)</p>	<p>Roadways will be designed and constructed as stable and durable earthwork structures with adequate strength to support the roadway, shoulders, subgrade and road traffic loads.</p>
<p>BMP 2-11 Control of Sidecast Material During Construction and Maintenance: To minimize sediment production originating from sidecast material during road construction or maintenance.</p>	<p>Road maintenance or reconstruction, road construction (including temp roads)</p>	<p>Sidecasting is not permitted in SMZs. Waste areas must be located where excess material can be deposited and stabilized.</p>

BMP Name, Objective, and Direction	Applies to These Actions	Application to the Soaproot Restoration Project
<p>BMP 2-12 Servicing and refueling equipment: To prevent pollutants such as fuels, lubricants, bitumens and other harmful materials from being discharged into or near rivers, streams and impoundments, or into natural or man-made channels.</p>	<p>Any mechanical equipment, including chainsaws</p>	<p>Storage of hazardous materials (including fuels) and servicing and refueling of equipment will be conducted at pre-designated locations outside of RCAs unless there is no other alternative.</p> <ol style="list-style-type: none"> 1. Any location in an RCA used for refueling must first be approved by the District Hydrologist or District Aquatic Biologist. 2. Site specific refueling plans for difficult terrain within the project area can be developed for refueling within an RCA if no other options are available. (ie: use of spill pad under chainsaw while refueling within RCA) 3. At a minimum, refueling must take place outside of SMZs.
<p>BMP 2-13 Control of Construction and Maintenance Activities Adjacent to SMZs: To protect water quality by controlling construction and maintenance actions within and adjacent to SMZs so that SMZ functions are not impaired.</p>	<p>Road maintenance or reconstruction, road construction (including temp roads)</p>	<p>Construction and maintenance fills, sidecast, and end-hauled materials will be kept out of SMZs except at designated crossing sites to minimize the effect to the aquatic environment.</p>
<p>BMP 2-14 Controlling In-Channel Excavation: To minimize stream channel disturbances and related sediment production.</p>		<p>There will be no in-channel or streambank excavation during any phase of project activities unless authorized by the District Hydrologist or Aquatic Biologist.</p>
<p>BMP 2-15 Diversion of Flows Around Construction Sites: To ensure that all stream diversions are carefully planned, to minimize downstream sedimentation, and to restore stream channels to their natural grade, condition, and alignment as soon as possible.</p>		<p>Streamflow must be diverted around construction sites such as bridges, culverts and dams. The streamflow will be diverted for all live streams according to the instructions of the ER. The diverted flows will be returned as soon as possible to their natural stream course as soon as possible after construction, or at least prior to the rainy season.</p> <p>This practice is required by contract clauses. The NEPA and design process will identify where diversion is necessary. Environmental analysis must identify beneficial uses and prevent unacceptable effects. Detailed mitigation will be developed in the design to meet project criteria.</p> <p>If diversions are necessary, consultation with the District Aquatic Biologist will occur prior to implementation.</p>
<p>BMP 2-16 Stream Crossings on Temporary Roads and Skid Trails: To ensure that temporary roads do not unduly damage stream channels and to ensure that fish passage is unimpeded by stream crossing structures</p>	<p>Commercial thinning, road reconstruction, road construction (including temp roads)</p>	<p>Mechanical equipment crossing of perennial and intermittent (generally class I – III) streams is not permitted unless approved by the District Hydrologist or Aquatic Biologist. Ephemeral streams (stream class IV and V) may be crossed at designated locations as agreed upon by the sale administrator and purchaser. Designate skid trails to avoid stream crossings and SMZs wherever possible. Designated crossings must be as perpendicular to the channel as possible and avoid sensitive soils and riparian vegetation damage. Stream banks must be repaired upon completion of the project.</p>

