

Paradise Ridge Fuel Break

EA # DOI-BLM-LLCAN030000-2009-0022

Finding of No Significant Impact Determination

Based upon a review of the EA and the supporting documents, the BLM Arcata Field Office has determined that this project is not a major federal action and will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area. The project includes no environmental effects that meet the definition of significance in context or intensity as defined in 40 CFR 1508.27. Design features to reduce impacts were incorporated into the project. None of the environmental effects discussed in detail in the EA are considered significant, nor do the effects exceed those described in the *King Range National Conservation Area Resource Management Plan and Final Environmental Impact Statement*. The project involves use of common implementation and monitoring techniques and there is no scientific controversy or uncertainty over the type or level of impacts. The action will not adversely affect an endangered or threatened species or habitat, historic or cultural properties, wilderness, or other unique characteristics of the area. The action is in compliance with all laws and policies guiding management of the area. Therefore, an environmental impact statement is not needed.



Lynda Roush
Arcata Field Manager

10-23-2009

Date

Paradise Ridge Fuel Break

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Decision Record

Decision and Rationale

It is the decision of the BLM Arcata Field Office to implement the Paradise Ridge Fuel Break treatment with associated design features to minimize impacts. The treated area will include approximately 75 acres of BLM land within the King Range NCA. The treatment will consist of reducing vegetation 75 feet back from both sides of the Paradise Ridge Road by selectively thinning and mechanically chipping or masticating brush and understory vegetation. The results of this fuel break will be well-spaced trees, approximately 300 per acre providing a shaded canopy with the absence of understory vegetation.

Mastication will be accomplished using tracked or rubber-tired equipment. All equipment operations will cease if soil moisture is sufficient to result in visible rutting or spinning tires on wet ground, or if operations result in a visible increase in turbidity within any receiving watercourses. Equipment will avoid operating on slopes greater than 60 percent or areas with evidence of recent instability. The BLM representative (Contracting Officers Representative/Project Inspector) overseeing the project will make the determination to halt equipment operations or avoid areas based on on-site observations of soil conditions. All rare plants (identified in the Special Status Plant Species Assessment) that are likely to be impacted by the proposed action will be marked with blue flagging tied to bamboo stakes and will be avoided. Preventative action will be taken to limit the opportunities for the introduction, establishment, or spread of invasive, non-native plant species.

The selected alternative best meets the purpose and need for the project which is twofold: 1) To allow for use of fire as a natural land management tool and allow opportunities to re-establish a natural fire regime in the King Range backcountry; and 2) To minimize the risk to public safety, firefighter safety, and private property by improving and expanding the existing fuel break system on BLM lands. This project is not expected to adversely impact elements of the human environment due to design features and operations criteria. This decision is consistent with the King Range National Conservation Area Resource Management Plan and other relevant laws, regulations and policies guiding management of the project area.

Administrative Remedies

Administrative remedies may be available to those who believe they will be adversely affected by this decision. Appeals may be made to the Office of Hearings and Appeals, Office of the Secretary, U.S. Department of Interior, Board of Land Appeals (Board) in strict compliance with the regulations in 43 CFR Part 4. Notices of appeal must be filed in this office within 30 days after publication of this decision. If a notice of appeal does not include a statement of reasons, such statement must be filed with this office and the Board within 30 days after the notice of appeal is filed. The notice of appeal and any statement of reasons, written arguments, or briefs must also be served upon the Regional Solicitor, Pacific Southwest Region, U.S. Department of Interior, 2800 Cottage Way, E-1712, Sacramento, CA 95825.

The effective date of this decision (and the date initiating the appeal period) will be the date this notice of decision is posted on BLM's Arcata Field Office internet website.



Lynda Roush
Arcata Field Manager,

10-23-2009

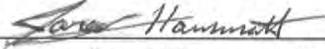
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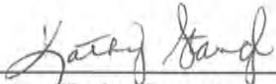
Paradise Ridge Fuel Break

EA # DOI-BLM-CA-N030-2009-0022

Date:09/01/2009

**Bureau of Land Management
Arcata Field Office
Arcata, CA**

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 9/29/09
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1.0 Introduction

1.1 Background and Setting

The Bureau of Land Management's (BLM) Arcata Field Office manages the King Range National Conservation Area (NCA) which surrounds the community of Shelter Cove, California. The community is situated on a coastal flat below the King Range Mountains of the Northern Coastal Ranges, a location which makes the community vulnerable to high intensity wildfires that typically move from northeast to southwest. Historical fire occurrence in this area indicates a large, intense wildfire every 20 to 30 years. The last large devastating wildfire was in 1973, where approximately 16,000 acres were severely burned. Significant urban development has occurred since the 1973 wildfire and approximately 80 percent of the houses in the community of Shelter Cove are situated within the perimeter of the fire. Approximately 200 homes have been built in Shelter Cove and more development is expected. Steps are being taken by the Shelter Cove Resort Improvement District, county and state government, and local residents to address the wildfire risk within the community of Shelter Cove.

