

**Cultural Resources Report  
Eiler Fire Salvage and Restoration Project**

**Lassen National Forest  
Hat Creek Ranger District**

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## **Affected Environment**

### **Introduction**

Cultural resources are defined as the physical remains of past human cultural activities on the landscape. These remains provide a record of human activity within the ecosystem and provide a context for resource managers to assess the existing condition of the environment. Cultural resources within the Eiler Fire Salvage and Restoration Project, hereafter referred to as the Eiler Project, area are diverse and represent at least 5,000 years of prehistory and history.

### **Ethnographic Setting**

The Eiler Project area is located within the territory assigned to the Atsuge band of the Atsugewi “tribe” as assigned by various ethnographers (Kroeber 1925; Merriam 1926; Kniffen 1928; Garth 1953). The languages of the Atsugewi and the adjacent Achumawi tribe form the Palaihnihan branch of the Hokan linguistic family (Olmsted 1964). The Lassen National Forest Cultural Resource Overview (Johnston and Budy 1982) discusses the general ethnographic setting of the region.

### **Prehistoric Setting**

Ethnographic and archaeological evidence indicates that the Eiler Fire occurred within the prehistoric traditional cultural territory of the Pit River Tribe. More specifically, the fire immediately affected the prehistoric territory of the Atsugewi or Atsuge band. All in all, the Pit River Tribe includes 11 autonomous bands. This includes two bands falling under the Atsugewi division and the other nine falling under the Achumawi division. The Atsuge lived in lower elevation semi-permanent camps during the winter months, whereas in the summer months a lot of people ventured to temporary camps at higher elevations. Communal villages were the largest political unit. This usually included a village chief or headman. However, Garth (1978) reports that occasionally several wealthy headmen would speak for smaller groups of friends and relatives of the Atsugewi. For the most part, the Atsugewi were not typically violent towards each other or any of the 11 autonomous bands of the Pit River. On the other hand, the Paiute and Modoc were known to raid Atsugewi villages to take slaves (Garth 1978:238).

Many of the plants within this area were utilized by the prehistoric peoples who inhabited the area. Ponderosa (*Pinus ponderosa*), Jeffery (*Pinus ponderosa* Jefferyi), and sugar pine (*Pinus Lambertiana*) would have provided not only fuel essential for warmth but edible pine seeds as well. In fact, pine nuts were so important to the western branch of the Atsugewi that their name Atsuge literally means pine tree people. Oaks would have offered acorns which served as a very important source of subsistence for many California Natives including the Atsuge (Dixon 1908:211). The wood from cedar trees would have been used for making bows.

The Atsugewi gathered the greenleaf manzanita berries in July and August. These berries were stored in pits until they were eventually pounded into a fine flour to make biscuit-like cakes. Additionally, this plant was used to cope with cuts and burns. Chokecherries can be eaten fresh or dried, and Chokecherry branch shoots would have been great for making arrows. Other opportunities for food and clothing were offered by the native wildlife within this area. Species used for their fur and/or meat included mule and Columbian black-tailed deer, black bear, coyote, bobcat, mountain lion, badger, raccoon, and, perhaps, marten and fisher.

## **Historic Setting**

Fur trappers have been considered the first Euro-Americans to explore the general area adjacent to the Eiler Fire. In 1827, Peter Skene Ogden, leader of a Hudson's Bay Company expedition, is the first documented individual to comment on the area, specifically the Pit River. Pioneers did not steadily venture into this area until the mid-1840's. Euro-Americans began to significantly increase in numbers throughout this area when gold was found at Sutter's Mill in 1848. Settlers and gold miners utilized three major historic trails in order to reach much of northeastern California. These trails included the Applegate trail largely known as the southern route of the Oregon Trail, the Lassen trail leading to the California gold fields, and the Nobles trail which also led to the gold fields of California.

The first documented permanent settlement adjacent to the Eiler Project and Pit River region occurred in 1855. The Lockhart brothers established a ferry across the Pit River at the present-day location of Fall River Mills. The exact date is unknown but sometime around January of 1857 eight settlers at Lockharts Ferry were attacked and killed. California volunteer regiments subsidized by the state and federal governments regularly attacked Indian communities (Rawls 1984:185-186). The U.S. Army also responded to the Indian troubles largely through indiscriminate attacks on local Indian groups. Fort Crook was established on July 1, 1857, commanded by General George Crook. Much of the area affected by the Eiler Fire is not currently utilized or considered prime grazing habitat. However, the 1941 report notes that grazing by sheep on lands previously owned by the Red River Lumber Company did take place within the area surrounding Burney Springs and the Cornaz Lake vicinity.