BMP Name, Objective, and Direction	Applies to These Actions	Application to the Soaproot Restoration Project
<p>BMP 2-19 Disposal of Right-of-Way and Roadside Debris: To ensure that organic debris generated during road construction is kept out of streams so that channels and downstream facilities are not obstructed.</p>	<p>Road maintenance or reconstruction, road construction (including temp roads)</p>	<p>If slash generated by road work is disposed of within SMZs, it will be piled and burned or chipped.</p> <p>Material may also be removed from the SMZ for disposal.</p>
<p>BMP 2-21 Water Source Development Consistent with Water Quality Protection: To supply water for roads and fire protection while maintaining existing water quality.</p>	<p>Water drafting for any purpose (other than initial attack on a wildfire)</p>	<ul style="list-style-type: none"> a. Water drafting candidate sites should be selected by the Sale Administrator and approved by the Hydrologist and Aquatic Biologist. b. Water drafting sites should be at least 500 feet to 0.6 miles away from occupied aquatic species habitat (as determined by the Aquatic Biologist). (ROD S&G 92, 96,103,101, 110) c. Drafting sites shall be visually surveyed for frogs and their eggs before drafting begins. d. Use a screened intake device and pumps with low entry velocity and suction strainers with screen less than 2mm (1/8 in) in size to minimize removal of aquatic species, including juvenile fish, amphibian egg masses and tadpoles, from aquatic habitats. (ROD S&G 110) e. The suction strainer shall be inserted close to the substrate in the deepest water available and placed in a canvas bucket to avoid substrate and aquatic species disturbance. f. No drafting will occur unless immediate downstream discharge from drafting site is maintained at 1.5 cfs or greater. (LRMP S&G 43) g. Water drafting will not remove more than 50% of any stream's ambient discharge that is over 1.5 cfs. (LRMP S&G 43)
<p>BMP 2-22 Maintenance of Roads: To maintain roads in a manner that provides for water quality protection by minimizing rutting, failures, sidecasting, and blockage of drainage facilities, all of which can cause erosion, sedimentation, and deteriorating watershed conditions.</p>	<p>Road maintenance or reconstruction</p>	<p>Roads needed for project activities will be brought to current engineering standards of alignment, drainage, and grade before use, and will be maintained through the life of the project.</p> <p>Roads will be inspected at least annually to determine what work, if any, is needed to keep ditches, culverts, and other drainage facilities functional and the road stable.</p>
<p>BMP 2-23 Road Surface Treatment to Prevent Loss of Materials:</p>	<p>Road maintenance or reconstruction</p>	<p>Surface stabilization will be considered where grades exceed 12% or where the road is in an RCA.</p>

BMP Name, Objective, and Direction	Applies to These Actions	Application to the Soaproot Restoration Project
<p>BMP 2-24 Traffic Control During Wet Periods: To reduce road surface disturbance and the rutting of roads, and to minimize sediment washing from disturbed road surfaces.</p>	<p>Access for all project activities</p>	<p>On roads not designated for all weather use, operations will be limited during the wet season to periods when the soil is sufficiently dry to support site access without damage to the road surface or drainage structures.</p>
<p>BMP 2-26 Obliteration or Decommissioning of Roads: To reduce sediment generated from temporary roads, unneeded system and non-system roads by obliterating or decommissioning them at the completion of the intended use.</p>	<p>Temp roads; any other identified decommissioning</p>	<p>Temporary roads will be obliterated after serving their intended purpose for this project. This includes: (1) road effectively barricaded; (2) road effectively drained by measures such as re-contouring or outslipping to return surface to near natural hydrologic function; (3) a well distributed mulch or organic cover provides at least 50% cover, or road surface is revegetated using local native species; (4) sideslopes are reshaped and stabilized to match the natural contour (as necessary); and (5) stream crossings are removed and natural channel geometry is restored.</p> <p>If non-local mulch is used (such as straw), it must be approved by the Forest Service as weed free.</p>
<p>BMP 5-7 Pesticide Use Planning Process: To introduce water quality and hydrologic considerations into the pesticide use planning process.</p>	<p>Herbicide Use</p>	<p>BMPs 5-8 through 5-14 are considered for incorporation into the project in order to protect water quality.</p> <p>These considerations are incorporated into the discussion of effects in the NEPA document.</p>
<p>BMP 5-8 Pesticide Application According to Label Directions and Applicable Legal Requirements: To avoid water contamination by complying with all label instructions and restrictions for use.</p>	<p>Herbicide Use</p>	<p>This BMP requires glyphosate applicators to strictly adhere to pesticide label instructions.</p>
<p>5-10 Pesticide Spill Contingency Planning: To reduce contamination of water by accidental pesticide spills.</p>	<p>Herbicide Use</p>	<p>A Pesticide Spill Contingency Plan is prepared, consisting of predetermined actions to be taken in the event of a pesticide spill. The plan identifies who to contact, timeframe for notifications, guidelines for spill containment, and responsibility for cleanup. This is to be included in the project safety plan.</p>
<p>BMP 5-11 Cleaning and Disposal of Pesticide Containers and Equipment: To prevent water contamination resulting from cleaning or disposal of pesticide containers.</p>	<p>Herbicide Use</p>	<p>The cleaning and disposal of glyphosate containers will be done in accordance with Federal, State, and local laws, regulations and directives.</p>

