

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT OFFICE

Jackson County, Oregon

(OR-M060-2009-0018-EA)

ENVIRONMENTAL ASSESSMENT
BIRDSEYE FUELS REDUCTION PROJECT

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PURPOSE AND NEED FOR THE PROPOSED ACTION

INTRODUCTION

The Bureau of Land Management (BLM), Ashland Resource Area, proposes to implement the Birdseye Fuels Reduction Project, a forest management project, designed to implement the Bureau of Land Management's Medford District Resource Management Plan (RMP) (USDI 2008(a)). This Environmental Assessment (EA) documents the environmental analysis conducted to estimate the site-specific effects on the human environment that may result from the implementation of this fuels reduction proposal. The analysis documented in this EA will provide the BLM authorized officer, the Ashland Resource Area Field Manager, with current information to aid in the decision-making process. This EA complies with the Council on Environmental Quality's (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA; 40 CFR Parts 1500-1508) and the Department of the Interior's regulations on Implementation of the National Environmental Policy Act of 1969 (43 CFR part 46).

WHAT IS BLM PROPOSING & WHY

The Bureau of Land Management (BLM) proposes to reduce hazardous fuels by thinning approximately 2,103 acres of vegetation on BLM-administered lands in the Birdseye Creek drainage (See Map 1). The project is within areas classified as the Wildland Urban Interface (WUI). This project was developed through conversations with interested residents, local fire districts, and BLM staff working on fuels reduction in the WUI. The Medford District RMP provides Management Objectives and Direction for Fire and Fuels Management (USDI 2008). Hazardous fuels are to be treated, particularly in wildland urban interface areas, so as to reduce the risk of large-scale wildfires that threaten damage to resources and communities. This project would reduce hazardous fuels by thinning non-commercial sized vegetation on BLM-administered lands to reduce the threat of large scale wildfires and their potential to cause adverse effects on federally managed resources, private property, and homes adjacent to federally managed lands.

PUBLIC INVOLVEMENT

Public outreach has occurred for the Birdseye Fuels Reduction Project. Outreach included discussions with local fire districts, adjacent land owners, and neighborhood groups concerning the coordination of fuel treatments on private and public land. In September 2006, letters describing specific fuels reduction objectives were sent to adjacent land owners in the Birdseye Creek drainage, as well as interested organizations, individuals, and local agencies.

PLAN CONFORMANCE

This forest management/fuels reduction proposal is designed to be in conformance with the Medford District's 2008 Record of Decision and Resource Management Plan (USDI 2008 (a)). The analysis supporting this decision tiers to the 2008 Final Environmental Impact Statement for the Revision of the Resource Management Plan of the Western Oregon Bureau of Land Management (USDI (b)).

The proposed action is also in conformance with the direction given for the management of public lands in the Medford District by the Oregon and California Lands Act of 1937 (O&C Act), Federal Land Policy and Management Act of 1976 (FLPMA), the Endangered Species Act (ESA) of 1973, the Clean Water Act of 1987, Safe Drinking Water Act of 1974 (as amended 1986 and 1996), Clean Air Act, and the Archaeological Resources Protection Act of 1979.

DECISION FRAMEWORK

This Environmental Assessment will provide the information needed for the authorized officer, the Ashland Resource Area Field Manager, to select a course of action to be implemented for the Birdseye Fuels Reduction Project. The Ashland Resource Area Field Manager must decide whether to implement the Proposed Action as designed or whether to select the No-Action Alternative. In choosing an alternative, the Field Manager will consider how well the alternative responds to the identified project need, along with the relative merits and consequences of each alternative related to the relevant issues.

The decision will also include a determination of whether or not the impacts of the proposed action are significant to the human environment. If the impacts are determined to be within those impacts disclosed in the Medford District Resource Management Plan/EIS (USDI 2008(b)) or otherwise determined to be insignificant, a Finding of No Significant Impact (FONSI) can be issued and a decision implemented. If this EA determines that the significance of impacts are unknown or greater than those previously analyzed and disclosed in the RMP/EIS, then a project specific EIS must be prepared.

ALTERNATIVES

DESCRIPTION OF THE NO-ACTION ALTERNATIVE (ALTERNATIVE 1)

The No-Action Alternative describes a baseline against which the effects of the action alternative can be compared. This alternative describes the existing condition and the continuing trends. Under the No-Action Alternative, no fuels reduction treatments would be implemented. Future fuels reduction in this area would not be precluded and could be analyzed under a subsequent EA.

It is also assumed that fire suppression activities would continue on federal and non federal lands. The Bureau of Land Management has a master cooperative fire protection agreement with the Oregon Department of Forestry (ODF). This agreement gives the responsibility of fire protection of all lands within the project area to the Oregon Department of Forestry. This contract directs ODF to take immediate action to control and suppress all fires. Their primary objective is to minimize total acres burned while providing for fire fighter safety. The agreement requires ODF to control 94 percent of all fires before they exceed 10 acres in size.

DESCRIPTION OF THE PROPOSED ACTION (ALTERNATIVE 2)