The burgeoning growth of communities in California and the west created a steady increase in the demand for lumber. As the prime timber on private lands became depleted, the U.S. government began withdrawing millions of timbered acres to establish Forest Reserves. These Reserves became the National Forests, and gained substantial importance to the lumbering industry in the mid-1900's. Logging apparently took place historically on nearby lands once owned by the Red River Lumber Company within the area of the Eiler Project.

The Forest Service was established in 1905 when the Forest Reserves was transferred to the Department of Agriculture. In the 1930's, forest experiment stations were set up in order to conduct research concerning all phases of forest and range land use, such as timber, wildlife habitat, watershed management, fire, economics, and utilization of wood products. In 1933 the Civilian Conservation Corps (CCC) program was created, which led to many improvements to the nation's resources. The CCC planted over two billion trees in eight years, cleared trails, fought fires, built campgrounds and improved recreation facilities. By 1945, the Forest Service had developed into a network of research specialists and resource managers. A 1941 report on the Cornaz Tract indicates a temporary work camp was located adjacent to the Burney Springs and Cornaz Lake area. The report notes concerns for the "increasingly hazardous slash areas being left by nearby logging operations." It is mentioned that Burney Springs was of significant importance in potentially battling a wildfire if one were to erupt within this area due to these slash piles.

### **Methodology for Analysis**

A cultural resource analysis was conducted for the Eiler Project to determine if cultural resources were present in the Area of Potential Effects (APE), and if such resources would be affected by project actions. This analysis is a key element required under the regulations of the National Historic Preservation Act (NHPA), 1966, as amended (P.L. 89-665, 80 Stat.915), the National Environmental Protection Act (1969), the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Grave Protection and Repatriation Act (1990: P.L. 101-601), the American Indian Religious Freedom Act (1978: P.L. 95-341), and as called for by the First Amended Regional Programmatic Agreement Among The U.S.D.A. Forest Service, Pacific Southwest Region California, State Historic Preservation Officer, and the 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 (USDA 2012) (Regional PA).

NHPA and its implementing regulations require Federal agencies to consider the effects of their undertakings on Historic Properties. The term Historic Properties refers to Class I cultural properties (cultural resources) that have been listed or determined eligible for the National Register of Historic Places (NRHP). Protection of Historic and Cultural Properties, 36 CFR 800, outlines the set of procedures established by the NHPA that Federal Agencies follow before implementing an action that may affect Historic Properties. For the purpose of this analysis, any properties currently identified as potentially eligible or unevaluated would be considered Class II properties and are the same as eligible properties (Historic Properties). Class III properties are those sites that have been evaluated and found not eligible for listing with the NRHP. Such sites generally do not require further protection or mitigation.

In addition to legal mandates requiring an analysis of cultural resources, scoping was also conducted for this project to determine if interested public or tribal parties or entities had specific knowledge or concerns for cultural resources that may be affected by project activities.

The Lassen National Forest Land and Resource Management Plan (LNF LRMP) (USDA 1992) objectives and Forest-wide standards and guidelines are designed to ensure protection of cultural resources. The USDA Forest Service (Region 5), the California State Historic Preservation Officer (SHPO) and the Advisory Council developed a standard set of guidelines for the identification, recording, and treatment of cultural resources on National Forest System lands. These guidelines are known as the Regional PA. The analysis included the Eiler Project area as the Area of Potential Effects (APE).

### Existing Condition

Archaeological work specific to the Eiler Project area consists of 18 unpublished surveys related to project activities (primarily timber sales). To date 25,822 acres have been surveyed within the Eiler fire boundary on National Forest Service land. Some of the 25,822 acres were surveyed adjacent to the treatment areas (Table 1).

**Table 1: Surveys conducted in the Project area.**

Survey Number	Project Name	Survey Number	Project Name
R1981050653083	Dutch Timber Sale	R1993050653088	Red Rock Burn SSTS
R1981050653189	Wilcox Timber Sale	R1993050653089	Tamarack SSTS
R1982050653170	Rocky Timber Sale	R1996050653124	Thousand Lakes Wilderness Survey
R1986050653144	Honn Homestead Exchange	R2004050653249	Highway 89 Brush Clearing
R1987050653011	Baker Timber Sale	R2005050653034	Backbone DFPZ
R1990050653159	Lucky Insect SSTS	R2005050653035	Defensible Profile Zones
R1992050653086	Butte Helicopter SSTS	R2010050653009	Brown's Fire Reforestation Project
R1992050653120	Eiler SSTS	R2011050653007	Whittington Forest Health Restoration Project
R2015050600004	Eiler Fire	R2015060500033	Eiler Fire Restoration Addendum

A total of 21 historic properties have been recorded as a result of these surveys (Table 2). Historic properties are defined as prehistoric, historic, or both prehistoric and historic sites.

