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National Forest



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# **Pinecrest Interior Healthy Forest Restoration (22764)**

## **Environmental Assessment**

**Stanislaus National Forest  
Summit Ranger District  
Tuolumne County, CA**

**Sections 14-15, 21-23, 28-29, Township 4 North, Range 18 East**

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## **Pinecrest Interior Healthy Forest Restoration (22764) Environmental Assessment**

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Summit Ranger District  
Tuolumne County, California

### **Introduction**

The forest in and around the Pinecrest Basin was historically dependent on frequent, low intensity fires. Fire suppression, starting in the early 1900s, excluded fire and disrupted the historic fire intervals which kept this forest more open and less prone to stand replacing fire. Fire exclusion along with high recreation/human activity (and the construction of nearly 400 cabins and other facilities) has contributed to the change in tree species composition, stand structure, and tree density in this area. The denser, closed canopies (crowns) have favored the growth of shade tolerant species (white fir and incense cedar) to the exclusion of shade intolerant ponderosa pine, black oak, and sugar pine. The shade tolerant trees have grown into dense stands which act as fuel ladders into the larger overstory trees, and throughout Pinecrest overtopped trees are now declining and dying out because of the competition for water. Compaction caused by vehicle and foot traffic also affects the soil's ability to transfer water into the rooting zone of trees. Natural tree regeneration (seedlings) has become almost nonexistent in many of the high use areas of the Basin due to trampling from vehicle and foot traffic.

The area typically has over 800,000 visitors a year, mostly during the summer recreation season. All of the cabins and service facilities in the Pinecrest Basin are privately owned structures that are permitted for occupancy on federal lands. The Highway 108 Strategic Fire Plan (2006) lists this area as a "community at risk," and under significant threat to human life and property from wildland fires. It is also listed in the Federal Register (Federal Register Vol. 66, No. 160/Friday, August 17, 2001/Notices) as a "community at risk". These types of communities are defined as "urban wildland interface communities within the vicinity of federal lands that are at high risk from wildfire," and are otherwise known as Wildland Urban Intermix (WUI) areas. The entire project falls within defense zone, National Forest Lands closest to communities or other developments. The area is also historic. In 1998, the Pinecrest Summer Home Tract was evaluated and determined eligible for listing as an historic district on the National Register of Historic Places.

During the summer of 2006 the Forest Service met with two groups of Cabin Owners to complete "Demonstration Marks" on their cabin lots. These were done in order to provide examples for other cabin owners to understand what the Forest Service was proposing to do within the cabin areas. The following summer (2007) the Forest Service met with approximately 98% of the cabin owners on their lots, together identifying trees to be removed for fuels reduction and fire protection. The Forest Service also met with all organization camps and other permit holders to identify which trees to cut within their areas. Forest health objectives were met in some areas, but not in all. All trees to be removed were identified and painted at that time. Areas to be planted and what species to use were also identified with the cabin owners on site.

### **Purpose and Need for Action**

The purpose of this proposal is to create forest conditions that would reduce fire intensity, increase fire suppression efficiency and improve forest health. This action is needed, to reduce fuel ladders and dense stands that have established in the absence of the naturally frequent, low intensity fire which has been suppressed for decades and to improve forest health. This action responds to the goals and objectives

outlined in the Stanislaus National Forest Land and Resource Management Plan, as amended (Forest Plan) and helps move the project area towards desired conditions described in the Forest Plan.

Overlying all proposed activities, was the consideration of the recreating public, especially those who currently own cabins and operate camps and resorts in the area, even when this meant compromising forest health values. The primary goals of this project are to create forest conditions that would reduce fire intensity and increase fire suppression efficiency. Thinning for forest health in overstocked cabin/camp areas is addressed in this project, but compromises were made in order to meet visual quality and recreation goals. The Forest Service met with over 98% of cabin owners and special use permit holders in the Basin to develop the thinning prescriptions for each individual facility. The thinning is designed to remove ladder fuels, enhance tree composition to favor more fire-resistant (and long-lived) species, reduce inter-tree competition, and increase tree vigor to resist insects, disease, and drought. The desired condition is to return the historic species balance of a primarily pine (ponderosa and sugar), black oak, and incense cedar overstory with a white fir and incense cedar understory. The Forest Service recognizes that this is the first entry into this area to deal with forest health and that multiple entries will be necessary to balance forest health, visual quality, and recreation user needs. Reforestation needs would also be met by planting rust resistant sugar pine (a tree that is declining in younger age groups from disease in the Sierra Nevada) and incense cedar (for screening) in areas that have become deforested through disease, insects, or human impacts (primarily vehicles and foot traffic). Meadow and aspen restoration through removal of encroaching conifers is also a goal of the project. Restoring these natural systems would provide diverse habitat and an improved hydrologic system within the Pinecrest Basin.

### **Proposed Action**

The Summit Ranger District proposes to treat approximately 780 acres of the Pinecrest Basin area as described under Alternative 1 and shown on the map in Appendix A.

### **Decision Framework**

The District Ranger is the Responsible Official for this project. Given the purpose and need, the Responsible Official reviews the proposed action and the other alternative in order to make the following decision: whether or not to approve the fuels reduction and forest health work to be done on the approximately 780 acres in the project area.

### **Public Involvement**

The Forest Service first listed the Pinecrest Interior Healthy Forest Restoration project in the October 2007 issue of the Stanislaus National Forest Schedule of Proposed Actions (SOPA). The Forest distributes the SOPA to about 160 parties and it is available on the internet [<http://www.fs.fed.us/r5/stanislaus/projects/sopa>].

Following the direction of the Healthy Forest Restoration Act of 2003, interested people and organizations have been included as collaborators in the planning process for this project (USDA and USDI 2004). The project was presented to interested individuals and organizations which include the following: All recreation residents (cabin owners) and permittees within the Pinecrest Basin and the Pinecrest Permittees Association (PPA).

On February 29, 2008, the Forest sent a scoping letter to 383 individuals, permittees, organizations, agencies, and the Tribe interested in this project. The letter requested comments on the Proposed Action between February 29, 2008 and March 29, 2008. Five interested parties submitted letters, e-mails or verbal comments during the scoping period. An additional comment was received in February 2009. See Appendix B for all the Public Comments and the Forest Service Responses. Using the comments received during the scoping period, the interdisciplinary team developed issues.