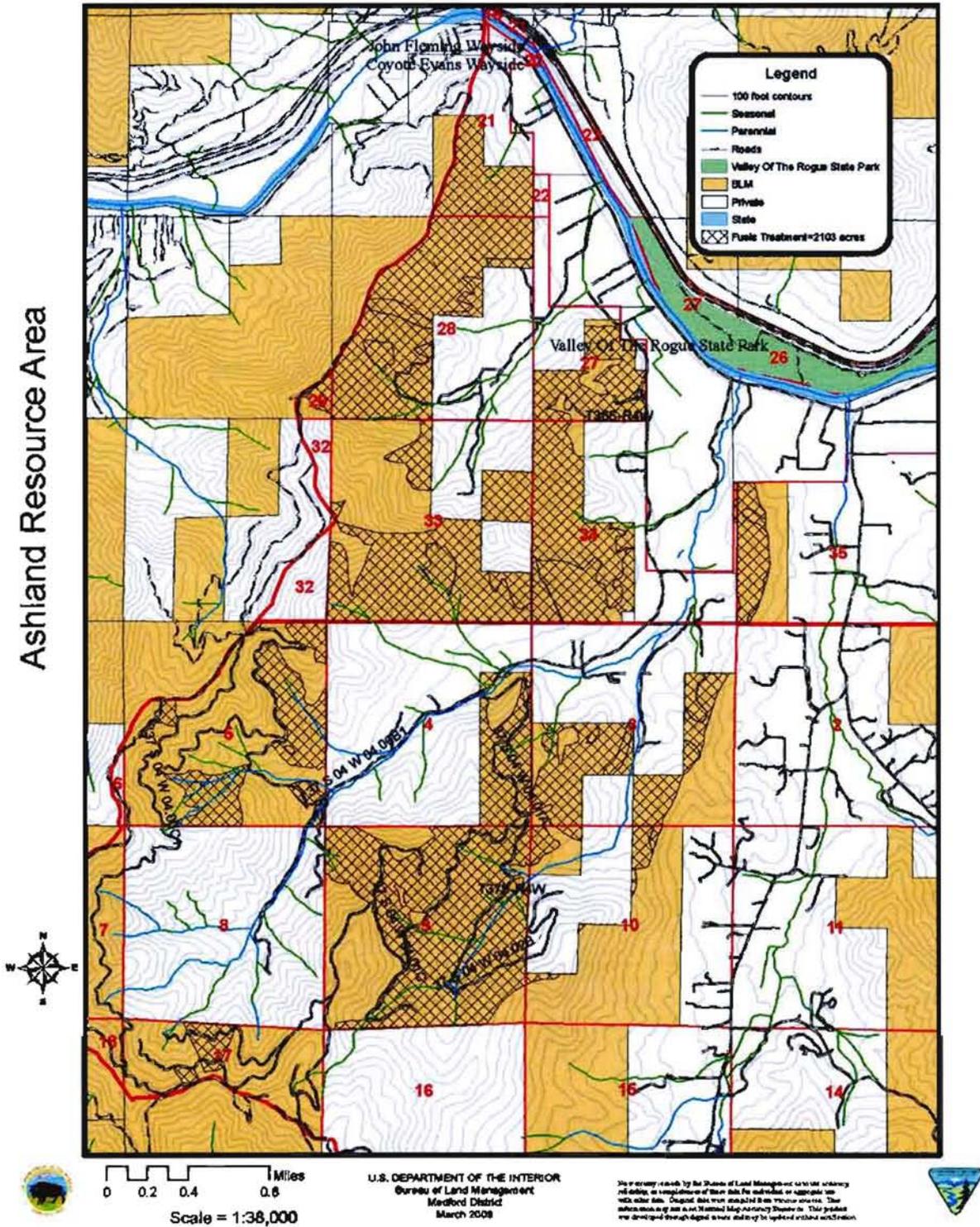
An estimated 2,103 acres would be thinned using chainsaws; the cut material would be hand piled and burned on site when fuel moisture and weather conditions allow for the safe burning of material. Follow-up maintenance underburning is planned in approximately 1 to 5 years for many of the acres treated. Post treatment evaluations are used to determine the need for follow-up maintenance underburning.

Follow-up burning provides a low cost method to maintain fuel loadings at a low level and prevent accumulations of additional fuel. Follow-up maintenance underburning would involve the controlled application of fire to understory vegetation and downed woody material when fuel moisture, soil moisture, and weather and atmospheric conditions allow for the fire to be confined to a predetermined area at a prescribed intensity to achieve the planned resource objectives. Maintenance burning usually occurs within 2 to 5 years following initial fuels reduction treatments.

A mosaic of plant communities and vegetation conditions exist within all units including shrubland dominated plant communities, hardwood woodlands, and conifer/hardwood with understory vegetation. As vegetation conditions change through treatment units, the appropriate fuels reduction prescription would be applied accordingly. Work would be accomplished using ecological principles to provide for retention of fire adapted species, for retention of uncommon species and the promotion of fire resilient species. Vegetation thinning prescriptions are included below.

Map 1. Proposed Fuels Reduction Treatment Units

Birdseye Proposed Fuels Treatments



Fuels Reduction Thinning Prescriptions

No cutting of hardwoods (i.e. white oak, black oak, madrone, or riparian associated hardwood species) in all vegetation types.

Hardwood/Conifer Areas:

- All Reserve vegetation is included in spacing.
- Cut all brush
- Cut conifers less than 7" DBH where reserve vegetation occurs on a 25 x 25-foot spacing.
- Areas that do not have reserve vegetation (hardwoods) on a 25 X 25-foot spacing, leave vegetation (conifers) on a 25 X 25-foot spacing using the preferred species order list (above).
- Select leave trees in the following order of priority: sugar pine, ponderosa pine, cedar, Douglas-fir, last choice white fir.

Prescription in Areas that are dominated by Brush:

Where reserve vegetation (conifers or hardwoods) is not present use the following criteria for leave vegetation:

- Brush clumps (no greater than 15foot canopy width). Space leave clumps on a 45 X 45-foot spacing.
- Clumps should not be less than 45 feet from unit boundary and any other reserve vegetation. (e.g. Should not be a leave clump within 45 feet of leave oak, etc.).

Project Design Features

Project Design Features are an integral part of the Proposed Action that are developed to avoid or reduce the potential for adverse impacts to resources. The Project Design Features (PDFs) also incorporated Best Management Practices (BMPs) to reduce nonpoint source pollution to the maximum extent practicable. BMPs are considered the primary mechanisms to achieve Oregon Water Quality standards. The following Project Design Features (PDFs) are included in this project.