H-Historic, P-Prehistoric, P/H Both

**Table 2: Sites in the Project area.**

Site Number	Site Type	Site Number	Site Type
05-06-53-00361	P	05-06-53-00714	H
05-06-53-00491	H	05-06-53-00715	H
05-06-53-00624	P/H	05-06-53-01245	H
05-06-53-00625	P	05-06-53-01247	H
05-06-53-00627	P	05-06-53-01250	H
05-06-53-00634	H	05-06-53-01251	H
05-06-53-00711	H	05-06-53-01465	P/H
05-06-53-00712	H	05-06-53-01473	P
05-06-53-01477	H	05-06-53-01474	H
05-06-53-01478	P	05-06-53-01475	P
05-06-58-01486	H		

Prehistoric sites that have been recorded within the Eiler Project area are tentatively sorted into three classes— base camps, temporary camps and task sites. Base camps are those sites that exhibit repeated use by a moderately large group of people in pursuit of seasonal resource procurement and processing activities. These sites may have been used repeatedly over the years for brief periods of time. Archaeological evidence for base camps is complex and includes, but is not limited to structural remains such as rock rings, house pits, midden, an abundance and variety of stone tools types including a substantial ground stone component, and a variety of faunal and floral remains (if conditions permit their preservation).

Temporary camps are an intermediate site type. The duration and amount of prehistoric use would have been significantly less and the artifacts assemblage would be relatively smaller and less diverse revealing moderate lithic and ground stone scatters. Task sites are localities where a very limited number of procurement and/or processing activities were accomplished. Archaeological evidence for these types of sites are generally quite small and they consist of a narrow range of tools associated with limited activities: e.g. a few projectile points and associated biface sharpening flakes, an isolated mortar and pestle, or a sparse lithic scatter. The distribution of temporary camps and task sites occurs in the same vicinity of base camps but is smaller in size for the most part.

The historic sites recorded within the Eiler Project area provide evidence of early ranching, logging, and Forest Service use. Two of the historic sites consist of corrals used for cattle, four of the sites consist of trash scatter corresponding to early logging, and one site is associated with the Hat Creek Work Center.

## **Desired Condition**

The above referenced cultural resource laws and regulations are designed to protect and preserve sites that are important to our understanding of past human behaviors and adaptations. The 1992 LNF LRMP recognizes that cultural resource surveys contribute to our knowledge of past cultural practices. The 1992 LNF LRMP also provides for inventory and protection; maintenance of scientific, historic, and cultural values; scientific study of cultural resources; and providing visitor information to the public regarding cultural resources. Public awareness of cultural resources can be increased by distributing information from scientific studies in the form of exhibits or other interpretive means.

The 21 eligible or potentially eligible sites must be fully protected to ensure that elements that contribute to the site's eligibility are not affected by indirect or direct project activities. These sites would be protected from project effects that could adversely affect sites until eligibility determinations are completed. The archaeological inventories, results, and treatment plans for cultural resources are described in the various cultural resource survey reports listed previously in this report. These surveys are consistent with current direction and regulations as found in the LNF LRMP and in the Regional PA. As such, this project is compliant with Section 106 of the National Historic Preservation Act and meets the desired condition for Cultural Resources.

## Environmental Effects

### Alternative 1: Proposed Action

The proposed action was developed to accomplish the purpose and need for the Eiler Project by evaluating existing vegetation conditions, burn patterns and intensities, and land allocations within the analysis area.

**Table 3. Proposed treatment categories and estimated acres in the Eiler Project**

Proposed Treatment	Treatment Acres	Reforestation Acres			
		Conventional	Cluster	Founder	Natural Regen
Roadside Hazard Trees	1,174	580	228	68	297
Area Salvage – Ground Based	2,567	1,357	1,119	27	65
Area Salvage – Helicopter Based	481	33	47	402	0
Area Fuels - Mechanical	517	250	39	7	221
Area Fuels - Hand	3,602	114	822	536	2,129
Baker Cypress Treatment	361	0	0	16	345
Reforestation Only		0	0	0	815
Total Acres	8,702	2,334	2,255	1,056	3,872
<b>Deferred Treatment</b>					
Natural Recovery	5,384				
Roadside Hazard Trees	34 miles				
Trailside Hazard Trees	2 miles				

*Note: These acreages have been adjusted during analysis and implementation due to reductions for wildlife habitat, RCAs, archeological sites, stand deterioration, etc.*

### Hazard Tree Removal

The Lassen National Forest (LNF) proposes to fell and remove or fell and leave in place fire-affected hazard trees posing critical threats to safety along 34 miles of maintenance level 2 (ML2) and higher roads, and along two miles of trail within the Eiler Fire perimeter. Hazard tree marking guidelines would be based upon the fire-injured tree marking guidelines at the 0.6

probability of mortality level ( $P_m=0.6$ ) and hazard tree marking guidelines developed by Region 5 Forest Health Protection. The guideline criteria for delayed, fire-related conifer tree mortality are based on percent crown length killed. The objectives of these guidelines are to: 1) remove those trees that are dead or have a high probability of mortality due to fire-injury or have structural defects that indicate high failure potential to abate potential hazards to visitors and improve safety and access within the Eiler Fire area and 2) retain those trees that would likely survive to maintain visual quality, wildlife habitat and recreational values. This balance aims to retain healthy forested conditions while providing for safety and access to the area. Hazard trees are usually within one and a half tree lengths away from the road.