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<p>BMP 5-12 Streamside Wet Area Protection During Pesticide Spraying: To minimize the risk of pesticide inadvertently entering waters, or unintentionally altering the riparian area, SMZ, or wetland.</p>	Herbicide Use	When spraying glyphosate, an untreated strip of land and vegetation will be left alongside surface waters, wetlands, riparian areas, or SMZ. Strip widths established by the IDT are 5 feet for dry channels and 25 feet for flowing channels
<p>BMP 5-13 Controlling Pesticide Drift During Spray Application: To minimize the risk of pesticide falling directly into water, or non- target areas.</p>	Herbicide Use	The spray application of pesticide includes a prescription accounting for terrain that specifies the following: spray exclusion areas; buffer areas; factors such as formulation, equipment, droplet size, spray height, application pattern, flow rate; and limiting factors for wind speed and direction, temperature, and relative humidity.
<p>BMP 6-2 Consideration of Water Quality in Formulating Fire Prescriptions: To provide for water quality protection while achieving the management objectives through the use of prescribed fire.</p>	Underburning or pile burning	Each Burn Plan will incorporate all relevant design measures from the analysis and will be reviewed by the IDT.
<p>BMP 6-3 Protection of Water Quality from Prescribed fire Effects: To maintain soil productivity, minimize erosion, and minimize ash, sediment, nutrients, and debris from entering water bodies.</p>	Underburning or pile burning	<p>Piles will be located far enough away from any perennial stream channel or other special aquatic feature as to not impact those features, and outside the SMZ for seasonal channels unless approved by the District Aquatic Biologist. (Aquatic species design criteria specify greater distances in threatened, endangered, candidate or Forest Service sensitive species habitats.)</p> <p>Any fire lines in an RCA will be designed and constructed to reduce sediment entry into channels. They will follow the natural landscape contour as much as possible, and will be water barred per BMP 1-17 spacing requirements.</p> <p>Any fire lines in the SMZ will be hand cut. They will cross perpendicular to streams, and waterbars will be placed on either side of each stream crossing to prevent or reduce sediment entry into streams.</p>
<p>BMP 7-3 Protection of Wetlands: To avoid adverse water quality impacts associated with destruction, disturbance, or modification of wetlands.</p>	All project- related activities	Ground disturbing activities will not occur in wetlands or meadows.