Prevent Offsite Soil Erosion and Soil Productivity Loss

- (1) Underburns would be conducted only when a light to moderate burn can be achieved (spring-like conditions when soil and duff are moist).
- (2) Firelines for underburns would be constructed manually on all slopes greater than 35 percent.
- (3) Waterbars on firelines would be constructed according to District guidelines (USDI 1995:167).
- (4) In addition to waterbars described above, all fire lines constructed for this project, including those in upland areas, that intersect existing roads or trails would be rehabilitated to the extent that unauthorized Off-highway Vehicle (OHV) use is discouraged. This could include dragging cut vegetation over the lines, seeding, or mulching to hide the fire lines at points where they intersect roads or existing trails.
- (5) Handpiles (or handpile burning) would not be allowed in the channel bottom of short-duration intermittent streams, or within the draw bottom of dry draws.
- (6) Piles would be dispersed across treatment areas. Whenever possible, pile burning would be planned and scheduled when surrounding vegetation and organic material is wet enough to maintain an unburned ring of woody material on the ground surrounding the burn pile. This helps to prevent soils exposed from burning from moving beyond the burn pile site.
- (7) Natural surface roads would not be used by contractors or administrators during the wet season, which generally occurs from November 1 to May 15, when use would result in road damage and off-site movement of sediment.

Prevent Chemical Water Pollution

- (1) Foam retardant would not be used in Riparian Management Areas.
- (2) Equipment refueling would be conducted within a confined area outside Riparian Management Areas.

Riparian Management Area Specifications

The following table (Table 1) outlines Riparian Management Area widths, as defined by the 2008 Medford District Resource Management Plan and no-treatment buffers proposed for this project.

Table 1. Riparian Management Areas and Required Project Specifications

Stream Type or Feature	Riparian Management Areas (2008 Resource Management Plan)	Project No Treatment Buffers (on each side of streams and around water bodies)
Fish-bearing	Site Potential Tree - 165 feet	50 feet
Perennial	Site Potential Tree - 165 feet	50 feet
Intermittent (long-duration)	½ Site Potential Tree - 82.5 feet	25 feet
Intermittent (short-duration)	½ Site Potential Tree - 82.5 feet	No handpiles (or handpile burning) within channel bottom.
Dry draws		No handpiles (or handpile burning) within draw bottom.
Springs, seeps, wetlands, ponds	Edge of feature to outer edge of riparian vegetation	50 feet

Note: Fuels treatments are permitted within RMAs (RMP 2008) as needed to reduce the potential for uncharacteristic wildfires. The above are project specific guidelines to ensure sufficient streamshade and minimize erosion potential.

- (1) With underburns, no ignition would occur within Riparian Management Areas.
- (2) Fire lines would be avoided to the extent possible within Riparian Management Areas, in order to prevent the creation of pathways that could route sediment to waterbodies.
- (3) Where fire lines are constructed in Riparian Management Areas, place slash or other native mulch materials to provide 80 percent effective ground cover.
- (4) No treatment or pile burning would occur within 50 feet of either side of fish-bearing or perennial streams.
- (5) No treatment would occur within 25 feet, each side, of long-duration intermittent streams.
- (6) No treatment would occur within 50 feet from the edge of springs, seeps, and wetlands.
- (7) The removal of material for firewood, poles, or other special forest products would not occur within Riparian Management Areas.
- (8) Fuels treatments within Riparian Management Areas would not result in less than 50 percent canopy cover post treatment.

Protect Residual Leave Trees

- (1) In pine series forests slashed fuels should be handpiled outside of the driplines of individual pine trees and burned.
- (2) Prescribed burns should be performed when moisture conditions are high enough and prescription windows are at a level so that no more than 50% of the mound depth/duff layer around pine trees is consumed during burning.
- (3) No more than 25% of the pine tree live crown should be scorched for trees 8 inches DBH and larger.
- (4) Implement prescribed underburning when soil and duff moisture and weather conditions allow for low intensity burning in order to minimize tree stress and adverse effects on tree roots and foliage.
- (5) Piles will be located and burned in a manner that will help to avoid killing any leave trees or reserved vegetation.

Reduce disturbance (noise & habitat) impacts to the Northern Spotted Owl

- (1) Work activities that produce noise above ambient levels would not occur within specified distances (see Table 2 below) of any nest site or activity center of known pairs and resident single between March 1 and June 30 (or until two weeks after the fledgling period) unless protocol surveys have determined the activity center to be unoccupied, non-nesting, or failed in their nesting attempt.
- (2) Prescribed burning during the nesting season within 0.25 miles of occupied habitat would be dependent upon area biologist review and concurrence. The Service will be notified of all such occurrences.

Table 2. Northern Spotted Owl Operating Restrictions

Type of Activity	Zone of Restricted Operation
Blast of more than 2 pounds of explosive	1 mile
Blast of 2 pounds or less of explosive	360 feet
Impact pile driver, jackhammer, or rock drill	180 feet
Small helicopter or single-engine airplane	360 feet
Helicopter, Type 1 or 2	1320 feet
Chainsaws	195 feet
Heavy Equipment	105 feet

Protection of cavity nesting wildlife species

- (1) All snags will be retained unless they need to be felled for worker safety.

Minimize or avoid impacts to Special Status plant species

- (1) *Cypripedium fasciculatum* (CYFA) and *Cypripedium montanum* (CYMO2) sites will be protected by variable radius (25-100 ft.) protection buffers.
- (2) *Eucephalis vialis* (EUVI8) sites will be protected by a combination of variable radius protection buffers, seasonal restrictions and no piling of slash within population boundaries.
- (3) The one *Carex serratodens* (CASE2) site will be protected by the riparian no treatment zone.

Minimize the spread of noxious weeds

- (1) Roadside noxious weed populations would be treated prior to fuels reduction activity with subsequent treatments as necessary and as funding is available.
- (2) Vehicles will be power washed before entering units to remove all soil and vegetative material.