## **Issues**

The Forest Service separated the issues into two groups: significant and non-significant issues. Significant issues were defined as those directly or indirectly caused by implementing the proposed action. Non-significant issues were identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..." A list of non-significant issues and reasons regarding their categorization as non-significant may be found in Appendix B. No significant issues were identified by the Forest Service from scoping comments.

## **Alternatives**

This section describes and compares the alternatives considered for the Pinecrest Interior Healthy Forest Restoration project. It includes a description and map of each alternative considered. This section also presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public. Some of the information used to compare the alternatives is based upon the design of the alternative (i.e. helicopter logging versus the use of skid trails) and some of the information is based upon the environmental, social and economic effects of implementing each alternative (i.e. the amount of erosion or cost of helicopter logging versus skidding).

### **Alternative 1 (Proposed Action)**

The Summit Ranger District proposes to treat approximately 780 acres of the Pinecrest Basin area as described below and shown on the map in Appendix A. The actions proposed in coordination with Pinecrest Basin stakeholders are site-specific prescriptions to achieve desired conditions for the project area.

1. Reduce fuels, both horizontally and vertically by thinning trees, and cutting brush in patches greater than 10 feet square and from underneath trees (removing the fuel ladder). Cabin owners are expected to complete the brush work to meet the existing Summit Ranger District Fuels Reduction and Clearing Policy (March 8, 2005) for recreation residence permit holders. al Fire Standards.
2. Enhance habitats including aspen stands and meadows through removal of encroaching conifers.
3. Improve forest health by thinning overstocked areas where tree vigor is fading and trees have already started to die out.
4. Plant areas that have been deforested through past activities and recreational use. Rust resistant sugar pine and incense cedar would be used.
5. Remove noxious weeds by hand where feasible.

### **Treatments**

- **Thinning of Merchantable Trees – Units 22-26 (745 acres):** Removal would be done with tractors, skidders, and self loaders (traditional ground based logging equipment) within already disturbed areas and by endlining out of meadows and other non-disturbed locations. Remove merchantable trees greater than 10 inches and less than 30 inches DBH, primarily suppressed and intermediate trees. In rare cases within the cabins and camps, groups of codominant trees would be thinned in order to prevent overlapping crowns and reduce over stocking. The emphasis is on retaining the largest,

healthiest and most vigorous trees. Within the cabins, the spacing would be tighter than for traditional forest health prescriptions due to cabin owner concerns. All large black oak and riparian hardwood species would be retained. Some thinning/pruning of live oak would occur to meet fuel reduction needs primarily on the north and south shores of the lake where access is more difficult. Over topped black oak trees would be released where feasible. During thinning, sugar pine, ponderosa pine, and incense cedar would be favored for retention. The helicopter unit above the south shore cabins would be thinned to a spacing of 1/2 to 1 crown spacing between residual crowns (approximately 20 feet between crowns depending on tree size). Trees over 30 inch DBH would only be removed where necessary for operational safety. In addition, the Forestwide Hazard Tree Guidelines would be used, allowing larger size hazard trees to be removed.

- Hand Thinning of Sub-Merchantable Trees – Units 21-26 (561 acres): Small, sub-merchantable trees, small saplings to 10 inches DBH would be removed by hand. Small trees would be spaced far enough apart to break up the continuity of fuels, but to continue to provide screening within the cabins and camps. The spacing would vary depending on tree size, but at a minimum, interlocking crowns would be separated. Hand-thinning treatments are proposed in the cabin and camp areas for all small trees and large ones that cannot be sold for lumber. The oak and rocky areas within the helicopter unit would also be treated by hand as described above. Firewood (> 3 inch diameter material) cut into 18 inch long pieces would be left at those cabins who requested and the rest removed.
- Chipping - Unit 23 (526 acres): Within the largest portion of the project area, the non-merchantable and non-firewood size, hand thinned vegetative material would be chipped and utilized as ground cover in public areas currently devoid of ground cover.
- Pile Burning – Units 21, 22, 25, & 26 (35 acres): Hand thinned vegetative material would be piled and burned in remote areas, where chipper access is not possible.
- Helicopter Unit 24 (219 acres): Whole tree remove and pile all slash and tops at landings for Forest Service to burn. Due to the high cost of biomass removal on steep slopes and the rising cost of fuel, the following options would be allowed on this site: 1) Flown out, chipped on the landing, and removed, or 2) Hand cut, piled, and burned.
- Jackpot Burning – Units 24, 25, & 26 (228 acres): Following the thinning to reduce ladder fuels, jackpot burning is proposed to reduce the concentrations and hand thin piles created in these units. Holding lines would be constructed by hand around the burn units. The timing (year) of the burn would be coordinated between silviculture and fire.
- Planting – Unit 23 (22 acres): Areas within the cabin lots were identified for planting during the meetings with the permittees. Additional areas within the Day Use area, campgrounds, and camps would also be planted after the thinning is completed. Rust resistant sugar pine and incense cedar (for screening) would be planted.
- Fence Construction – Unit 23 (1 mile): Numerous fences would be built in the public use areas (not in the cabin lots) from material removed from the area (incense cedar and lodgepole pine poles) to protect planted areas and other re-vegetation locations.
- Meadow and Riparian Treatments – Units 22 & 23 (50 acres): Along the edges of the meadows and within the aspen stands, encroaching conifers less than 30 inches DBH would be removed to encourage natural regeneration of riparian species.
- Noxious Weed Eradication – Unit 23 (individual infestations throughout the area): Himalayan blackberry would be removed from the meadow behind the Pinecrest Store. Other infestations may exist and these too would be removed by hand. Ox-eye Daisy and sweetpea would also be hand treated throughout the basin. No herbicide use is proposed in this project.

## **Project Design Criteria**

### ***Air Quality***

The Forest-wide Standards and Guidelines for Air Quality require that prescribed fire shall be conducted so that smoke emissions are the lowest achievable. All prescribed burning will be done in accordance with Title 17, Smoke Management Guidelines for Agricultural and Prescribed Burning as required by the California Air Resources Board. Best Available Control Measures (BACMs) will be applied to ensure emission reductions. These include:

1. Attain lowest achievable emission rates by diluting or dispersing emissions.
2. Reduce the amount of pollutants per unit area treated.
3. Spread the concentration of smoke emissions over time.
4. Protect visibility in Federal Class I airsheds, the Emigrant and Carson-Iceberg Wilderness areas.