The BLM has also been actively addressing the hazard fuels issue by providing grant funding to local fire departments and maintaining BLM suppression resources in the area. Over the last 10 years, the BLM has been creating and maintaining a system of fuel breaks designed to increase suppression effectiveness and thus protect Shelter Cove in the event of a wildfire. Fuel breaks are defined as an area of reduced vegetation along strategic locations such as roads or ridgetops. Fuel load reduction is an effective way to moderate elements of fire behavior such as flame length, intensity (heat per unit area), severity (effects of fire on environment), and rate of spread.

1.2 Purpose and Need for Action and Decision to be Made

This proposed action is designed to improve the existing fuel break system by incorporating additional areas and increasing the range of available treatment options. This project is also part of a larger plan to use fire as a natural land management tool and allow opportunities to re-establish a natural fire regime in the King Range backcountry. The accumulation of hazardous fuels and the expansion of the homes into the wildland urban interface have increased the risk that destructive wildfire could impact Shelter Cove. Paradise Ridge Fuel Break is designed to limit the spread of wildfires from the South Fork of Bear Creek and the Mattole River watershed into Shelter Cove, a federally registered "Community-At-Risk."

The primary goal of this project is to minimize the risk to public safety, firefighter safety, and private property by improving and expanding the existing fuel break system on BLM lands.

1.3 Conformance with Land Use Plan

The Proposed Action is consistent with the King Range National Conservation Area Resource Management Plan (RMP) (May 2005), and the Arcata Field Office Fire Management Plan (FMP) (March 2008).

The King Range National Conservation Area RMP Record of Decision (Pages 6, 4-40, and 4-60–63) gives BLM the options of using prescribed fire and mechanical fuel reduction to:

- Mimic the pre-mechanization era fire regimes that helped to shape and maintain the distribution and extent of grasslands.
- Reduce potential for high intensity fires.
- Develop a shaded fuel break system to protect communities.
- Provide a defensible perimeter around the Backcountry Zone.
- Minimize the need for construction of bulldozer lines during fire events.

The King Range RMP allows for expansion of the fuel break system to meet the objectives of the King Range RMP and the Arcata FMP. Area specific objectives and strategies are described in detail in the Arcata FMP.

This project is consistent with Standards and Guidelines for the Management of Habitat for Late-Successional and Old-Growth Forests Related Species within the Range of the Northern Spotted Owl as stated in the Northwest Forest Plan (1994). The plan addresses the need for maintaining the “natural” disturbance regime and also reducing the risk of stand replacement fires.

The decision to be made in this environmental assessment is whether or not to expand the existing fuel break system.

1.4 Relationship to Statutes, Regulations or Other Plans

Managing the Impacts of Wildland fires on Communities and the Environment – The National Fire Plan (2001)

Arcata Resource Area Resource Management Plan and Environmental Impact Statement (1992)

Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl (1994)

North Coast Unified Air Quality Management District Particulate Matter (PM10) Attainment Plan (1995)

California Ambient Air Quality Standards for PM10 (1994)

Guidance for Implementation of Wildland Fire Management Policy (2009)

Interagency Strategy for the Implementation of Federal Fire Management Policy (2003)

1.5 Scoping and Issues

Residents of Shelter Cove and others have expressed concern about fire danger and have communicated support for a fuel break system designed to protect the community. Previous fuel break projects conducted in the area have not generated public opposition.

2.0 Proposed Action and Alternatives

2.1 Proposed Action

The project is located in Township 4S, Range 1E, Sections 22, 23, 24, 26, and 35, and Township 5S, R1E, Sections 1 and 2. It runs predominantly north-south along Paradise Ridge Road for approximately 4.7 miles and a half mile east-west along Finley Ridge Road (Figure 1).