Reduce Impacts to Air Quality

- (1) Implement prescribed burns in accordance with the Oregon Smoke Management Plan to reduce emissions, avoid smoke intrusions into designated areas.
- (2) Complete mop-up as soon as practical to reduce potential level of smoke emissions.
- (3) Cover hand piles to permit burning during the rainy season and to ensure lower fuel moisture to facilitate quick and complete combustion while reducing potential level of smoke emissions.
- (4) Burn during the rainy season when there is a stronger possibility of atmospheric mixing and/or scrubbing to allow for better smoke dispersion. All burning will be done after proper clearances have been provided by Oregon Department of Forestry.

ENVIRONMENTAL CONSEQUENCES: EFFECTS OF IMPLEMENTATION

This section presents a discussion of the estimated environmental effects of implementing the No-Action Alternative and the Proposed Action Alternative. This impact analysis addresses direct, indirect, and cumulative effects on all identified affected resources.

The Birdseye Timber Sale, located in the same drainage, is under development and analysis, and a detailed Environmental Assessment will be produced in compliance of the National Environmental Policy Act (NEPA). The Birdseye Timber Sale Environmental Assessment will be subject to public and administrative review, and it will include cumulative effects analyses that consider past, present, and reasonable foreseeable actions at the time of the analysis, including this fuels reduction project.

The anticipated effects of this Birdseye Fuels Reduction project are minimal, limited to the site, and are not expected to contribute to any significant adverse cumulative effects. In conifer stands this project would thin from below, cutting and piling conifer trees up to 7 inches diameter. Overstory canopy closure would be retained. In shrub dominated communities project design features call for leaving clumps of untreated shrubs to maintain habitat for a variety of species. This project requires the implementation of project design features to minimize disturbance, prevent off-site movement of sediment (thus to avoiding any effects to water quality), avoid adverse impacts to special status plants and wildlife species. Therefore, the potential for this project to contribute to significant adverse cumulative effects is low. Also refer to resource by resource discussion of effects below.

ALTERNATIVE 1 (NO ACTION ALTERNATIVE)

Fire & Fuels

Fire Regime and Condition Class

Climate and topography combine to create the fire regime found throughout the project area. Fire regime refers to the frequency, severity and extent of fires occurring in an area. Agee (1993) suggests that variable fire history, complex geology, land use history and steep environmental gradients of Douglas fir hardwood forests of southwest Oregon and Northern California Siskiyou prevents generalizations about fire and its ecological effects. This is also true for the lower to mid elevations of the Birdseye planning area which is characterized by steep terrain, Douglas-fir and pine forest types, and a history of anthropogenic fire use (South Rogue-Gold Hill Watershed Analysis p. 26). However, plant association groups are a credible link to historic ecological process, including fire regimes that occurred on sites in the past (Franklin and Agee 2003). Historic fire regimes and the departure from them, correlate's to the change from historical to current vegetative structure. The change in vegetation also helps to describe the difference in fuel loading (dead fuels and live in the form of increased vegetation) from historical to current conditions.

These changes in vegetation and fuel conditions help to determine the expected change in fire behavior and its effects. This difference in many respects is attributed to fire exclusion, but also includes all human practices that would affect the extent, severity, or frequency of fire events compared to historical accounts. These practices include road building, livestock grazing, and some logging practices as well as fire suppression.

Three historic fire regimes are found within the project area. Fire Regime 1, characterized by a 0-35 year historical fire return interval, typically burned with low severity and large stand replacing fires burned under certain weather conditions, but were rare events (i.e. every 200 years). Fire Regime 1 includes Typical climax plant communities such as ponderosa pine, pine-oak woodlands, and oak woodlands. Fire Regime 2, characterized by a historical fire return interval of 0-35 years, typically burned with moderate to high severity. Fire Regime 2 includes true grasslands and savannahs with typical return

intervals of less than 10 years and ceanothus and Oregon chaparral with typical return intervals of 10 to 25 years. Fire Regime 3 is characterized with a historical fire interval of generally less than 50 years and typically burned with mixed severity. Fire Regime 3 includes mixed conifer and very dry westside Douglas-fir. This regime usually results in heterogeneous landscapes. Large, stand-replacing fires may occur but were usually rare events.

Condition classes are a function of the degree of departure from historical fire regimes resulting in alterations of components such as species composition, structural stage, stand age, and canopy closure. There are three condition classes:

Condition Class 1 - Fire regimes are within or near a historic range. The risk of losing key ecosystem components is low. Vegetation species composition and structure are intact and functioning within an historical range.

Condition Class 2 - Fire regimes have been moderately altered from their historical range (more than one return interval). This change results in moderate changes to one or more of the following: fire size, frequency, intensity, severity, or landscape patterns.

Condition Class 3 - Fire regimes have been significantly altered from their historical range. The risk of losing key ecosystem components is high. This change results in dramatic changes to fire size, frequency, severity, or landscape patterns.

Plant communities proposed for treatment in this project area such as ponderosa pine and woodlands (fire regime 1) are in condition classes 2 and 3. The pine sites proposed for treatment have a dense understory of Douglas-fir and brush due to the absence of fire and the hardwood woodlands have a dense brush understory.

The dry westside Douglas-fir stands (fire regime 3) proposed for treatment are in condition class 2. There are small portions of these stands that are in condition class 1 and 3. Stand densities are extremely dense due to the absence of fire. The shrublands (fire regime 2) are in condition classes 2 and 3.

Fire Risk and Fire Hazard

Fire risk is the probability of when a fire will occur within a given area. Fire hazard assesses vegetation by type, arrangement, volume, condition and location; these characteristics combine to determine the threat of fire ignition, the spread of a fire and the difficulty of fire control.