Merchantable trees would be removed using area salvage. Sub-merchantable trees and non-merchantable hazard trees would be felled and left in place, or piled and the piles burned, or broadcast burned depending upon the amount of surface fuel loading present.

Hazard trees would be felled and left in the Thousand Lakes Wilderness along trails and adjacent to campsites. Hazard trees would also be felled and left in place along the portion of the 33N06Y road that is in the IRA just north of Thousand Lakes Wilderness. No other actions will take place in the wilderness and IRAs.

No snag retention is planned in these areas. Reforestation strategies in the Hazard Tree units would be the same as adjacent stands.

### **Area Salvage Harvesting**

The Forest Service is proposing to salvage harvest fire-killed and fire-injured trees within the perimeter of the Eiler Fire. Merchantable trees would be removed as sawlogs if operations occur in a timely manner before the wood deteriorates. Non-merchantable trees of smaller diameters would be removed as biomass, masticated, felled and lopped, machine or hand piled and burned, and/or broadcast burned to meet desired fuels conditions.

Fire salvage marking guidelines are based upon the fire-injured tree marking guidelines developed by Region 5 Forest Health Protection at the 0.7 probability of mortality level ( $P_m = 0.7$ ). The guideline criteria for delayed conifer tree mortality are based on percent crown length killed. The objectives of these guidelines are to 1) remove those trees that are dead or have a high probability of mortality due to fire-injury and 2) retain those trees that would likely survive to maintain wildlife habitat and desired forest cover.

The salvage harvest operations would utilize ground-based, mechanical harvesting to remove fire-killed and fire-injured trees from treatment areas on slopes 35 percent or less. On slopes greater than 35 percent, hand-felling and yarding by helicopter would be used to salvage harvest fire-killed and fire-injured trees from treatment areas. Area salvage harvesting would occur on approximately 3,048 acres. Natural and activity-generated fuels would be broadcast burned or piled mechanically or by hand, and piles burned. The number of acres treated by broadcast

burning or pile burning is dependent on the amount of biomass removed from within the mechanical or hand treatment units. If more biomass is removed, the number of broadcast or pile burning acres would most likely decrease. The maximum for burning is used in this proposal.

With the proposed area salvage activities, approximately 125 acres would be treated within RCAs adjacent to stream channels and seasonal wetlands. Approximately 110 acres would be treated using ground-based mechanical equipment. In the remaining acres within RCAs proposed for area salvage, harvest activities would consist of hand-felling and helicopter yarding.

Within tractor units, snag retention leave islands would be generally two to five acres in size, and would comprise approximately 25 percent of the acres within each unit. Leave patches would be distributed across the unit to maintain diversity. While rocky areas may represent a small proportion of such patches, the majority would be in good growing sites so that the patches would contain an abundant understory in the future. Snag clump locations would not occur within 150 feet of aspen and cottonwood communities on the east, south and west side stand or 100 feet on the north side to maximize light to the stand and allow for expansion.

Within the helicopter units, approximately 100 square feet of basal area per acre of snags would be left to maintain black-backed woodpecker habitat ranging from 10 inches diameter at breast height (DBH) to an upper diameter that will vary by unit. Snags deemed as safety hazards during operations will be felled and left on site.

Snag retention would differ in the the RCA land allocation to provide for future woody debris recruitment that would provide habitat structure and hydrologic function such as sediment trapping. The amount and distribution of standing trees retained would represent the range of natural variability of pre-fire suppression conditions. Within wet and dry meadows and intermittent stream RCSAs, a minimum of one to two snags greater than 15 inches in diameter would be retained per 100 feet.

### **Area Fuels Treatments**

In areas that were deforested but the size of the remaining timber is sub-merchantable, the Forest Service is proposing to treat fire-killed and fire-injured trees. Non-merchantable trees of smaller diameters would be removed as biomass, masticated, felled and lopped, machine or hand piled and burned, or broadcast burned. Trees designated for removal and snag retention would use the same guidelines as discussed above under Area Salvage.

Snag retention leave islands would use guidelines as those discussed above for tractor area salvage units.