The treated area would be approximately 75 acres of BLM land within the King Range NCA. The treatment would consist of reducing vegetation 75 feet back from both sides of the Paradise Ridge Road by selectively thinning the overstory and removing the majority of understory vegetation. This would be accomplished by implementing a prescription in which:

- All severed vegetative material would be cut, masticated, or piled and burned.
- Leave trees would be spaced a minimum of approximately 15 feet apart and no stems greater than 10 inches at diameter breast height (DBH) (diameter measured at 4.5 feet above the ground) would be cut or masticated.
- All trees would be limbed proportionally to a maximum height of 7 feet.
- All masticated or chipped material would be scattered on or adjacent to the fuel break.

The results of this fuel break would be well-spaced trees, approximately 300 per acre providing a shaded canopy with the absence of understory vegetation. Sections of the fuel break that are open grassland would be maintained through mechanical means and prescribed burning to include broadcast and pile burning. Enhancement of these grasslands has the dual benefits of restoring wildlife habitat while maintaining a functional fuel break. Treatment areas may extend beyond 75 feet up to 500 feet in areas occupied by a grassland vegetation cover type to facilitate restoration and maintenance of remnant prairies. Native perennial grasses derived from locally collected seed would be transplanted in remnant prairies to enhance resilience of native species prior to and after burning.

Mastication would be accomplished using tracked or rubber-tired equipment with a maximum overall width of 12 feet to reduce damage to leave trees. All equipment operations would cease if soil moisture is sufficient to result in visible rutting or spinning tires on wet ground, or if operations result in a visible increase in turbidity within any receiving watercourses. Equipment operations may resume when soil conditions are sufficiently dry such that rutting, tire spinning and turbid runoff is not occurring. Equipment would avoid operating on slopes greater than 60 percent or areas with

evidence of recent instability. Evidence of recent instability includes, but is not limited to, slumping ground, tension cracks, bare scarps, and tilted trees. The BLM representative (Contracting Officers Representative/Project Inspector) overseeing the project would make the determination to halt equipment operations or avoid areas based on on-site observations of soil conditions.

Current surveys for the Northern Spotted Owl (NSO) indicate that there is an active territory near the project area along the ridge that separates Big Finley with Little Finley Creeks. A restriction to the work along that ridge requires that the work not start until after July 31, the end of the spotted owl breeding season, and discontinue after February 1st. This would ensure that any nesting owls in this area are not disturbed by noise generated from the project.

Rare plants including California Native Plant Society List 1B¹ plant Pacific blue field gilia (*Gilia capitata* ssp. *pacifica*), and CNPS List 4² plants Redwood lily (*Lilium rubescens*) and leafy reed grass (*Calamagrostis foliosa*) that could potentially be impacted by the proposed action would be marked with blue flagging tied to bamboo stakes and would be avoided.

Pursuant to Executive Order 13112, preventative action would be taken to limit the opportunities for the introduction, establishment, or spread of invasive, non-native plant species.

- 1) Road side trees would be maintained so as to provide sufficient shade to prevent establishment or spread of sun loving invasive weeds.
- 2) All heavy equipment and vehicles contracted to conduct project activities would be inspected and cleaned of any reproductive plant parts prior to entry on BLM lands.

2.2 Alternative 1 (No Action)

Under the No Action Alternative, BLM would not build and maintain a fuel break in the project area.