Historical records show that lightning and human caused fires are common in the project area. Road building and land development (on private lands) have contributed to the current level of risk by expanding human influence further into the wildlands. Activities within this area such as increased development of homes in the wildland urban interface, dispersed camp sites, recreational use, and major travel corridors add to the risk component for the possibility of a fire occurring from human causes. The entire project area is within the wildland-urban interface. The time frame most conducive for fires to occur in the project area is from July through September.

Information from the Oregon Department of Forestry database from 1967 to 2006 show a total of 37 fires occurred throughout the project area. Lightning accounted for 22 percent of the total fires and human caused fires accounted for 78%. The majority of the fires were contained at less than 0.25 acre; nine fires ranged from 0.25 to 100 acres, and one fire exceeded 300 acres. Only 30% or 11 fires started on BLM managed lands. Of these fires, lightning started 55% and the remaining fires were human caused.

Fire hazard ratings were developed for the project area. In general the existing fuel profile within the project area represents a moderate to high resistance to control under average climatic conditions. An estimated 89 percent of the project area is characterized as high hazard; 9 percent is moderate hazard;

and 2 percent is low hazard.

Under the No-Action Alternative, there would be no treatment of existing surface or ladder fuels to help mitigate the effects of wildfire. The majority of the project area would remain in moderate to high fire hazard resulting in a continued high probability that when a wildfire occurs, there will be a higher potential than the action alternative for increased fire behavior and the project area, its resources, and nearby private land and homes will be a greater risk for high severity fire effects.

Because there are no policies in place that will allow fires to burn naturally within the project area, fire suppression would continue. Defensible space and driveway treatments will likely continue by private land owners, but the actual amount treatments is unknown. As a result of ongoing programs to implement defensible space around structures, driveways and roads for potential escape/evacuation routes, the risk of structure and human loss during wildfire events continually decreases.

Soils

Soil is a fundamental resource that controls the quantity and quality of such renewable forest resources as timber, wildlife habitat, forage, and water yield. Most of the soils in the project area are moderately deep (20-40") and deep (40"+) loam and clay loam on slopes between 12 and 55 percent. Erosion potential is moderate on these soils and run-off potential is moderately high. Because no new management is proposed under Alternative 1, there would be no impacts on soil resources from project activities.

Water

The affected area is located within the Birdseye Creek drainage; Birdseye Creek is tributary to the Rogue River. The Birdseye Creek drainage is characterized as relatively steep gradient transport reaches where BLM managed lands are located. The primary disturbance mechanisms are timber harvest on public and private lands, along with associated roads, road building, OHV use and wildfire. In the lower reaches, where the stream gradients flatten and the valley bottoms become wider, ownership becomes almost exclusively private. Here the primary disturbances are related to water diversions, agricultural practices, and commercial and urban development. Currently, Birdseye Creek is listed as water quality impaired (303d) for summer water temperatures.

Under the No-Action alternative, no fuel treatments would occur. Watershed resources would likely remain unchanged with both anthropogenic and natural disturbances continuing to affect processes. The affected areas would continue to remain vulnerable to high intensity wildfire. Should a wildfire occur, negative impacts to water resources are likely. This would include increased erosion and sediment transport; loss of riparian shade and increased water temperatures; and increases in peakflows, baseflows and water yields. These effects could manifest themselves in the lower watershed and adversely alter channel geometry and water quality. These effects may persist over time.

Fish

Proposed units are within the Birdseye Creek and Scheffelin Gulch drainages (Rogue River/Gold Hill Watershed). Birdseye Creek supports known populations of anadromous fish and is listed as Coho Critical and Essential Fish Habitat (CCH and EFH) for coho salmon. Proposed units are in close proximity to listed fish habitat in the Birdseye catchment. Habitat has been altered and reduced by a wide variety of past activities, including past timber harvest, historic mining, withdrawals of water for irrigation and domestic uses, and removal of riparian vegetation (particularly in lower reaches) as areas have been cleared for homes and agricultural purposes. The primary results to aquatic habitats are manifested as increased sediment loading in stream channels (particularly notable in Birdseye Creek), increased summer water temperatures, and reduced flow, all of which have decreased the biological productivity of these streams from historic levels.

Under the no-action alternative, hazardous fuels would not be treated. Aquatic habitats would remain as they are, in an altered state and subject to past and ongoing perturbations. The catchments would remain at an elevated risk of unnaturally intense wildfire. Though fire is a natural component of these environments, unnaturally high fuel loadings could potentially cause a fire to be much more impacting than it historically would have. Should a particular catchment experience a large, intense, and severe (i.e. stand replacing) wildfire, it could potentially have negative impacts to aquatic habitat. Anticipated effects in such a scenario would be increased peak flows if enough overstory vegetation succumbed to fire, increased sediment transport from severely burned landscapes, and elevated water temperatures in the event that riparian vegetation was lost. All of which would further degrade aquatic habitat, leading to decreases in biological productivity.

Botanical Resources

Special Status Vascular and Nonvascular Plants

The project area is within the range of *Fritillaria gentneri* and *Lomatium cookii*, none were found nor are known to exist in the project area.

Cypripedium fasciculatum (CYFA) and *Cypripedium montanum* (CYMO2), *Eucephalis vialis* (EUVI8) and *Carex serratodens* (CASE2) are known to occur within or near the project area.

Under the No Action Alternative there would be no direct effects to any special status plant or fungi species within the boundaries of the project area. Increased canopy coverage and competition from understory species could modify both occupied and unoccupied forest, woodland, shrubland, and meadow habitat for Bureau Special Status Species and result in the decline or loss of individual plant populations.

Noxious Weeds

Centaurea debeauxii (Meadow Knapweed), *Centaurea solstitialis* (Yellow Starthistle), *Centaurea diffusa* (Diffuse Knapweed) and *Cirsium arvense* (Canada thistle) are present in or near the project area. Most of these infestations have been treated in the last two years, resulting in decreased numbers and population vigor. Noxious weed and invasive plant species present in the project area would continue to persist and could expand without further treatment. In the absence of an implemented project, treatment of existing infestations would be a lower priority than areas where activities are planned.