### ***Mechanical***

The fuels treatment operations could utilize ground-based, mechanical equipment to remove or arrange fire-killed and fire-injured trees from treatment areas on slopes 35 percent or less.

Mechanical area fuels treatments would occur on approximately 517 acres. Activity-generated fuels would be broadcast burned or piled mechanically or by hand, and piles burned.

### ***Hand***

Hand felling would be used on slopes greater than 35 percent, in areas inaccessible to mechanical equipment, and in areas where the biomass is not removed. Hand fuels treatments would occur on approximately 3,602 acres. Natural and activity-generated fuels would be broadcast burned or piled mechanically or by hand, and piles burned.

The number of acres treated by broadcast burning or pile burning is dependent on the amount of biomass removed from within the mechanical or hand treatment units. If more biomass is removed, the number of broadcast or pile burning acres would most likely decrease. The maximum for burning is used in this proposal.

### ***Baker Cypress***

Fuels treatments proposed in Baker cypress stands depend upon cypress density. On 200 acres where cypress occurs as isolated trees or small stands, standing fuels would be mechanically piled and burned. On 150 acres where pre-fire densities of cypress were high, and natural regeneration of cypress trees is expected to be high, hand-thinning treatments would occur only in areas where impacts to Baker cypress seedlings could be avoided. On 10 acres within the Eiler Gulch area where Baker cypress is scattered along the riparian corridor, hand thinning and pile burning activities are proposed. No additional site preparation would occur, although windrow spreading may occur within Baker cypress treatment units where windrows are not occupied by Baker cypress.

The remainder of the cypress occurs within hazard tree units or salvage units where impacts to the cypress would be minimized through project design features. Broadcast burning activities are not proposed within Baker cypress occurrences.

### **Reforestation**

Reforestation is proposed on approximately 5,645 acres within the project area in sites prepared by salvage harvest and fuels treatment. In addition, sprouting shrubs and vegetation may need to be treated adjacent to planted trees to reduce competition for site resources in order to assure establishment. This may be done through manual or mechanical cutting methods such as grubbing, mastication, or the use of brush cutters. Soil windrows within burned areas would be spread out using heavy mechanical equipment. An effort will be made to spread the soil as evenly as practicable. All site preparation would occur prior to planting. Reforestation would typically need to occur within two years to increase the probability of survival of the planted trees with the competing brush.

Tree planting strategies would be implemented to comply with Region 5 Stocking Guidelines over time. These guidelines define future minimum and recommended stocking levels by forest type and site class, ranging from 75 to 300 trees per acre. Lower quality sites would have lower stocking levels than higher quality sites, contributing to a heterogeneous forest structure across the landscape. Planted tree species would be appropriate for the site and would include a mixture of Jeffrey, ponderosa, western white, sugar pine, Douglas-fir, or incense-cedar. Red fir would be planted if a seed source is not present. Only native tree species grown from locally collected seed sources would be planted.

Four planting strategies are proposed for reforestation: conventional planting, cluster planting, founder stands, and natural regeneration (see Silviculture Report for description of strategies and locations). Planting strategies would be utilized to assist in creating forest heterogeneity at different scales to produce a more disturbance-resilient landscape and enhance ecological function in the future. Topography, slope position, aspect, slope steepness, and soil productivity would be taken into account to create different forest structures on the landscape that mimic those created by an active fire regime. For example in steeper high elevation areas density and canopy cover would be highest in valley bottoms, decreasing over the midslope and become lowest near and on ridgetops. In lower elevation broad valley bottoms, densities and canopy cover would be lowest near the bottoms and increase with elevation. Density and canopy cover along the hill slope would be higher on northeast aspects compared to southwest and vary with slope becoming more open as slopes steepen. This strategy would not only create heterogeneity to increase resiliency but would also create habitat for species that prefer denser canopy mature forest structures, such as northern goshawks. No reforestation would occur in snag retention leave islands.

Spacing for reforestation strategies were developed for these areas to encourage hardwoods and enhance meadow and riparian function. Hardwood trees would be encouraged and promoted where they exist in plantations. Planting densities would generally be lower and trees widely spaced around California black oak. Conifers would not be planted within 20 feet of live black oak tree crowns, including sprouts greater than three feet tall.

Reforestation of conifers would not occur within 150 feet of aspen and cottonwood communities on the east, south, and west side stand or 100 feet on the north side to maximize light to the stand and allow for expansion. Where browsing inhibits recruitment of regenerating aspen and cottenwoods, fencing would be implemented to protect regeneration until suckers and sprouts exceed the browse line.

Reforestation planting strategies would differ as well with no reforestation occurring within 50 feet of the meadow edge. From 50 feet of the meadow edge and out, planting density would increase using the planting strategy and spacing based on the surrounding forest stand condition.