### ***Aquatics***

These Design Criteria are established to prevent or minimize disturbance to individuals and/or populations of U.S. Forest Service sensitive aquatic organisms, with an emphasis on mountain yellow-legged frogs.

- In meadow and riparian treatment areas (approximately 50 acres), no heavy equipment use (Tractor Keep Out) within 25 feet of wet meadows, streams, or lakes/ponds. Methods that do not produce ground-disturbance (e.g. aerial) may be used to remove trees inside of this zone.
- In proposed treatment areas within 100 feet of perennial waters, conduct Visual Encounter Surveys for U.S. Forest Service sensitive aquatic species (mountain yellow-legged frog emphasis) prior to project implementation. If species presence is confirmed, protect individuals through restriction of equipment and burning activities from their immediate vicinity; this would likely require a minimum exclusion distance of 100 feet, but could be greater if deemed necessary by an aquatic biologist.
- Place all burn piles at least 50 feet from perennial waters, or where hardened sites already exist.
- In all of the meadow units, the personnel applying borate compound should possess the minimum amount of chemical necessary to treat the stumps in the area of immediate application. This requirement is intended to minimize the amount of compound released to near-water environments in the event of an accidental spill.
- Directionally fall, to the maximum extent (between 120° and 270°), all trees away from all aquatic habitats including streams, wet meadows, and Pinecrest Lake.

### ***Cultural Resources***

Archaeological sites in the project area would be protected during all ground disturbing activities. In the event that any new sites are discovered during project implementation, the District Archaeologist would be notified and the area flagged and avoided during the remaining implementation of the project. Non-mechanical, fuel reduction treatments, such as hand thinning may occur within sites to increase protection of heritage structures/features. Avoid dropping trees directly into known sites. Consultation with the District Archaeologist would occur prior to any treatment within a site.

### ***Hydrology***

Management requirements designed to protect water quality and watershed condition are derived from Water Quality Management for Forest System Lands in California, Best Management Practices (BMPs) (USDA 2000) and Riparian Conservation Objectives (RCOs) (USDA 2004). Riparian resources within Riparian Conservation Areas (RCAs) would be protected through compliance with the Riparian Conservation Objectives in the Forest Plan.

Beneficial uses of water are protected by BMPs, which prevent or minimize the threat of discharge of pollutants of concern. BMPs applicable to this project are project-wide unless site specific locations are described below. BMPs relating to project implementation are described below. Applicable BMPs are listed below each management requirement.

Project planners and administrators (i.e. layout, SA, COR, CI) are responsible for consulting with a hydrologist and/or soil scientist prior to or during project implementation for adjusting or interpreting application of watershed management requirements below.

#### 1. Skidding

- No operations allowed when soil is wet.
- In areas where endlining would cause resource damage to meadows, fully suspended yarding or other methods approved by a hydrologist or wildlife biologist would be required.
- Soil displaced in meadows would be returned to contour.

Applicable BMPs:

- 1-10 – Tractor Skidding Design
- 1-17 – Erosion Control on Skid Trails
- 1-18 – Meadow Protection During Timber Harvesting
- 1-19 – Streamcourse and Aquatic Protection
- 5-3 – Tractor Operation Limitation in Wetlands and Meadows
- 5-6 – Soil Moisture Limitations for Mechanical Equipment Operations

#### 2. Stream Crossings

- Existing roads would be used to cross streams and drainages.

Applicable BMPs:

- 1-8 – Streamside Zone Designation
- 1-19 – Streamcourse and Aquatic Protection

#### 3. Wet Meadows, Streams, Lakes, and Ponds

- Do not operate in the meadows when the soil is wet.
- Burn piles would not be placed in meadows; may be placed on the drier upland.
- All newly disturbed areas would be mulched with local slash in order to provide 75% ground cover.
- Chipped material would be distributed in campgrounds and other developed recreation areas where bare ground is prevalent. Emphasis should be placed on covering bare areas near surface water.

Applicable BMPs:

- 1-8 – Streamside Zone Designation
- 1-18 – Meadow Protection During Timber Harvesting
- 1-19 – Streamcourse and Aquatic Protection
- 5-3 – Tractor Operation Limitation in Wetlands and Meadows
- 6-3 – Protection of Water Quality from Prescribed Burning Effects
- 7-3 – Protection of Wetlands

#### 4. Staging of Equipment

- Equipment would be staged in already impacted areas such as existing parking lots and pull outs.

Applicable BMPs:

- 1-12 – Log Landing Location
- 1-16 – Log Landing Erosion

5. Water Quality Monitoring

- Conduct forensic monitoring in the Meadowview Camp-Pinecrest watershed during the winter period to locate sources of sediment production in a timely manner so that rapid corrective action may be taken where feasible and appropriate. This monitoring would be required by the Central Valley Regional Water Quality Control Board.

Applicable BMPs:

- 7-6 – Water Quality Monitoring

6. Application of Sporangin

- Sporangin would not be applied within 10 feet of surface water.
- Sporangin would not be applied when rain is falling.
- Application would follow all State and Federal rules and regulations as they apply to pesticides.

Applicable BMPs:

- 5-7 – Pesticide Use Planning Process
- 5-8 – Pesticide Application According to Label Directions and Applicable Legal Requirements

7. Prescribed Fire

- Avoid direct ignition within the riparian area of Gooseberry Creek. Fire may back into the riparian area.
- Avoid damage to obligate riparian vegetation.
- Avoid direct ignition in ephemeral channels.
- Constructed fire lines would be restored upon completion of prescribed burning and/or prior to each winter when fire lines are exposed to erosion. Restoration would consist of water barring hand lines and recontouring benched trails.

Applicable BMPs:

- 6-3 – Protection of Water Quality from Prescribed Burning Effects

**Recreation**

- Road surface on all interior roads used for haul would be repaired to pre-treatment conditions.
- Logging activities would occur before Memorial Day (all activities need to be cleaned up by the Thursday before the holiday weekend) or after Labor Day for cabins, organizational camps, and campgrounds. No activities in Meadowview, Pinecrest, and Pioneer campgrounds or the Day Use Area from May 15<sup>th</sup> to September 15<sup>th</sup>. In addition, no weekend operations would occur in the Day Use area throughout the year.
- Access point(s) for crossing the lakebed at low water would be re-blocked by Friday(s) and at the end of all timber removal activities.
- All skidding related activities to be blocked and restored upon completion of need for that particular route to minimize the illusion of newly created driveways or access routes.
- Purchaser to coordinate with commercial permit holders to minimize impact to their operations.