Wildlife

Continued accumulation of brush reduces wildlife's ability to access and utilize the areas proposed for treatment. As the fuel load increases the likelihood of large scale fire also increases and thus the loss of habitat for brush and hardwood dependent species becomes more likely. Such fires would also be likely to degrade or destroy adjacent forest stands utilized by species such as the Northern Spotted Owl and Bureau Sensitive wildlife species.

ALTERNATIVE 2 (PROPOSED ACTION ALTERNATIVE)

Fire & Fuels

Treatment of the noncommercial sized material in the proposed treatment units would reduce surface and ladder fuels. The proposed fuels reduction treatments would reduce fire behavior such as flame length, rate of spread, and fire duration. With the reduction of flame length and fire duration the chance of a crown fire initiating in these stands would be reduced. The reduction of potential flame lengths if a fire occurs would also increase the chance that direct attack of a wildfire could occur, which would reduce acres burned in the event of a wildfire.

A forest that is fire-resilient has characteristics that allow it to readily recover from a fire event. A forest's resiliency to fire can be increased by applying fire safe principles. This means managing surface fuels to limit the flame length, removing ladder fuels to keep flames from transcending to tree crowns, where trees have no defense against fire, and keeping larger diameter trees that are more fire resistant (Agee and Skinner 2005)(Agee 1996)(Agee 1993).

Soil Resources

In soils formed from granitic parent material where erosion may be high, special measures (no treatment in dry draws) are to be implemented to ensure erosion potential and productivity losses are minimized. There would be high burn intensity in the area of the burn piles which would be less than 6 percent of the total area. These burned areas would have a high productivity loss due to the burn intensity and it will take several years for the burned areas to recover. As the burned area is a small percentage of the entire area this impact is considered minimal. There would be a moderate increase in the erosion potential in the burn pile areas but the eroded soil would not move off site as a result of the remaining vegetation surrounding the piles.

Water Resources

Forest management has the potential to affect stream shade and ultimately water temperatures. However, the primary water quality concerns associated with this proposal are delivery of sediment to watercourses by roads, increased soil erosion resulting from burning and fireline construction, and to a lesser extent, increases in water temperature. Road use from project activities during wet periods or when snow is plowed on native surface roads can result in adverse effects to water quality. This is accomplished by: 1) the surface can be loosened and available for transport; 2) rutting and tire impressions could render drainage ineffective, resulting in routing and concentrated flow. Bare areas resulting from pile and prescribed burning, particularly within Riparian Management Areas (RMA's) can result in sediment transport to stream channels. Stream shade can be affected by reductions in canopy closure within RMA's. When this occurs adjacent to perennial channels, increases in stream temperatures are possible. A secondary effect resulting from fuels activities is increased OHV use of firelines constructed during project implementation. These impacts can also result in transport and routing of sediments to stream channels, and may become severe in some instances.

Under Alternative 2, a total of 2,103 acres of fuels treatments are proposed in the watersheds described above. All fuels treatments and fireline construction will be accomplished by hand, therefore ground disturbance would be minimal. Given the implementation of project design features, which incorporate Best Management Practices (BMPs), increased erosion and sedimentation would not appreciably increase beyond background rates.

Overstory vegetation would not be treated and buffers would be applied to perennial and long duration intermittent streams. Prescribed fire, if implemented correctly would not appreciably reduce ground cover or increase tree mortality within Riparian Management Areas (RMAs). This, in addition to maintaining 50% canopy closure (or greater) within RMA's along perennial streams, would ensure that stream temperatures would remain unaffected. There is a possibility that these treatments could improve stream temperatures in the long term by increasing growth and vigor of remaining conifers and hardwoods.

Given the right conditions, high intensity wildfire can still occur with across the landscape, including areas where fuel treatments have occurred. In the short and possibly intermediate terms, these treatments will reduce the likelihood of large-scale high intensity wildfire. Implementation of Alternative 2 would not result in adverse impacts to the water resources described above and could result in improvements to riparian conditions.

With the implementation of the PDF's, together with diligent administration of the contract, this project will have little effect on hydrology related processes because stream channels and riparian areas are being protected from ground disturbance. Stream shading will likely not be affected by the project, so there will be no effect to stream temperatures. The project has some benefit to functioning of Riparian Management Areas (RMA's) by promoting conditions that may allow late seral conditions to develop more quickly in these areas.

Fish

Under Alternative 2, there would be no treatments (no cutting/handpiling or direct ignition) within 50 feet of perennial stream channels (either side of the channel), or within 25 feet (either side) of long duration intermittent channels. Treating vegetation adjacent to short duration intermittent and dry draw channels would be allowed as necessary to accomplish fuels objectives, with the following Project Design Features applied: 1) no piles would be constructed in the channels, 2) any check lines adjacent to or crossing channels would be water-barraged and rehabilitated after ignition operations are complete to ensure that the fire-lines are not able to intercept and transport water and displaced sediment/ash downslope and into the channels during rain events, and 3) in fragile granitic soils (found in pockets in the Birdseye catchment), a 15 foot minimum no treatment buffer would be retained for soil stability. All fire lines constructed for this project, including those in upland areas, would be rehabilitated to the extent that unauthorized Off-highway Vehicle (OHV) use is discouraged and that intercepted water cannot erode and rut the disturbed areas. This could include water barring, dragging cut vegetation over the lines, seeding or mulching, and hiding the fire lines at points where they intersect roads or existing trails.

Overstory vegetation would not be treated. In areas lacking large canopy (brush fields) leave vegetation would be retained (see PDFs). As such, canopy cover would not be measurably reduced at the landscape level. Fuel reduction activities would not increase ground compaction. Because canopy cover and compaction would remain unaffected, treatments would have no mechanism to affect peak stream flows.