BMP Name, Objective, and Direction	Applies to These Actions	Application to the Soaproot Restoration Project
<p>BMP 7-4 Oil and Hazardous Substance Spill Contingency Plan and Spill Prevention and Countermeasure (SPCC) Plan: To prevent contamination of water from accidental spills.</p>	<p>All activities involving oil or other hazardous materials</p>	<p>A spill contingency plan and spill prevention and countermeasure plan (SPCC) must be prepared if hazardous materials (including fuels and oils) stored on the Sierra National Forest exceed 1320 gallons, or if a single container exceeds 660 gallons.</p> <p>The plan will at a minimum include: the types and amounts of hazardous materials located in the project area, pre-project identified locations for hazardous materials storage and fueling/maintenance activities (must be located outside of RCA and CAR unless prior approval by District Hydrologist or Aquatic Biologist is obtained), methods for containment of hazardous materials and contents of on-site emergency spill kit, and a contingency plan (including contact names with phone numbers) to implement in the event of a spill.</p> <p>The SPCC plan must be approved by the Forest Service prior to project implementation.</p>

MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MONITORING REQUIREMENTS AND PROCEDURES

The California Environmental Quality Act (CEQA) was amended in 1989 to add Section 21081.6, which requires a public agency to adopt a monitoring and reporting program for assessing and ensuring compliance with any required mitigation measures applied to a proposed development. As stated in Section 21081.6 of the Public Resources Code,

“...the public agency shall adopt a reporting or monitoring program for the changes to the project which it has adopted, or made a condition of project approval, in order to mitigate or avoid significant effects on the environment.”

Section 21081.6 provides general guidelines for implementing mitigation monitoring programs and indicates that specific reporting and/or monitoring requirements, to be enforced during project implementation, shall be defined prior to final adoption of the Initial Study/Mitigation Monitoring and Reporting Program (IS/MND).

The mitigation monitoring table below lists those mitigation measures that may be included as conditions of approval for the project. To ensure that the mitigation measures are properly implemented, a monitoring program has been devised which identifies the timing and responsibility for monitoring each measure. The applicant (U.S. Forest Service, Sierra National Forest, High Sierra Ranger District) will have the primary responsibility for implementing the measures, and primary responsibility for monitoring and reporting the implementation of the mitigation measures. The Sierra Nevada Conservancy (SNC) will have the secondary responsibility monitoring and reporting the implementation of the mitigation measures.

**Soaproot Stewardship Project (SNC 786)
Mitigation Monitoring and Reporting Program**

Mitigation Measure	Responsible Party or Parties	Timing for Mitigation Measure	Method of Verification	Verification of Compliance (Date/Initials)
I. Aesthetics				
The proposed project would not result in significant adverse impacts related to aesthetic resources. No mitigation is required.				
II. Agricultural Resources				
The proposed project would not result in significant adverse impacts related to agricultural resources. No mitigation is required.				
III. Air Quality				
The proposed project would not result in significant adverse impacts related to air quality. No mitigation is required.				
IV. Biological Resources				
The proposed project would not result in significant adverse impacts related to biological resources. No mitigation is required.				
V. Cultural Resources				
<p>CULT-1 If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the Fresno County coroner. All reports, correspondence, and determinations regarding the discovery of human remains on the project site shall be submitted to the Sierra Nevada Conservancy and the High Sierra Ranger District.</p> <p>According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and willful disturbance of</p>	Sierra Nevada Conservancy; U.S. Forest Service (High Sierra Ranger District); Project Contractor; Qualified Archaeologist	During Construction and Ground-Disturbing Activities	Onsite Inspection Separate Submittal - reports, studies, plans	