- The permit administrator must be notified at least 2 weeks prior to commencement of helicopter operations so that cabin owners can be informed of the pending activity adjacent to their lots.
- Public notification:
  - Coordinate with Recreation Staff to post signs at information boards in recreation areas (campgrounds, picnic area, and trailheads) informing users of tree removal, mechanical and hand thinning, and prescribe burning activities. Include timing, duration, and contact person and phone number.
  - Publish notice/articles in local papers (Modesto Bee, Union Democrat).
  - Coordinate closely with members of Pinecrest Permittee Association and post on their website (schedule and activities).
- Monitor roads within project area for unauthorized access and use after treatment operations are complete. Close and rehabilitate all unauthorized access points as soon as possible.
- Protect all constructed features (replace or repair to acceptable standards all publicly owned facilities/improvements if damaged during operations).
- Provide provisions for damage to privately owned permitted improvements.
- Flush cut stumps in all locations except units 24, 25, and 26.
- Due to the presence of an osmium root rot, cut stumps would be treated with an EPA registered borate compound. The following practices would be followed during application of borate:
  - Applicators would follow all State and Federal rules and regulations as they apply to pesticides.
  - Sporax would be applied to all conifer stumps  $\geq 14$  inches in all units and  $\geq 2$  inches in units 21, 22, and 23 within 4 hours of creation.
  - Sporax would not be applied within 10 feet of surface water.
  - Sporax would not be applied when rain is falling.

### ***Sensitive Plants/Noxious Weeds***

- If any occurrences of Sensitive Plants are discovered during implementation, they will be flagged and avoided.
- All equipment, including earthmoving and chipping equipment must be free of soil, mud (wet or dried), seeds, vegetative matter or other debris that could contain seeds in order to prevent new infestations of noxious weeds in the project area. Dust or very light dirt which would not contain weed seed is not a concern.
- Weeds would be pulled, cut, and hand dug in units prior to, during, and after the project to minimize spread and expansion.
- Avoid the Himalayan blackberry in the meadow behind the Pinecrest store and at cabin 343, the ox-eye daisy at Camps Gold and Oski and at cabins 76, 107, 143, 170, 193, 194, 195, 199, 212, 275, 399 and the perennial sweetpea at cabins 24, 38, 56, 60, 76, 85, 216, 239, 396 (maps will be provided). If equipment must pass through those areas, clean any tracked or earthmoving equipment before it leaves.
- If possible, work in the more weed free areas such as the north and southeast shores first and leave the more weedy areas such as around the sewage treatment plant and some cabins for last.

### ***Silviculture/Vegetation***

- Protect healthy sugar pines within the units during all operations. Timber removal would be conducted to promote this species.

## Soils

This section highlights design elements or mitigation measures that help meet R-5 Soil Quality Analysis Standards (USDA, 1995b). The measures conform to the January 2004 Sierra Nevada Forest Plan Amendment and Forest Plan Direction (USDA 2005). They provide for erosion control, soil cover, and surface organics to build soil. They are designed to limit the amount of area impacted and/or restore areas where detrimental compaction occurs. The protection of wetlands is also a primary goal. Soil management requirements are as follows:

- Maintain soil cover of duff and small woody material for erosion control and nutrient cycling. Maintain 50% soil cover in vegetated areas of unit 23. Maintain 60% soil cover in units 22, 24, and 25. Maintain natural cover in wet meadows (close to 100%)
- Designate wet meadows as Tractor Keep Out zones.
- Minimize soil compaction by operating on dry soils of high soil strength. The soil scientist can advise on soil moisture conditions and bearing strength of soils within unit 23 and in buffer areas surrounding meadows.
- Subsoil landings after use except where already existing and desired “landings” occur (e.g. existing parking lots). May need reshaping or smoothing depending on visual quality needs.
- Subsoil all temporary roads (reshape to contour for visual quality needs).
- Level 1 roads to be blocked may include re-contouring to line of site distance to discourage unauthorized use.

## Transportation

See the table below for a summary of road needs for the project.

Table 1 Road Needs

Road Number	Miles	Road Status	Stands Accessed	Prescription/Coordinating Requirements
<b>Unclassified Roads</b>				
41823K	0.3	Blocked	24	Reconstruct and re-block after treatment operations
<b>TOTAL</b>	<b>0.3</b>			

## Wildlife Management

1. Retain all Osprey nest trees. Require Limiting Operating Periods (LOP) within 500 feet of active Osprey nests from March 1st through August 15th. This LOP may be lifted by a USFS biologist if surveys confirm non-nesting.
2. Require a LOP in Unit 24 from February 15th thru September 15th for the raptor nest. This LOP may be lifted by a USFS biologist if surveys confirm non-nesting.
3. Establish a Goshawk Protected Activity Center (PAC) with a 500 foot no-treatment nest site buffer around the raptor nest in Unit 24.

## **Alternative 2 (No Action)**

Under Alternative 2 (No Action), current management plans would continue to guide management of the project area. None of the proposed activities for fuels reduction and habitat improvement would be implemented to accomplish project goals.

## **Alternatives Considered but Eliminated from Detailed Study**

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). The Forest Service initially considered the following alternative.

### **Thinning to meet Forest Health Objectives**

During the meetings with cabin owners it became clear that most were not comfortable thinning trees around their cabins to the level necessary to meet density levels optimal for forest health. Most did not understand that the overstocking and overlapping crowns is what was causing their trees to die during the drought. The Forest Service knowing that this is the first time the Basin has been entered, decided to back off on the ideal thinning levels in order to meet fuels objectives and gain support from the cabin owners. It was made clear to the owners that more trees should be removed to protect the remaining ones, but the owners input were accommodated at this time.