Vegetative buffers left along stream channels and debris rings around burned piles would be sufficient to capture any chance off-site movement of disturbed particulates, such as ash or bare soil, resulting from the treatments. As such, sediment delivery to aquatic habitats resulting from the project is not anticipated to occur. Furthermore, the buffers would ensure that shade levels are maintained around streams that would be susceptible to increased water temperature during the summer months (the perennial and long duration intermittent streams). Hence, summer water temperatures would not be increased as a direct result of the treatments.

Implementation of this project would reduce the likelihood of large scale high severity wildfire occurring to some extent, while not affecting aquatic habitat parameters. As such, it would not affect fisheries or aquatic resources, including CCH and EFH.

Botanical Resources -

Special Status Vascular and Nonvascular Plants

Although the project area is within the range of *Fritillaria gentneri* and *Lomatium cookii*, none were found nor are known to exist in the project area. Therefore, there will be no affect on any federally-listed plant species as a result from implementing the proposed action.

Cyripedium fasciculatum (CYFA) and *Cyripedium montanum* (CYMO2) sites will be protected by variable radius (25-100 ft.) protection buffers.

Eucephalis vialis (EUVI8) sites will be protected by a combination of variable radius protection buffers, seasonal restrictions and no piling of slash within population boundaries. The one *Carex serratodens* (CASE2) site will be protected by the riparian no treatment zone (Table 3). Protection buffers are areas

around special status plants delineated by flagging and signs to show no treatment, modified treatment and/or seasonal restriction. Seasonal restrictions on operations generally cover the period of Special Status species above-ground growth. These protection measures will ensure that the proposed action will not trend these species towards listing under the Endangered Species Act.

All protection/mitigation buffer areas that allow some treatment are designed to produce beneficial habitat changes. Generally, proposed treatments would produce stand conditions that are less dense and decadent with stand structure resembling a more natural pre-Euro-American settlement condition. Buffer area sizes vary depending on the needs of the population and existing habitat characteristics.

Pre-disturbance surveys for special status fungi species are not required for proposed treatments within the project area. According to BLM Information Bulletin No. OR-2004-145, pre-disturbance surveys in proposed project areas for these fungi are not practical to conduct and are not expected; protection of known sites along with large-scale inventory work will provide the measures and means to meet agency policy. There are no known sites in the project area.

Table 3. Special Status Plant Protection

Plant Name	Buffer: No Treatment	Buffer: Seasonal Restriction	Riparian Zone
<i>Carex serratodens</i>			X
<i>Cypripedium fasciculatum</i>	X		
<i>Cypripedium montanum</i>	X		
<i>Eucephalus vialis</i>	X	April 1 st – August 30 th	

Noxious Weeds

Project design features are incorporated to minimize spread of noxious weeds and invasive alien plant species. However, not all weed seed transported by humans can be excluded. Additionally, long distance weed seed transport can be accomplished by wind, water, and animals. With suitable weed habitat increasing (short-term) via proposed treatment accomplishments and natural seed transport mechanisms available, total exclusion of new weed establishments is unattainable. *Centaurea debeauxii* (Meadow Knapweed), *Centaurea solstitialis* (Yellow Starthistle), *Centaurea diffusa* (Diffuse Knapweed) and *Cirsium arvense* (Canada thistle) are present in or near the project area. Most of these infestations have been treated in the last two years, resulting in decreased numbers and population vigor. With adequate funding for further weed treatment and monitoring, existing noxious weed population sizes are expected to decrease and new establishments are expected to remain small (< 1 acre) or be eradicated quickly after detection.

Wildlife

The proposed action involves removal of brush and small trees from the project area. This vegetation currently serves as habitat for a wide variety of wildlife species. In the near term this habitat modification may reduce the suitability of these habitats for some species. Ample areas of similar habitat exist in close proximity to the areas to be treated under the proposed action, which will continue to provide areas for these species to persist. Treated areas will return to suitability in a short time (3 to 5 years) as shrub and brush species regenerate and reserved vegetation is allowed to grow with increased vigor. The proposed maintenance under-burning will help to prevent these areas from transitioning into less productive older, denser brush fields, which are less accessible and less useful to these wildlife species.

The proposed project would not significantly affect migratory birds. BLM issued interim guidance for meeting BLM's responsibilities under the Migratory Bird Treaty Act and Executive Order 13186. Both the Act and the EO promote the conservation of migratory bird populations. The interim guidance was

transmitted through Instruction Memorandum No. 2008-050. The I.M. relies on two lists prepared by the U.S. Fish and Wildlife Service in determining which species are to receive special attention in land management activities; the lists are *Bird Species of Conservation Concern* (BCC) found in various Bird Conservation Regions (BCR) and *Game Birds Below Desired Condition* (GBBDC). The proposed project is located in BCR 5. Table 4 displays those species on the lists that are known or likely to be present in the project area. None of these species would be significantly impacted by the removal of small diameter trees and brush in the project area. All of the species use some of the habitat components that would be removed by the project. However, not all of the habitat components would be removed, and this type of habitat is common in the general area outside of the proposed project area.

Table 4: Bird Species of Conservation Concern (BCC) and Game Birds Below Desired Condition (GBBDC)

Species	Status
Olive-sided Flycatcher (<i>Contopus cooperi</i>)	BCC
Rufous Hummingbird (<i>Selasphorus rufus</i>)	BCC
Allen's Hummingbird (<i>Selasphorus sasin</i>)	BCC
Mourning Dove (<i>Zenaida macroura</i>)	GBBDC

The proposed project would remove selected small diameter trees and brush to reduce hazardous fuels. Some of the project is in suitable and dispersal-only habitat for the Northern Spotted Owl (*Strix occidentalis caurina*), a threatened species. The proposed treatment would maintain the current function of the habitat. Because the habitat would continue to function as suitable or dispersal-only habitat for spotted owls, the project would not adversely affect the Northern Spotted Owl. Some treatment units occur adjacent to known locations of Northern Spotted Owls. As stipulated in the PDFs, activity in proximity to these sites will occur only during prescribed operating periods and in coordination with a wildlife biologist. The project is not located in designated critical habitat for the northern spotted owl so the project would not destroy or adversely modify critical habitat. The project was informally consulted on with the U.S. Fish and Wildlife Service and a Letter of Concurrence was received (LOC # 13420-2009-1-0045).