¹ CNPS List 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

² CNPS List 4: Plants of Limited Distribution - A Watch List

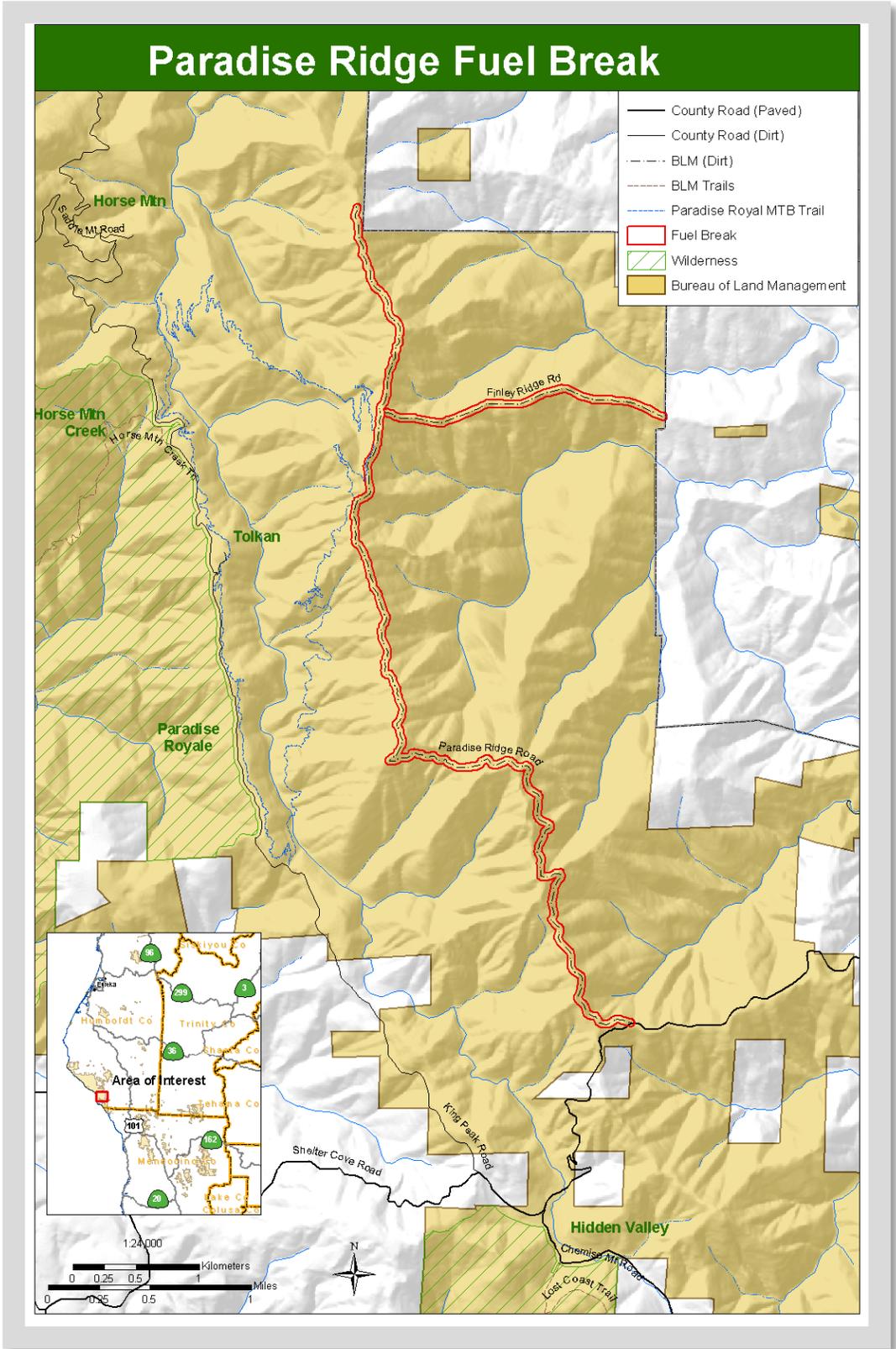


Figure 1 Paradise Ridge Fuel Break

3.0 Affected Environment

3.1 Fire/Fuels

The coastal areas heavy winter precipitation and moist summer fog contributes to rapid vegetative growth, which can act as a fuel-bed for high intensity wildfires. Another factor that has increased fire size and behavior in the region is the increased fuel-loading that has resulted from the unconditional suppression of wildfires over the last 100 years. Fuel that would be consumed in successive wildfires accumulates with some fire dependent plant species generating large amounts of highly flammable dead material. There can also be an increased overall density of species as growth of new vegetation is no longer moderated by fire. In coniferous species higher population densities and a continual vertical arrangement of fuel creates a ladder effect which can allow a fire to transition from a surface fire into a crown fire. Crown fires are extreme events marked by high flame lengths and rapid rates of spread.

The mechanical reduction of fuel loads that accumulate with increased fire return intervals has been proven effective in moderating fire behavior (van Wagtenonk, 1996)(Graham, 1999). Fuel breaks can improve the safety of firefighters and the public along access corridors in the event of a wildfire. Suppression success can also be improved by providing a safe area from which to conduct backfire operations. A backfire is a suppression tactic that involves deliberate ignition of fuel along the inner edge of a fuel break to consume the fuel in the path of an approaching wildfire.

Fuels within the project area consist of ridge top chaparral (40 percent), early to mid Douglas-fir, tan oak-madrone (50 percent), and late-mature Douglas-fir/mixed evergreen forest (10 percent). Fuels are continuous with occasional jackpots of heavier fuel concentrations.