## **Comparison of Alternatives**

This section provides a summary of the effects of implementing each alternative. Table 2 is focuses on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 2 Comparison of Alternatives

<b>Project Goal</b>	<b>Alternative 1 (Proposed Action)</b>	<b>Alternative 2 (No Action)</b>
<b>Fire/Fuels</b>		
<ul style="list-style-type: none"> <li>- Treat fuels to reduce wildland fire risk.</li> <li>- Create conditions for more efficient fire suppression.</li> <li>- Protect developed recreation sites.</li> </ul>	<ul style="list-style-type: none"> <li>- Modifies the existing fuels to interrupt fire behavior, reduces fire intensity severity.</li> <li>- Provides defensible space around developed recreation sites which would allow for more effective fire suppression efforts.</li> </ul>	<ul style="list-style-type: none"> <li>- Fuel levels remain unnaturally high, creating conditions favorable for severe wildfire, which could damage or destroy developed recreation sites.</li> <li>- Fire can still easily move from the cabins into the Forest.</li> </ul>
<b>Forest Health</b>		
<ul style="list-style-type: none"> <li>- Increase stand vigor.</li> <li>- Reduce tree mortality.</li> <li>- Reduce susceptibility to drought, disease, and insect attacks.</li> </ul>	<ul style="list-style-type: none"> <li>- Reduces competition for resources and increases stand vigor by reducing stand densities in unit 24 and outside the cabins.</li> <li>- Increases stand vigor resulting in decreased mortality and lower susceptibility to drought, insect, and pathogen attacks in unit 24 and outside cabins.</li> </ul>	<ul style="list-style-type: none"> <li>- Stand densities remain high, resulting in continued mortality and high susceptibility to insect and disease, especially during periods of drought.</li> </ul>
<b>Wildlife</b>		
<ul style="list-style-type: none"> <li>- Improve suitable habitat.</li> </ul>	<ul style="list-style-type: none"> <li>- Removes encroaching conifers from within aspen stands and meadows, improving wildlife habitat.</li> </ul>	<ul style="list-style-type: none"> <li>- No improvement of existing over grown habitat.</li> </ul>
<b>Recreation</b>		
<ul style="list-style-type: none"> <li>- Improve vegetation health in developed recreation areas.</li> <li>- Improve visitor experience.</li> <li>- Reduce hazards to the public.</li> </ul>	<ul style="list-style-type: none"> <li>- Improves aesthetics through removal of insect or pathogen infected individuals.</li> <li>- Increases screening between camp sites with tree plantings.</li> <li>- Controls traffic movement and protects vegetation with barriers.</li> <li>- Decreases the number of hazard trees.</li> </ul>	<ul style="list-style-type: none"> <li>- Continued decline in vegetation in developed recreation areas.</li> <li>- Continued increase in individual tree mortality and hazard trees.</li> <li>- No new trees/vegetation would develop in the public areas.</li> </ul>

## Environmental Consequences

This section summarizes the physical, biological, social and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It also presents the scientific and analytical basis for comparison of alternatives presented in the chart above.

### **Effects Relative to Significant Issues**

No significant issues were identified during public scoping for the activities in the Proposed Action.

### **Effects Relative to Significance Factors**

All Biological Evaluations, (BEs), Biological Assessments (BAs), Management Indicator Species (MIS) Reports, and Resource Specialist Reports prepared for this project are incorporated by reference in this environmental assessment (EA). They are located in the Pinecrest Interior Healthy Forest Restoration project file at the Summit Ranger District, Stanislaus National Forest, and are available upon request.

#### **1. Beneficial and adverse impacts.**

A BE for sensitive plants was completed for the project area which includes the following determinations in regards to the proposed action: 1) No sensitive species were found within the project area. 2) The BE concludes that the project would not affect any Threatened, Endangered, or Sensitive plant species. The noxious weed risk assessment states that implementation of the proposed project, with the noxious weed management requirements, would impart a low risk of noxious weed introduction and spread by the project.

A terrestrial wildlife BE was prepared for this project which includes the following determinations in regards to the proposed action: 1) No effect on any Federally Threatened & Endangered or Proposed species or Designated Critical Habitat. 2) Will not affect the following Sensitive species: Swainson's Hawk, Willow Flycatcher, western red bat, Townsend's big-eared bat, Sierra Nevada red fox, and California wolverine. 3) May affect individuals but is not likely to result in a trend toward Federal listing or loss of viability for the following Sensitive species: Northern Goshawk, California Spotted Owl, Great Gray Owl, American marten, Pacific fisher, and pallid bat. In addition, nest protection objectives are clearly met for Osprey.

An aquatic wildlife BE/BA was prepared for this project which includes the following determinations in regards to the proposed action: 1) No effect on California red-legged frog, Central Valley steelhead, delta smelt, Hell hollow slender salamander, limestone salamander, Yosemite toad, hardhead, western pond turtle, and foothill yellow-legged frog or on the habitats needed by these species. 2) May affect individuals, but is not likely to lead to a trend in federal listing or loss of viability in the planning area for the mountain yellow-legged frog (sensitive species) or alter the existing suitability of its habitat.

Terrestrial and Aquatic Wildlife Management Indicator Species (MIS) reports were prepared for this project and it was determined that the proposed action would provide for the maintenance of generally well-distributed viable populations of existing native and desired non-native wildlife and fish, including MIS (36 CFR 219.19).

#### **2. Public health and safety.**

The following values are at risk of being affected by fires that originate within or adjacent to the analysis area: 383 Recreation Residents, seven organization camps, three campgrounds, a trail, a day use area, a commercial area, and a Goshawk Protected Activity Center (PAC).

The effect of Alternative 1 (Proposed Action) is a reduction in fire behavior and spread through this urban area by reducing ladder fuels. Crown fire ignition is unlikely after treatment and the new fuel conditions both horizontally and vertically result in a low probability of crown fire spread. Alternative 2 (No Action) would not affect these conditions and the risk of fire would not be lessened. Alternative 1 reduces the risk of wildland fire to communities and helps prevent the movement of fire within the community (cabin lot to cabin lot). It also modifies fire behavior over the broader landscape.

The affect to air quality from the removal of ladder fuels under Alterative 1, would be a reduction in potential PM<sub>10</sub> emissions in the event of a wildfire. Potential smoke emissions of future wildfires would be reduced, especially during times of the year when smoke dispersion is not favorable.

### **3. Unique characteristics of geographical area.**

The project area contains Pinecrest Lake and borders the North Fork Tuolumne River. Alternative 1 would enhance water quality within the lake and the river by spreading chips throughout the Day Use, the Organizational Camps, and other high use recreation areas. This would reduce the amount of erosion and sedimentation into these bodies of water. The project also promotes riparian species (aspen, cottonwood, and willow) and improves meadow conditions which will also improve water quality in the area.