Cultural Resources

The entire Birdseye Fuels Reduction project area was reviewed for the potential for adverse impacts to cultural resources. The area was surveyed previously in association with the Birdseye timber sale. There is an extensive history of mining in the area but most of that activity was on lands which are private or are now patented mining claims. All cultural sites on BLM lands would be flagged, recorded, and will be avoided. As all known cultural sites will be avoided; there are no negative impacts to cultural resources anticipated from this project.

Public Health and Safety

No aspects of the project have been identified as having the potential to significantly and adversely impact public health or safety. The implementation of hazardous fuel reduction treatments, as designed under this project, would have a beneficial impact on public health and safety by reducing the threat of large-scale high intensity wildfires. Prescribed burning operations would follow all requirements of the Oregon Smoke Management Plan and the Department of Environmental Quality Air Quality and Visibility Protection Program.

Administration of Smoke Producing Projects

The operational guidance for the Oregon Smoke Management Program is managed by the Oregon State Forester. The policy of the State Forester is to:

1. Regulate prescribed burning operations on forest land.
2. Achieve strict compliance with the smoke management plan.
3. Minimize emissions from prescribed burning.

For the purpose of maintaining air quality, the State Forester and the Department of Environmental Quality shall approve a plan for the purpose of managing smoke in areas they designate. The authority for the State administration is ORS 477.513(3)(a).

ORS468A.005 through 468A.085 provides the authority to DEQ to establish air quality standards including emission standards for the entire State or an area of the State. Under this authority the State Forester coordinates the administration and operation of the plan. The Forester also issues additional restrictions on prescribed burning in situations where air quality of the entire State or part thereof is, or would likely become adversely affected by smoke.

In compliance with the Oregon Smoke Management Plan, prescribed burning activities on the Medford District require pre-burn registration of all prescribed burn locations with the Oregon State Forester. Registration includes specific location, size of burn, topographic and fuel characteristics. Advisories or restrictions are received from the Forester on a daily basis concerning smoke management and air quality conditions.

Use of Plastic Covering for Burn Piles

The Oregon Department of Forestry Smoke Management Plan addresses the issue of utilizing plastic to cover piles. In section 629-048-0210, Best Burn Practices; Emission Reduction Techniques, it states that "Best burn Practices" involves methods that ensure the most rapid and complete combustion of forest fuels. Covering of handpiles is a "Best Burn Practice". Also in this section it states "When covers will not be removed and thus will be burned along with the piled forest fuels, the covers must not consist of materials prohibited under OAR 340-264-0060 (3), except that polyethylene sheeting that complies with the following may be used:

- (a) Only polyethylene may be used. All other plastics are prohibited"

An addendum to the original Wrobel and Reinhart literature review (2003) on the use of polyethylene sheeting to enhance combustion efficiency, discusses the rules affecting polyethylene (PE) burning. Oregon and New Mexico are the only western states that allow insitu burning of PE pile covers. Oregon has addressed the issue based on the findings reported by Wrobel and Reinhart (2003). The Oregon Department of Environmental Quality and the Oregon Department of Forestry developed an MOU for PE that was adopted in 2005. Combustion studies involving lignocellulosic materials suggest that uncoated Kraft Paper may produce some of the same substances as polyethylene (Garcia and others 2003). It also states that from an operational standpoint, Kraft paper is a more expensive, less durable, and less effective means of minimizing moisture intrusion into the pile because of its tendency to degrade more rapidly than PE. In turn, fuel moisture is increased, combustion efficiency is reduced, and more accelerants may be needed for pile ignition.

Additionally, the weight and means of packaging Kraft paper contributes to decreased production and increased per unit cost of covering piles. The use of Kraft paper averages 55 pounds per square bundle compared to 12 pounds per roll for polyethylene use. It takes 3 bundles of Kraft paper (165 pounds) to cover the same amount of piles that one roll of PE (12 pounds) will cover. Kraft paper bundles are 4 by 4 foot square and are awkward to pack into a unit compared to a roll of polyethylene that can be easily packed into the unit. The size and shape of Kraft paper bundles combined with increased weight could also contribute to increased potential for worker injuries (e.g. knee, back, and ankle sprains) during operations.

PUBLIC PARTICIPATION

Public notice of the availability of this EA was provided through BLM's Medford District website. Notification of the availability of this EA was also mailed to adjacent landowners, interested individuals and the following agencies, organizations, and tribes.

Organizations and Agencies

Association of O&C Counties
Audubon Society
Jackson County Stockmen's Association
Jackson County Commissioners
Jackson Co. Soil and Water Conservation District
Klamath Siskiyou Wildlands Center
Northwest Environmental Defense Center
Oregon Department of Forestry
Oregon Wild
Oregon Department of Fish and Wildlife
Oregon Department of Environmental Quality
The National Center for Conservation Science and Policy
Siskiyou Project
Rogue River National Forest (RRNF)
Seven Basins Watershed Council

Southern Oregon University Library
Southern Oregon Timber Industries
Pacific Legal Foundation
Oregon Hunters Association

Federally Recognized Tribes

Cow Creek Band of Umpqua Indians
Confederated Tribes of Grand Ronde
Confederated Tribes of Siletz
Klamath Tribe
Quartz Valley Indian Reservation (Shasta Tribe)
Shasta Nation

Other Tribes

Confederated Bands [Shasta], Shasta Upper
Klamath Indians
Confederated Tribes of the Rogue-table Rock
and Associated Tribes

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