The chaparral type is predominantly manzanita (*Arctostaphylos columbiana*) and Ceanothus (*Ceanothus oliganthus* var. *sordidatus*) with associated shrubs and forbs such as yerba santa (*Eriodictyon californicum*) and Indian warrior (*Pedicularis densiflorus*). Few Douglas-fir (*Psuedotsuga menziesii*) trees are present throughout this fuel type. The total live and dead fuel load for fuels less than 3 inches in diameter for this fuel type is estimated to be 13 tons per acre based on standards developed by Anderson (1982).

The early to mid-mature Douglas-fir, tan oak-madrone type is characterized by pole-sized Douglas-fir, tan oak (*Lithocarpus densiflora*), madrone (*Arbutus menziesii*), canyon live-oak (*Quercus chrysolepis*), and a variety of Ceanothus species (*C. thrysiflorus*, *C. incanus*, and *C. velutinus*). Dead Douglas-fir tree snags are common throughout the area composed of this type. The total live and dead fuel load for fuels less than 3 inches in diameter for this fuel type is estimated to be 5 tons per acre based on standards developed by Anderson (1982).

The late-mature Douglas-fir/mixed-evergreen type is characterized by large Douglas-fir trees comprising the upper canopies, with mid-layer canopies comprised of madrone, California Bay (*Umbellularia californica*), and canyon live-oak, and an understory layer of shrubs and forbs such as gooseberry (*Ribes roezlii* var. *amictum*), wood rose (*Rosa*

gymnocarpa) and beargrass (*Xerophyllum tenax*). The total live and dead fuel load for fuels less than 3 inches in diameter for this fuel type is estimated to be 12 tons per acre based on standards developed by Anderson (1982).

3.2 Recreation

The King Range is a popular place for public recreation due to a well developed hiking and mountain bike trail system that enables visitors to experience the unique and substantial scenic values of the area. The project area is located along Paradise Ridge Road and the Paradise Ridge Mountain Bike Trail. The road is a primary travel corridor for visitors to the King Range NCA, and the mountain bike trail (which was recently opened to the public) is expected to become a very popular visitor destination.

3.3 Visual Resources

The project area is within second-growth forest with views limited mostly to the foreground by the heavy vegetation growth. The area has high viewer sensitivity since it is located immediately adjacent to Paradise Ridge Road, a major access corridor for visitors to the King Range NCA. The King Range RMP (2005) designated the project area as Visual Resource Management (VRM) Class III. This VRM class allows for projects that contrast with the surrounding landscape, but they must not dominate the view.

3.3 Geology/soils

The Coastal Belt of the Franciscan Complex underlies the project area (McLaughlin et al. 2000). Rocks of the assemblage vary from more coherent blocks to highly folded, broken and sheared areas susceptible to increased erosion and mass wasting. Along the length of road proposed for treatment, sharp-crested ridges with a well-incised system of sidehill drainages dominate. High rainfall intensities, locally sheared bedrock and the steep topography of the King Range combine to create high erosion hazards. Ridgetop locations tend to be most stable. The upper extent of sidehill drainages often terminate in broad colluvial hollows with increased susceptibility to mass wasting. The project area is mostly along the ridgetop where erosional issues are typically lacking.

3.4 Threatened or Endangered Terrestrial Wildlife

Federally listed threatened terrestrial wildlife species listed under the Endangered Species Act (ESA) within the project area that could be affected by the Proposed Action include the northern spotted owl (*Strix occidentalis caurina*) and the marbled murrelet (*Brachyramphus marmoratus*) (USFWS 2009). The project area is located along the western edge of critical habitat for both the NSO and marbled murrelet (MAMU). NSO were listed as threatened in 1990 and MAMU were listed as a threatened species in 1992.

King Range NCA was designated as NSO critical habitat in 1992. However, the proposed fuel break is located in area of chaparral, tan oak (*Lithocarpus densiflorus*), and mostly smaller Douglas-fir (*Psuedotsuga menziesii*) trees currently of low value to NSO.

Surveys conducted from Paradise Ridge Road (2005-2009) detected an individual owl in 2005 and 2009. Surveys in 2009 detected a potential pair of owls down the western slope of Paradise Ridge while surveying for a proposed mountain bike trail. Follow up surveys found the owls had moved farther downslope to Queen Peak Mine Road area. NSO are regularly detected in areas to the west around Horse Mountain Campground. NSO are less frequently detected at other locations along King Peak Road, approximate 0.7-1.0 miles west of the project area. Surveys also found a breeding pair in the Big Finley Creek area.