Along stream channels and seasonal wetlands with existing riparian communities (e.g. willow, alder, aspen, sedges, rushes, etc.), reforestation of conifer species would not occur within 20 feet of the riparian plant community.

Where Baker cypress is widely scattered, reforestation with Baker cypress in founder stands would occur on up to 16 acres. Reforestation would not occur where pre-fire cypress distribution occurred at high densities and natural regeneration of cypress trees is expected to be high. No additional release activities would occur.

Forest Service personnel would visit riparian areas within the Eiler Fire perimeter during the growing season of 2015 to determine the amount and effectiveness of natural regeneration. If vegetation regrowth does not appear to be sufficient, then willow, aspen, sedges, and/or other appropriate riparian species would be hand planted as a follow-up treatment. First- and third-year survival examinations on all planted units would occur. Planted units would be assessed for competing vegetation and the need for follow-up treatment to ensure survival and stocking are met. The proposed action includes at least one release treatment using manual or mechanical methods such as hand grubbing, mastication, or brush cutting to control competing vegetation within one to three years and a second treatment conducted within two to five years of planting. Animal control actions such as protective barriers or trapping may be used if warranted. Sites planted with trees should be certified of establishment five years after planting.

### **Transportation System**

Where possible, the existing forest transportation system would be used to provide access to treatment units. Road maintenance, including surface protection and erosion control, would be performed on portions of the system as needed for project implementation. A dust abatement plan would be included to control wind-caused erosion from road use. National Forest System roads and non-paved County roads used for haul would receive pre-, during-, and post-haul maintenance.

Approximately 2.4 miles of existing non-system roads within the project area would be needed for project implementation, including salvage and fuels treatments, reforestation, and maintenance due to the changed condition caused by the fire. These non-system roads would be added to the Forest transportation system as ML2 roads. Approximately one mile of new construction would occur to implement proposed actions. These roads would also be added to the Forest transportation system as ML1 roads. Approximately one mile of temporary roads may be constructed to access proposed treatment areas. Following project implementation, these temporary roads would be decommissioned.

All water sources proposed for use in this project for dust abatement would be brought up to best management practice (BMP) standards, if they currently do not meet those standards. Water sources proposed for use in implementing this project include:

- Bidwell Pond (T34N R4E, S ½ Sec. 1)
- Boundary Camp (T35N R4E SW¼ Sec. 33)

## **Direct Effects**

### **Hazard Tree Removal**

The LNF proposes to fell and remove or fell and leave in place fire-affected hazard trees posing critical threats to safety along 32 miles of maintenance level 2 (ML2) and 2.4 miles of unauthorized routes that will be added as ML2 within the Eiler Fire perimeter. Four sites are located adjacent to the roads proposed for hazard tree removal. In order to eliminate any adverse impacts to cultural resources, hazard trees located within historic sites may be limbed or topped to prevent soil gouging during felling. Once trees have been felled, they may be removed using only the following techniques: hand bucking, including use of chain saws, and hand carrying, rubber tired loader, crane/self-loader, helicopter, or other non-disturbing, Heritage Program Manager approved methods. Also, equipment operators shall be briefed on the need to reduce ground disturbances (e.g., minimizing turns). Most importantly, no skidding or tracked equipment shall be allowed within historic property boundaries.

### **Area Salvage Harvesting**

Proposed treatments to salvage harvest fire-killed and fire-injured trees within the perimeter of the Eiler Fire have the potential to adversely affect the 16 sites located within this treatment area. These 13 sites will have their boundaries flagged and tagged as Standard Resource Protection Measures (SRPM). Utilizing ground-based, mechanical harvesting to remove fire-killed and fire-injured trees from treatment areas on slopes 35 percent or less could damage or destroy the 16 sites located within this treatment area; therefore, no mechanical ground-based harvesting would occur within the sites. The activities associated with removing non-merchantable trees can cause adverse effects to cultural resources present in the treatment areas. Mastication, machine piling and burning will without a doubt adversely impact cultural resources, for that reason these activities cannot take place within sites. Any falling and lopping of trees must also occur off sites in order to avoid damage to cultural resources. Any activity generated fuels that would be broadcast burned or piled mechanically or by hand and then burned, will be located outside of the boundaries of historic properties in order to eliminate impacts to cultural resources. Burning may occur within sites that have previously disturbed areas and only if it has been specifically approved by the Heritage Program Manager (HPM) or qualified Heritage Program staff.

On slopes greater than 35 percent, hand-felling and yarding by helicopter would be used to harvest fire-killed and fire injured trees from treatment areas. At this time no historic properties are located in areas proposed for helicopter salvage harvest. Due to the steepness of the terrain, only 26 acres have been surveyed to date. Due to the steepness of the area, it is unlikely that cultural resources are present; however, if any cultural resources are identified during project implementation (unanticipated discovery) all work would cease immediately in that area until the situation is reviewed and an assessment and mitigation plan instituted to insure protection of the site.