### **4. The degree to which the effects on the human environment are likely to be highly controversial.**

The basic concept of Alternative 1, thinning smaller trees for fuel reduction is generally not considered controversial by any groups. This entire area is defense zone, and over half is within a community. In order to promote understanding and ensure public support, the Forest Service met with 98 percent of the cabin owners/camp managers to choose what trees would be removed within their boundaries. Collaboration and education were the focuses of this project.

### **5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.**

The effects on the human environment from Alternative 1 are not uncertain and do not involve unique or unknown risks. The proposed activities of harvesting trees, planting, and burning have all been previously implemented with known effects.

### **6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.**

This project does not set a precedent that would significantly affect future projects. Future projects would be considered, evaluated, and analyzed separately on their own merits.

### **7. Whether the action is related to other actions with individually insignificant, but cumulatively significant impacts.**

This project does not represent potential cumulative adverse impacts when considered in combination with other past or reasonably foreseeable actions. There are no apparent adverse or cumulative or secondary effects from Alternative 1, the action alternative, as discussed in the Cumulative Watershed Effects (CWE) Analysis, Wildlife BEs, MIS Reports, Sensitive Plant BE, Noxious Weed Risk Assessment, Soil Report, Silviculture/Vegetation Report, and Fire/Fuels Report.

A cumulative watershed effects analysis was completed for this project. The results of the Equivalent Roaded Acreage (ERA) modeling show that the threshold of concern is reached in one of the watersheds analyzed. The Meadowview Camp-Pinecrest watershed is over the threshold of concern due to the constant features found in the community of Pinecrest. These constant features, such as roads and cabins, have an ERA of 11.55%, which is just under the threshold of concern with no management activities. Due to the elevated ERA, stringent management requirements are being proposed in order to maintain or improve current conditions and to not adversely impact the

watershed condition. In addition, forensic monitoring would be conducted in the winter to locate sources of sediment in a timely manner so that rapid corrective action may be taken.

Results of the field evaluation validate the ERA model prediction that the action alternative and other reasonably foreseeable future activities in the project watersheds are not expected to result in adverse cumulative watershed effects.

Positive cumulative effects would result from this project – a lower risk of wildfire. The result of implementing the proposed tree thinning and follow-up burning would be a greater discontinuity of fuels both horizontally and vertically, providing an improved fuel profile throughout the project area. In addition, a reduction in fire behavior would also occur. The proposed action reduces the risk of high intensity, stand-replacing wildfire, and provides protection for the forest structure, recreation developments, and forest visitors.

**8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, or may cause loss or distraction of significant scientific, cultural, or historic resources.**

Heritage resources have been considered in all aspects of this project. The entire area has been surveyed. The project is designed to protect and avoid disturbance of these sites during implementation. In addition, the project is designed to protect the existing condition of the cabins which were determined eligible for listing as an historic district on the National Register of Historic Places.

**9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.**

The Terrestrial Wildlife BE, the Aquatic Biology BE/BA, and the Botanical BE prepared for this project determined the proposed action will have no effect on any Federally Threatened & Endangered or Proposed species or Designated Critical Habitat.

**10. Whether the action threatens a violation of Federal, State, or local law or other requirements imposed for the protection of the environment.**

Alternative 1, the proposed action, was developed in accordance with and does not threaten to violate any Federal, State, or local laws or requirements imposed for the protection of the environment (i.e. Endangered Species Act, National Historic Preservation Act, Federal Clean Water Act, Executive Order 11988 for Floodplain Management, or the Clean Air Act). The Forest Service would obtain the required permits from the appropriate county, state, and federal regulatory agencies prior to implementation.

## Consultation and Coordination

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of this environmental assessment:

### **ID Team Members**

#### **Core Team:**

ID Team Leader/Silviculture Forester	Maria Benech
Fire/Fuel Management	Linda Johnstone
Terrestrial Wildlife	Adam Rich
Aquatic Biology	Steve Holdeman
Heritage Resources	Lisa Dehart
Botany	Margaret Willits
Recreation	Julie Martin
Interpretative Specialist	Joy Barney
Hydrology	Tracy Weddle

#### **Consultant Team Members:**

Soils	Alex Janicki
Forest Pathologist	Martin MacKenzie
Forest Entomologist	Beverly Bulaon
Logging Engineer	Tom Durston
Public Involvement	Emily Kilgore