Paradise Ridge Road is a single lane gravel road. NSO are not known to frequent ridge lines and have been found to use the upper 1/3 slope less than the lower 2/3. NSO have not been detected within 75 feet of the road but come to the road when called in by surveyors. However, the 75 foot road shoulder corridor where the thinning would take place may provide intermittent foraging habitat. Areas down-slope and along the creek bottom contain foraging and dispersal habitat with scattered pockets of potential roosting and nesting habitat.

Potential MAMU habitat does exist within the King Range NCA and the area was designated critical habitat in 1996. However, surveys conducted between 1994 and 1999 have only documented one fly over detection in 1995. No additional nesting or occupancy behaviors have been observed. The project would not remove trees large enough to include potential nest platforms and Paradise Ridge is exposed to frequent high winds.

These surveys allowed for a negative declaration of occupancy within the King Range NCA by the U.S. Fish and Wildlife Service for the MAMU until the year 2010. After this declaration expires, Arcata Field Office wildlife personnel would conduct clearance surveys on a project by project basis.

Several other threatened, endangered, or candidate species occur in or near the King Range NCA, but are not located near the project area. Endangered species include California brown pelican (*Pelicanus occidentalis*), beach layia (*Layia carnosa*), and western lily (*Lilium occidentale*). Bald Eagle (*Haliaeetus leucocephalus*) and western snowy plover (*Charadrius alexandrinus nivosus*) are threatened species and the pacific fisher (*Martes pennanti pacificus*) is candidate species with no habitat or occurrences in the project area. Targeted fisher surveys in 1999 and 2000 failed to detect fisher. Two baited camera stations near the project area in 2009 also failed to detect fisher.

3.5 Cultural Resources

Review of the BLM cultural resource records located at the Arcata Field Office indicates that the entire area of potential effect (APE) of the proposed project has been inventoried for the presence of cultural resources. Archaeological surveys numbered S-2462 (Levulett 1981) and S-9737 (Waechter 1986) investigated the Paradise and Finley Ridge Roads for the presence of cultural resources. The S-2462 survey recorded two sites. The first, CA-HUM-398 (Basgall and Levulett 1978), was a prehistoric lithic site that was obliterated by bulldozer work associated with the 2008 Paradise Fire. The second, CA-HUM-473H (Levulett 1981) is a historic period site that was mostly consumed by the Paradise Fire. The remains of this latter site are well outside of the APE of the proposed action.

The S-9737 survey was conducted shortly after a December 1986 prescribed fire. This survey did not locate any archaeological sites. There are several other archaeological sites (Levulett 1981) located within a mile of the proposed project area, none of which would be impacted by the proposed action.

4.0 Environmental Effects

Table 4.1 The following table lists elements of the human environment that were considered in assessing the impacts of the proposed action and alternatives. Consideration of these elements is based on requirements of law, regulation, policy or other supplemental authorities. Elements that may be impacted are further described in the sections following this table.

Element	No or Negligible Impact	May Impact	Not Present	Rationale (if applicable)
Air Quality	X			A smoke management plan would be followed that includes required permits from the North Coast Unified Air Quality Management District.
Areas of Critical Environmental Concern			X	
Cultural Resources		X		
Environmental Justice			X	
Floodplains			X	
Invasive, Nonnative Weed Species	X			Foxglove (<i>Digitalis purpurea</i>), French broom (<i>Genista monspessulana</i>), fennel (<i>Foeniculum vulgaree</i>), and briar rose (<i>Rosa rubiginosa</i>) are invasive, non-native weeds of particular concern in the project area. The proposed action would create shady conditions unfavorable to invasive, nonnative species. Negative impacts to this element would be negligible.
Native American	X			Resources of potential religious significance

Element	No or Negligible Impact	May Impact	Not Present	Rationale (if applicable)
Religious Concerns				would not be impacted.
Threatened or Endangered Terrestrial Wildlife		X		
Threatened or Endangered Fish---Essential Fish Habitat	X			The project is limited to generally stable ridge locations away from watercourses. Erosion caused by this project is highly unlikely to reach fish habitat. Thus, no effects are expected.
Threatened or Endangered Vegetation	X			A complete field survey of the proposed action area was completed as is included in the EA case file. Avoidance recommendations are included in the proposed action.
Waste- Hazardous/Solid	X			No hazardous materials or solid wastes beyond small generator quantities would be produced as a result of the proposed action. These small quantities would be disposed of at approved facilities.
Water Quality: surface/ground/drinking	X			The project is limited to generally stable ridge locations away from watercourses.
Wetlands/Riparian			X	
Wild & Scenic Rivers			X	
Wilderness/Wilderness Study Areas	X			The project would benefit wilderness resources by reducing the need for suppression activities within the wilderness (dozer lines, etc.) to protect the community of Shelter Cove.
Recreation		X		
Visual Resources		X		
Public Health and Safety	X			Public Health and Safety would be enhanced as a result of this project.
Social and Economic			X	
Forests/Rangelands	X			Treatment would benefit forest stand growth and resilience.
Coastal Zone			X	
Fuels		X		Fuel loading would be reduced within project area.
Geology/soils		X		Potential impacts and design features are included in the proposed action.