### **Area Fuels Treatments**

Fuel treatment operations could utilize ground-based, mechanical equipment to remove or arrange fire-killed and fire-injured trees from treatment areas on slopes 35 percent or less. In areas with slopes greater than 35 percent, in areas inaccessible to mechanical equipment, and in areas where the biomass is not removed, hand felling will be used to remove the trees. Fourteen sites are located within areas proposed for mechanical fuels treatments. The potential impacts from mechanical fuels treatments would be the same as the impacts from ground-based mechanical harvesting of fire-killed and fire-injured trees. Therefore, just as with ground-based mechanical harvesting, no mechanical fuel treatments will take place within historic properties.

Four sites are located in an area proposed for hand fuels treatment. While this activity does not involve the use of heavy ground based equipment it can still impact cultural resources due to the felling of trees. The trees and bigger branches could fall onto artifacts and cause them to fracture. No hand felling of trees is allowed within the boundaries of the historic properties. If any trees need to be removed adjacent to historic properties, via mechanical or by hand, they will be directionally felled to avoid falling within historic properties. If any trees need to be removed within historic properties due to safety concerns, they may be done so following the requirements discussed under hazard tree removal as discussed previously in this report.

This treatment will also consist of burning natural and activity-generated fuels that have either been broadcast burned or piled. The use of prescribed burning may adversely affect cultural resources with flammable and/or fragile characteristics. In order to avoid any impacts to these cultural resources, no broadcast burning is permitted within site boundaries. Hand piles will not be constructed or burned within the boundaries of historic properties unless locations (e.g. a previously disturbed area) have been specifically approved the Heritage Program Manager (HPM) or qualified Heritage Program staff.

### **Reforestation**

Reforestation is proposed on approximately 5,645 acres within the project area. The activities proposed within the reforestation units could adversely affect the 21 sites located within the project area. The site preparation phase of reforestation involves the most ground disturbing

activities. Machine or hand cutting and piling, pile burning, or broadcast burning fire killed sub-merchantable trees would damage cultural resources. This activity will not take place within historic properties unless locations (e.g., a previously disturbed area) have been specifically approved by the Historic Program Managers (HPM) or qualified Heritage Program staff. The mastication of fire killed shrub stems and trees less than five inches DBH would also adversely impact cultural resources; no mastication would be allowed within historic properties. Using manual or mechanical cutting methods such as grubbing, mastication, or the use of brush cutters to remove sprouting shrubs and vegetation adjacent to planted trees could adversely impact cultural resources.

Following site preparation, tree planting will occur. Within sites, tree planting by hand may occur when a low impact method is used (e.g., planting bar; no mechanical auger), and where heritage personnel have determined that such activities would not affect the integrity of historic properties. However, follow-up treatments using manual or mechanical methods such as hand grubbing, mastication, or brush cutting should not take place within historic sites since these activities can cause adverse impacts to cultural resources.

### **Transportation System**

The approximately 2.4 miles of existing non-system roads that will be added to the Forest transportation system as ML2 roads are not located near any cultural resources and will not have any impacts on them. Also, no cultural resources are located in or near the areas proposed for new road construction. These activities will have no effect on cultural resources.

One site is located in an area proposed for drafting water; the site will not be entered during the drafting of water.

### **Indirect Effects**

Some of the treatments could enhance cultural resource values, even if they do not directly affect the landscape within the site boundary. Hazard tree removal outside of site boundaries could have a beneficial impact on cultural resources. If a hazard tree falls into a site it could potentially damage cultural resources; therefore, removing it before it falls would be a proactive protection measure for historic properties. Salvage logging adjacent to historic sites could also benefit sites just like hazard tree removal. Fire killed and fire injured trees would be removed before they could possibly fall onto historic sites and harm cultural resources. One issue with removing trees around historic sites is that the sites themselves become more visual in the landscape, especially when they have been flagged for avoidance during the project work. Flagging of historic sites provides them protection as they are treated as no entry zones. However, the same flagging can also draw unwanted attention to the sites. It is possible that flagged sites are more susceptible to looting than those sites that have not been flagged. Area fuels treatments adjacent to sites provide similar benefits as those of hazard tree removal and salvage logging. Trees will be removed that

could potentially fall into sites and damage cultural resources. Also, burning natural and activity-generated fuels surrounding historic sites will reduce fuel loading which would decrease the potential for a high intensity fire burning through the site again. Reforesting will change the visual character of the sites; the new planted trees will obviously not be located in the exact location of the fire damaged trees. However, it is likely that many fires have occurred in this area and the proposed reforestation will just be another chapter of the ever changing landscape.