### **Federal, State, and Local Agencies**

Tuolumne County Board of Supervisors  
Pinecrest Permittees Association

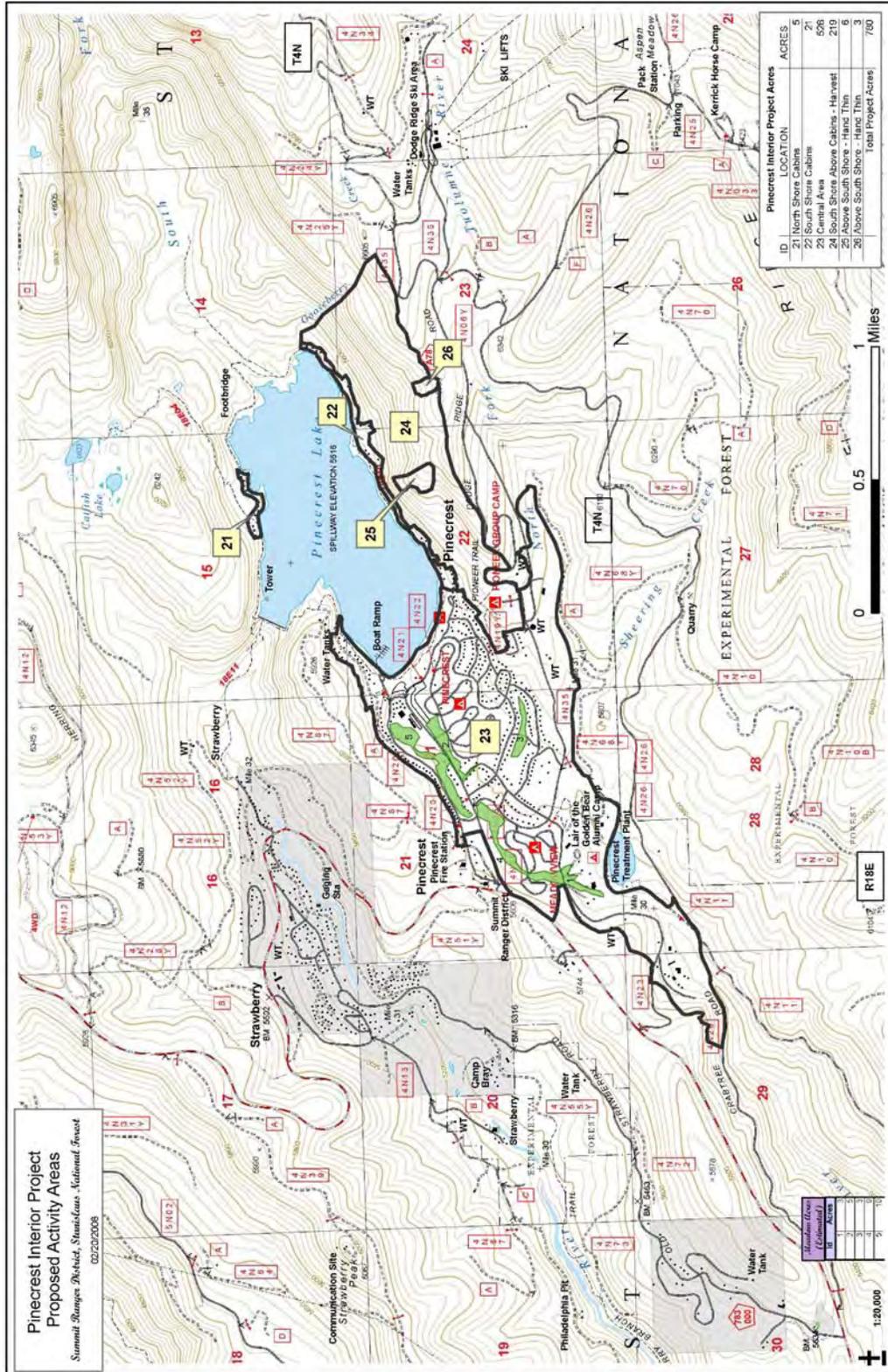
### **Tribes**

Tuolumne Band of Me-Wuk Indians

### **Others**

383 Cabin Owners in the Pinecrest Basin Area  
All Camp Owners/Managers and Concessionaires in the Pinecrest Basin Area

# A. Project Map





## B. Public Comments and Response

### ISSUE MANAGEMENT

Issues are points of dispute or disagreement, based on some effect. Significant Issues would be addressed in the Environmental Assessment through the development of additional alternatives; none were received during the scoping period for this project. Reasons for Non-significance are:

1. The issue is outside the scope of the proposed action.
2. The issue is already decided by law, regulation, Forest Plan, or Higher level of decision.
3. The issue is irrelevant to the decision to be made.
4. The issue is conjectural and not supported by scientific (or factual) evidence.

ID	Commenter	Comment / Response
01-01	John Buckley, CSERC	The project description describes the goal for reforestation, which is to plant rust resistant sugar pine and incense cedar for screening and for restoration purposes. CSERC respectfully urges that the District NOT plant incense cedar for screening purposes. The overwhelming amount of recreation use at Pinecrest takes place during the spring, summer and early fall season. Accordingly if there is a need for screening between cabins, black oaks could fill the need, especially if one gallon or five gallon trees are planted. While black oaks grow slower than the incense cedars, the flammability of the black oaks is far lower. The wildlife value over time from planting black oaks would be far higher. In addition, if the goal is to help to restore the ecological values of the pre-management forest habitat, increasing the percentage of black oaks is important. We urge that the District minimize or eliminate any planting of incense cedars for screening, and instead utilize black oak
	FS Response	Rust resistant sugar pine and incense cedar were chosen to plant in this area because they are more shade tolerant and most of the areas to be planted are small and do not receive a lot of sunlight. Incense cedar will also make an excellent screen between cabins because of its full crown potential. Black oak requires full sunlight and is difficult to re-plant, requiring much larger stock for success and thereby being far more expensive. The Forest also has existing seed sources for trees adapted to this site per elevation and location for incense cedar and sugar pine.
01-02	John Buckley, CSERC	Under "Treatments, Thinning of merchantable Trees," the Project description lays out sugar pine, ponderosa pine, and incense cedar to be favored for retention. Again, CSERC suggests that incense cedar NOT be favored for retention. Instead, focusing on sugar pine, ponderosa pine, and either of the oak species appears to make better sense.
	FS Response	Sugar Pine, ponderosa pine, black oak, and all riparian species are the favored trees for retention. During thinning operations, where appropriate, retention trees will be selected based on species preference. Preferred species selection will utilize the following criteria: all black oaks and riparian hardwoods will be retained. For conifer retention species preference will be sugar pine > ponderosa pine > incense cedar > white fir. Where species preference is used to determine retention, incense cedar will be retained only over white fir.
01-03	John Buckley, CSERC	In the Meadows and Riparian Treatments, the prescription describes removing all conifers less than 30" DBH from the 50 acres of treatment area. In natural forest landscapes, such areas would not be devoid of a scattering of conifers. CSERC suggests leaving vigorous sugar pines without evidence of blister rust within the Meadow and riparian treatment areas.
	FS Response	The Forest Service agrees. The objective of this treatment is to restore wet meadows to a condition closer to those that existed prior to fire suppression and development of the area. Any healthy conifer located on less hydric areas (i.e. rises, hummocks, hillocks, etc.) may be retained during operations.
01-04	John Buckley, CSERC	In response to a general Forest Service goal to remove invasive weeds, Himalayan blackberry would be removed from the meadow behind the Pinecrest Store, plus ox-eye daisy from Camps Gold and Oski and at some cabins. CSERC supports removal of noxious weeds, however the ox-eye daisy is not causing any clear environmental impact or wiping out important native plants in the limited areas where it is growing. More important, the blackberry provides habitat value for everything from rabbits to ground squirrels to foxes to baby fawns. CSERC suggests that it is not a high priority to remove these two invasives. We ask especially that the altered condition of the Pinecrest basin be taken into consideration for the value that the blackberry may have within the project area.
	FS Response	Forest Service direction is to prevent the introduction of non-native species and to contain and suppress existing infestations (USDA Forest Service FSM 1080.2). Many non-native species do not appear to cause problems until they are widespread and then it is much more difficult to remove them. The Himalayan blackberry would be targeted because it is an outlying infestation at a distance