4.1 Direct and Indirect Effects

Proposed Action

Fire/Fuels

The creation and maintenance of fuel breaks could have positive effects on wildfire suppression and management of fire as an ecosystem process. Past timber harvest practices and fire exclusion have created excessive fuel-loading across the west and the restoration of historic fire regimes is the most viable long-term solution (Brown and Arno 1991).

Successful containment of wildfires within the King Range NCA backcountry through the use of fuel breaks could increase public safety margins and thus allow appropriate fires to be managed for resource benefit. This would help facilitate the restoration of fire as a natural process in the King Range backcountry. Use of the fuel breaks in suppression strategies could improve the success of minimal impact suppression tactics and reduce or eliminate the need for tactics that create long-term impacts. Fuel breaks and other forest thinning projects that minimize fire behavior could reduce the risk that wildfire would negatively impact public safety and private property in and around the community of Shelter Cove. Fuel breaks can also increase the range of suppression options such as backfire operations where fuel between the flaming front and the fuel break is burned to limit fire spread.

Recreation

The proposed action would have no adverse impacts on recreational use as trails or roads would not be closed. Short delays may occur along Paradise Ridge Road during transport and while the crews or equipment is working adjacent to the road. In areas determined critical by the BLM, traffic control in the form of signs and/or BLM personnel would be provided to ensure public safety when the crews or equipment are working.

Visual Resources

The project would result in short-term visual impacts as cut vegetation dries and turns brown, contrasting with the surrounding characteristic forested landscape. This impact would not be visible by the following growing season. The project would have some long-term beneficial effects on visual resources by opening the foreground viewshed along Paradise Ridge Road, and by decreasing the potential for spread of high-intensity wildfire and associated visual impacts. The project would conform to the VRM Class III objectives established for this area under the King Range RMP.

Geology/soils

The Proposed Action may affect erosional processes. Operation of equipment off of the road surface has the potential to displace soil and expose bare ground susceptible to erosion. A combination of factors would limit any erosional effects to less than significant. The ridgetop location of much of the project area represents some of the more stable ground in the area. Deposits of mulch (the vegetative by-product of the proposed action) in treated areas would cover much of the area disturbed by equipment, reducing the vulnerability to surface erosion. Halting equipment operations during wet weather

conditions would reduce the potential for soil disturbance. Avoiding visibly unstable areas and wet areas would limit the potential for soil displacement and landsliding. Excluding equipment from riparian areas would reduce the potential for any disturbed soil to reach a watercourse. Overall, any ground disturbance and soil displacement that occurs as a result of the Proposed Action is likely to be localized (<50ft²) and limited to soil displacement that rapidly revegetates following project completion. Where project operations cross small stream channels, sediment delivery is expected to occur in the first storms after project completion. The few channels that are crossed, combined with operating measures for riparian areas, would result in sediment levels that are likely non-detectable in downstream reaches.

Threatened or Endangered Terrestrial Wildlife

The Proposed Action would have a negligible effect on NSO and no effect on MAMU. As described above, the project would not remove trees over 10 inch DBH and occurs along side of an existing maintained road. The proposed action would leave approximately 300 trees per acre which is expected to accelerate growth into a late succession forest type. The fuel reduction would not remove or degrade habitat for either species. NSOs are generally not found at ridge tops where Proposed Action would occur. Potential disturbance from noise generated chainsaws and other equipment would be of short duration, limited to the few weeks of project execution. Owls have demonstrated some resistance to noise disturbance (Tempel and Gutierrez 2003) but frequent high intensity operations such as timber harvest or off-highway vehicle (OHV) routes can alter NSO use pattern in the landscape. NSOs are also believed to be sensitive to visual disturbance. The U.S. Fish and Wildlife Service has determined that 500 feet is the distance in which these birds would be negatively affected from the noise generated from equipment used on this project. Current surveys by BLM staff for the NSO indicates that there is not any territories with roost or nest sites within 500 feet of the project area.