### **Cumulative Effects**

The cumulative effects analysis boundary for cultural resources is the Eiler fire boundary including private lands. The geographic scope of the cumulative effects analysis boundary was selected because impacts to cultural resources accumulate at the specific location of cultural resources, irrespective of actions in surrounding areas. Archaeological sites are stationary resources, which are protected from all project (current or future) related activities until eligibility for the National Register of Historic Places has been determined. Generally, archaeological sites are not influenced by actions taken outside their boundary since this is addressed and mitigated during project planning and integrated design features. A temporal scope was also selected in determining cumulative effects, because impacts to cultural resources at a given location can accumulate over time from different activities or events.

The cumulative effects analysis for cultural resources considers impacts of the alternatives when combined with the past, present, and foreseeable future actions and events prior to the 1974 Forest and Rangeland Renewable Resources Planning Act and the archaeological protection laws of the mid-1970s. Effects to cultural resources were not considered during project planning or implementation. Consequently, cumulative impacts of varying degrees occurred within the project area from various land management activities including primarily logging, fuel reduction efforts, road construction, and grazing. Natural environmental processes and unrestricted land uses have also contributed to effects to cultural resources within the Eiler Project area. These include: dispersed recreation, OHV uses, user created roads and trails, wildfires, erosion, and exposure to the elements. The hand planting, prescribed burning and salvage logging with this alternative could cause additional adverse impacts on cultural resources located in the project area.

### **Determination**

Activities associated with this alternative would comply with the National Historic Preservation Act (NHPA) of 1966, as amended and implementing regulations 36 CFR 800. Protection of cultural resources would also comply with the Regional Programmatic Agreement as referenced above. SRPM as outlined in the Regional PA would be followed throughout the duration of project activities. Provided that SRPMs are applied, all project impacts would avoid historic

properties. Following such protective measures, no adverse effects to the known sites are anticipated.

## **Alternative 2: No Action**

Under the No Action alternative, none of the activities proposed under Alternative 1 would be implemented. Hazard tree felling could occur along roads currently open to the public, trails, and developed recreation sites. These hazard trees could be felled and left in place as part of road maintenance as per LRMP direction. The No Action alternative would not preclude activities already approved in this area or activities planned as separate projects. No fuels treatments, site preparation, or reforestation would occur.

### **Direct and Indirect Effects**

In an effort to minimize further impacts to the sites, the hazard trees should be felled away from sites. The risk of cultural resource damage may be higher should the “No Action” alternative be selected due to trees falling into the sites. Also due to the lack of fuels treatments, fuel loading may occur adjacent to sites. This option would not provide opportunities for study and interpretation.

### **Cumulative Effects**

Without management intervention there is a concern that falling trees and fuel loading in and around historic properties would lead to a loss of historic integrity of the site. While the loss of historic integrity may not be great, it still is important to mitigate issues that may affect the site’s eligibility for the NRHP.

## **Alternative 3: Roadside Hazard only**

Under Alternative 3, commercial sized hazards would be removed along 32 miles of ML2 and higher roads. Sub-merchantable hazards would be felled and left in place or piled and burned. No other site preparation or reforestation would occur along these roads. No other actions would occur within the fire perimeter.

### **Direct and Indirect Effects**

Hazard trees may be removed within sites following the guidelines discussed in the hazard tree effects section of this report. In an effort to minimize further impacts to the sites, no piling or burning is allowed within sites. No adverse effects from project related activities would occur to cultural resource sites as a result of implementing this alternative. The risk of cultural resource damage may be higher should this alternative be selected due to trees falling into the sites. Also

due to the lack of fuels treatments, fuel loading may occur adjacent to sites. This option would not provide opportunities for study and interpretation.

### **Cumulative Effects**

Without management intervention there is a concern that falling trees and fuel loading in and around historic properties would lead to a loss of historic integrity of the site. While the loss of historic integrity may not be great, it still is important to mitigate issues that may affect the site's eligibility for the NRHP.

### **Section 106 consistency review and approval:**

This undertaking has been approved in accordance with stipulations in the *Programmatic Agreement among the U.S.D.A. Forest Service, Pacific Southwest Region (Region 5), California State Historic Preservation Officer, Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation (USDA 2012.)* The undertaking may be implemented as planned for historic properties provided any specified Standard Resource Protection Measures are also adopted. No additional measures are needed to identify or protect historic properties unless the undertaking's APE is modified in ways that may have an effect on historic properties. If the APE is so modified, additional review and approval by the District Archaeologist will be required.

/s/ Robert Gudiño  
Robert Gudiño  
District Archaeologist

06/05/2015  
Date

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