ID	Commenter	Comment / Response
		<p>from most other infestations. It can spread long distances through birds and mammals and so this infestation has the potential to impact many other moist meadows and riparian areas. Cal-IPC, which is particularly concerned with the spread of non-native invasive plants in natural areas, rates this species as a High Risk (high in impacts, invasiveness, and distribution). It can form dense canopies that shade out all or almost all other plants. So the impact must also be considered for all other areas that could become infested if this is allowed to remain and spread.</p> <p>It is unlikely that we would do more than eradicate outlying infestations of ox-eye daisy, unless there is a coordinated effort to remove it from the watershed. It spreads readily downstream and extends for over six miles below the project site. Owners are eradicating it as part of the permit renewal process.</p>
01-05	John Buckley, CSERC	<p>CSERC notes that there is no information provided in the project description as to why there needs to be crossing of the lakebed at low water. This is a major potential impact that normally would not be considered in an agency project. The agency should more fully disclose why this action is necessary and what mitigations will or won't be necessary to eliminate impacts from the lakebed crossing.</p>
	FS Response	<p>If ideal snow conditions existed, over snow logging could be accomplished and access would be required over the lake bed to access the south shore cabins. In addition, because of the access difficulties for the large helicopter unit and cabins along the south shore, it is proposed to allow fallers vehicle access into this area along the edge of the lake when the water is down. It would be for a limited period of time and only to allow those cutting trees access into these locations without needing to walk over a mile to begin work. The timing would be critical and this would not occur if resource impacts would result.</p>
01-06	John Buckley, CSERC	<p>Under wildlife management, CSERC supports the LOP within 500 feet of any active Osprey nests. We urge that the same constraints be contained in the project for any potentially located Bald Eagle nest, since by the time the project is implemented, that possibility exists.</p>
	FS Response	<p>At this time no known bald eagle nests exist in the project area, and surveys have been completed. If before or during implementation a nest is discovered an appropriate buffer will be implemented.</p>
01-07	John Buckley, CSERC	<p>CSERC is concerned that the east end of unit 24 is apparently receiving the same treatment prescription as the rest of the units. That area is moderately steep, contains some scattered stands of mature to older conifers, contains excellent, diverse forest habitat, and is a refugia for some species that cannot thrive in close proximity to either the Dodge Ridge area up above or Pinecrest Lake cabins or lake visitors lower down. CSERC urges that in order to provide habitat diversity that patches or the bulk of the eastern half of unit 24 be given less intensive fuel treatments, leaving more brush, more canopy cover, more patchy connectivity, and more down logs and snags in order to compensate for the intensive fuel reduction treatments occurring elsewhere in the project area.</p>
	FS Response	<p>A possible northern goshawk nest has been located within this compartment. Based on this information the eastern half of this unit has been designated as a goshawk PAC and a 500 foot buffer has been established around the possible nest site, resulting in less intensive fuel treatments. All snags, down logs, and brush will be left in place in this unit as well.</p>
02-01	Roman Gene Gilluly	<p>On my lot and several other lots throughout the area, there is a permitted sewer line buried. I am concerned that planting additional trees in the area could damage the sewer line in the future costing everyone, including the Forest Service, lots of money to repair. I think that the line should be marked so that no seedlings are planted in the area. I request that you take this suggestion into consideration when finalizing your plan and bids.</p>
	FS Response	<p>Prior to implementation of project operations all infrastructure, especially those underground, will be identified and protected from damage. Any damage that does occur will be repaired or replaced to acceptable standards. During planting operations appropriate clearances will be provided to protect underground structures. The Forest Service identified all planting areas within the cabins lots with the owners and this issue should have been noted at that time.</p>
03-01	Craig Thurber, Contract forester PG&E	<p>I will appreciate working with your operational personnel when trees are being selected in and around the distribution lines and facilities of PG&amp;E. We would like to participate in the selection and removal of trees near PG&amp;E facilities which insure both our goals (USFS and PG&amp;E) concerning fuels reduction and hazard reduction to the power lines. Additionally, I request that I be contacted by USFS prior to the beginning of operations near the Oberlin's. This will allow me to work with the tree removal crews promoting safe working conditions.</p>
	FS Response	<p>We will contact and collaborate with PG&amp;E on removals near PG&amp;E facilities and are looking forward to working with you and your company.</p>
03-02	Craig Thurber, Contract forester PG&E	<p>I appreciate your proposed fuel reduction project and would like to work with you to meet our mutual goals of protecting these rural communities from fire and insure continued power with minimal outages to these customers. In concluding your HFR project in Pinecrest is supported by PG&amp;E.</p>
	FS Response	<p>Thank you for your support.</p>
04-01	Tim Fisher, Pinecrest Permittees Association	<p>The board of the Pinecrest Permittees Association continues to have concerns over the protection of privately installed improvements. We have an extensive system of roads &amp; underground infrastructure (water &amp; sewer lines) which do not seem adequately protected by the comment "provide provisions for damage to privately owned permitted improvements". We request more specific information on this issue be included in the project scope which calls first for protection of</p>

ID	Commenter	Comment / Response
	FS Response	and then replacement of any damaged improvements. See comment 02-01, and as described in the EA (p. 5) all roads surfaces will be returned to pre-treatment conditions. In addition, all operators felling large trees will be required to be bonded and have the ability to cover any issues that arise just like those who currently operate in the Basin removing hazard trees.
	05-01	Michael Quirk
FS Response		The Forest Service is proposing to thin out small encroaching conifers within and adjacent to the meadow. If trees are felled, they would be felled away from the meadow or removed from it afterwards. No piling or burning would occur in the meadow either. All the work being done along the south shore would be by hand, no heavy equipment. All factors affecting meadow moisture and health have been considered, and the proposed activity has been shown to enhance and protect meadows throughout the Forest.
05-02	Michael Quirk	While we are very interested in maintaining and promoting the health of the meadow, we are also very concerned about loss of screening and visual buffer from the neighboring cabins. We would like to be able to provide input if and when trees are being designated for removal. The most conservative approach would be appreciated.
	FS Response	As with all aspects of this project the Forest Service will work with cabin owners to balance their needs and desires with meeting the forest health and fuel reduction needs of the project. If this area has not already been marked, the Forest Service will be completing the job this summer and you should contact us with your concerns.
06-01	Darca Morgan Sierra Forest Legacy	The overstory of many spotted owl PACs along the highway 108 corridor have been logged aggressively. The Sierra Forest Legacy believes the exceptional intensity with which PACs were logged poses significant risk to the owls, and does not comply with the 2004 forest plan direction for fuel reduction in PACs.
	FS Response	There are no spotted owl PACs in the project area.