In addition, the fuels treatment would protect existing suitable habitat from catastrophic wildfire which has the potential to degrade or eliminate large areas of this habitat for extended periods of time.

Overall the Proposed Action is expected to provide beneficial, long-term NSO habitat effects.

No MAMU are known to use the project area. All trees large enough for potential nest platforms would remain in place. There would be no affect on MAMU.

Cultural Resources

The proposed action would not present any adverse effects on known cultural resources. Ground-disturbing activities associated with the proposed action would be monitored to identify any previously unknown archaeological materials, and would halt ground-disturbing activities until any cultural materials encountered are evaluated for significance.

Alternative 1 (No Action) Fire/Fuels

Under the No Action Alternative, no hazard fuel-loading would be reduced and fuel loads would continue to increase until a wildfire occurred. Without a fuel break in place a fast-moving fire could spread unimpeded toward the community of Shelter Cove threatening private property and public safety. Vegetation surrounding the project area could be subject to high severity fire causing negative ecological effects including high rates of mortality, loss of soil cover, increased runoff with hydrophobic soils, and an extended vegetative conversion from mature fire resistant conifers to more flammable brush and hardwood species (Peteson, 2005).

Recreation

No impacts identified

Visual Resources

No impacts identified.

Geology/soils

Under the No Action Alternative, fuel breaks would not be constructed. High-intensity fires would be more likely to travel across the roadway, greatly enlarging the area of erosional effects of high-severity wildland fires.

Threatened or Endangered Terrestrial Wildlife

The No Action Alternative would leave timber to grow under the current conditions resulting in a slower transition into late-seral stage forest. Fuel conditions continue to facilitate spread of wildfire. High intensity wildfire has the potential to severely degrade habitat value by injury or mortality to roosting or nesting trees. Under an intense fire scenario, entire stands could be lost. Not constructing the fuel break may result in more substantial habitat impacts during wildfire suppression operations. NSO would not be subjected to temporary noise disturbance under the No Action Alternative.

Cultural Resources

The No Action Alternative would not directly affect any known cultural materials, and would leave all archaeological resources in-situ to be altered solely by natural processes. The effects of uncontrolled wildfire, however, could negatively affect known or unknown cultural resources through either direct burning of materials, or ground disturbance associated with fire suppression.

4.2 Cumulative Effects

Fire and Fuels

The assessment area for cumulative effects analysis for this project includes the southern portion of the King Range NCA, South Fork Bear Creek Watershed, and Shelter Cove areas.

Past actions that have contributed to negative cumulative effects in the vicinity of the proposed action include:

- Timber harvest practices that focused on removal of large mature trees without regard for future stand conditions. This caused shifts in species composition, toward less fire resistant hardwoods.
- Timber associated road construction that removed vegetation and organic layers exposing soil and increasing erosion.
- National fire suppression policies that removed fire as a natural disturbance process in the ecosystem resulting in increased fuels, less frequent, large, high intensity wildfires. These fires can remove soil stabilizing vegetation and alter the biological and chemical properties of soil creating increased erosion.

The Proposed Action would off-set these past actions through positive cumulative effects, including the reduction of tree density in portions of the treatment area that are highly stocked with young trees. This would encourage a more rapid re-establishment of forest canopy characteristics that existed prior to the past actions listed above. Further, in grassland areas, burning and associated native perennial grass planting would assist in restoring historic species composition and enhance upland wildlife habitat.

There are multiple fuel break projects planned in the vicinity of the Proposed Action including:

- The King Peak Road Fuel Break, an existing BLM project located approximately 1 mile west of the Paradise Ridge Fuel Break.
- Privately owned portions along the King Peak Road that would be treated by the Southern Humboldt Fire Safe Council and the Institute for Sustainable Forestry over the next several months.
- Maintenance of all existing segments within the fuel break system as needed on a 3–5 year rotation.

These additional projects, when combined with the Proposed Action, would result in positive cumulative effects to fire and fuels management.

Under the No Action Alternative reduction in fuel loading and tree density would not occur to facilitate reestablishment of conditions prior timber extraction and fire exclusion.

5.0 Tribes, Individuals, Organizations and Agencies Consulted

The BLM has informally consulted with Calfire, the Southern Humboldt FireSafe Council, and members of the Shelter Cove Resource Improvement District fire staff over the last several years.

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