**Soaproot Stewardship Project (SNC 786)
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Mitigation Measure	Responsible Party or Parties	Timing for Mitigation Measure	Method of Verification	Verification of Compliance (Date/Initials)
human remains is a felony (Section 7052).				
<p>CULT-2 During any ground disturbance activities, if paleontological resources are encountered, all work within 25 feet of the find shall halt until a qualified paleontologist as defined by the <i>Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources</i> (2010), can evaluate the find and make recommendations regarding treatment. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. The qualified paleontologist shall contact the Natural History Museum of Los Angeles County regarding any discoveries of paleontological resources.</p> <p>If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from project implementation. If avoidance is not feasible, the paleontological resources shall be evaluated for their significance. If the resources are not significant, avoidance is not necessary. If the resources are significant, they shall be avoided to ensure no adverse effects, or such effects must be mitigated. Construction in that area shall not resume until the resource appropriate measures are recommended or the materials are determined to be less than significant. If the resource is significant and fossil recovery is the identified form of treatment, then the fossil shall be deposited in an accredited and permanent scientific institution. Copies of all correspondence and reports shall be submitted to the Sierra Nevada Conservancy and the High Sierra Ranger District.</p>	Sierra Nevada Conservancy; U.S. Forest Service (High Sierra Ranger District); Project Contractor; Qualified Paleontologist	During Construction and Ground-Disturbing Activities	Onsite Inspection Separate Submittal - reports, studies, plans	

**Soaproot Stewardship Project (SNC 786)
Mitigation Monitoring and Reporting Program**

Mitigation Measure	Responsible Party or Parties	Timing for Mitigation Measure	Method of Verification	Verification of Compliance (Date/Initials)
<p>CULT-3 If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified professional archaeologist, meeting the Secretary of the Interior’s Professional Qualification Standards for prehistoric and historic archaeologist, can evaluate the significance of the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified professional archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation.</p> <p>If a potentially-eligible resource is encountered, then the qualified professional archaeologist, the Sierra Nevada Conservancy, and the High Sierra Ranger District shall arrange for either 1) total avoidance of the resource or 2) test excavations to evaluate eligibility and, if eligible, total data recovery. The determination shall be formally documented in writing and submitted to the Sierra Nevada Conservancy and High Sierra Ranger District as verification that the provisions for managing unanticipated discoveries have been met.</p>	<p>Sierra Nevada Conservancy; U.S. Forest Service (High Sierra Ranger District); Project Contractor; Qualified Archaeologist</p>	<p>During Construction and Ground-Disturbing Activities</p>	<p>Onsite Inspection Separate Submittal - reports, studies, plans</p>	
<p>VI. Geology and Soils</p>				
<p>The proposed project would not result in significant adverse impacts related to geology or soils. No mitigation is required.</p>				
<p>VII. Greenhouse Gas Emissions</p>				
<p>The proposed project would not result in significant adverse impacts related to greenhouse gas emissions. No mitigation is required.</p>				

**Soaproot Stewardship Project (SNC 786)
Mitigation Monitoring and Reporting Program**

Mitigation Measure	Responsible Party or Parties	Timing for Mitigation Measure	Method of Verification	Verification of Compliance (Date/Initials)
VIII. Hazards and Hazardous Materials				
The proposed project would not result in significant adverse impacts related to hazards and hazardous materials. No mitigation is required.				
IX. Hydrology and Water Quality				
The proposed project would not result in significant adverse impacts related to hydrology and water quality. No mitigation is required.				
X. Land Use and Planning				
The proposed project would not result in significant adverse impacts related to land use and planning. No mitigation is required.				
XI. Mineral Resources				
The proposed project would not result in significant adverse impacts related to mineral resources. No mitigation is required.				
XII. Noise				
The proposed project would not result in significant adverse impacts related to noise. No mitigation is required.				
XIII. Population and Housing				
The proposed project would not result in significant adverse impacts related to population and housing. No mitigation is required.				
XIV. Public Services				
The proposed project would not result in significant adverse impacts related to public services. No mitigation is required.				
XV. Recreation				
The proposed project would not result in significant adverse impacts related to recreation. No mitigation is required.				
XVI. Transportation				
The proposed project would not result in significant adverse impacts related to transportation. No mitigation is required.				
XVII. Utilities and Service Systems				
The proposed project would not result in significant adverse impacts related to utilities and service systems. No mitigation is required.				