



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Medford District Office
3040 Biddle Road
Medford, Oregon 97504
email address: Medford_Mail@blm.gov

IN REPLY REFER TO:
1792(ORM060)

AUG 18 2009

Dear Interested Public:

The enclosed *Environmental Assessment* (EA) for the Ashland Fuels Reduction project is available for public review. The public review period, advertised on the Medford BLM Website, ends on September 2, 2009.

The Bureau of Land Management (BLM) proposes to reduce hazardous fuels by thinning approximately 2,009 acres of vegetation on BLM-administered lands in the Tyler Creek, Wagner Creek, Anderson Creek, Griffin Creek, Lick Gulch, Kane Creek, and Antelope Creek catchment basins on the Ashland Resource Area of the Medford District BLM. 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 objective is to create defensible space around homes and compliment hazardous fuels treatment areas on private lands as part of a larger fuel break system. 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.

We welcome your comments on the content of the EA. We are particularly interested in comments that address one or more of the following: (1) new information that would affect the analysis, (2) information or evidence of flawed or incomplete analysis; (3) BLM's determination that there are no significant impacts associated with the proposed action, and (4) alternatives to the Proposed Action that would respond to purpose and need. Specific comments are the most useful. **Comments are due by 4:30 PM, September 2, 2009.**

Before including your address, telephone number, email address, or other personal identifying information in your comment, be advised that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

All comments should be made in writing and mailed or delivered to Kristi Mastrofini, Ashland Resource Area, 3040 Biddle Road, Medford, OR 97504. Further information on this proposed project is available at the Medford District Office, 3040 Biddle Road, Medford, Oregon 97504 or by calling the Ashland Resource Area Planning Department. Contact Kristi Mastrofini at (541) 618-2384.

Sincerely,

A handwritten signature in black ink, appearing to read "John Gerritsma". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

John Gerritsma
Field Manager
Ashland Resource Area

Enclosure

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

ENVIRONMENTAL ASSESSMENT
(OR-M060-2009-0032-EA)

For the

ASHLAND FUELS REDUCTION PROJECT

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Ted Hass	Soil Resources ¹
Sean Gordon	Silviculture
Mike Derrig	Hydrology
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**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT**

OR-M060-2009-0032-EA

PURPOSE AND NEED FOR THE PROPOSED ACTION

INTRODUCTION

The Bureau of Land Management (BLM), Ashland Resource Area, proposes to implement the Ashland Fuels Reduction Project, a forest management project, designed to implement the Bureau of Land Management's Medford District Resource Management Plan (RMP) (USDI 1995). 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 2,009 acres of vegetation on BLM-administered lands in the Tyler Creek, Wagner Creek, Anderson Creek, Griffin Creek, Lick Gulch, Kane Creek, and Antelope Creek catchment basins on the Ashland Resource Area of the Medford District BLM. 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 objective is to create defensible space around homes and compliment hazardous fuels treatment areas on private lands as part of a larger fuel break system. The Medford District RMP provides Management Objectives and Direction for Fire and Fuels Management (USDI 1995). Reduce natural fuel hazards using a combination of manual, mechanical, and prescribed fire treatments to thin forest vegetation and treat dead and downed debris. (RMP p. 91). Reduce fuel hazards on BLM administered lands in the rural interface areas (RMP p. 89). 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.

The Public Land Survey System (PLSS) description for the Ashland Fuels project is:

Wagner and Anderson Creek units: T. 38 S., R. 1 W., in sections 21 and 33, T. 39 S., R. 1 W., in sections 1, 4, 5, 12, and 13, W.M., Jackson County Oregon (Map 1).

Griffin Creek units: T. 38 S., R. 2 W., in sections 3 and 10, W.M., Jackson County Oregon (Map 2).

Lick Gulch units: T. 39 S., R. 2 W., in sections 25, 26, 27, 34, 35, and 36, W.M., Jackson County Oregon (Map 3).

Antelope Creek units: T. 37 S., R. 1 E., in sections 7, 9, and 10 W.M., Jackson County Oregon (Map 4).

Kane Creek units (aka Galls Creek): T. 36 S., R. 3 W., in section 35; W.M., Jackson County Oregon (Map 5).

Tyler Creek units: T. 40 S., R. 3 E., in section 6; W.M., Jackson County Oregon (Map 6).

PUBLIC INVOLVEMENT

The BLM has conducted public outreach with interested citizens and adjacent landowners concerning BLM management activities. The BLM has coordinated with Little Butte Watershed Council and interested community members concerning landscape level vegetation management, including fuels treatments, in the South Fork Little Butte Creek Watershed. Fuels specialists attended a Little Butte Watershed Council meeting in April of 2009 to discuss planned fuels reduction work and seek community input. From 2003 to 2005, the BLM conducted public outreach in the Lick Gulch drainage (and surrounding Little Applegate Watershed), concerning landscape level vegetation and fuels reduction management activities. Notification of landscape level forest management activities in the Wagner and Anderson Creek drainages appeared in the Medford Messenger beginning in the winter of 2008. Additional coordination with neighbors through the local fire districts has also occurred.

PLAN CONFORMANCE

This forest management proposal is in conformance with the Medford District's 1995 Record of Decision and Resource Management Plan, implementing actions consistent with Management Objectives and Direction of the 1995 RMP (USDI 1995, p. 88-91). This forest management proposal is also in compliance 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 Ashland 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 insignificant, a Finding of No Significant Impact (FONSI) can be issued and a decision implemented. If this EA determines there are significant impacts or that the significance of impacts are unknown, 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 2,009 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.

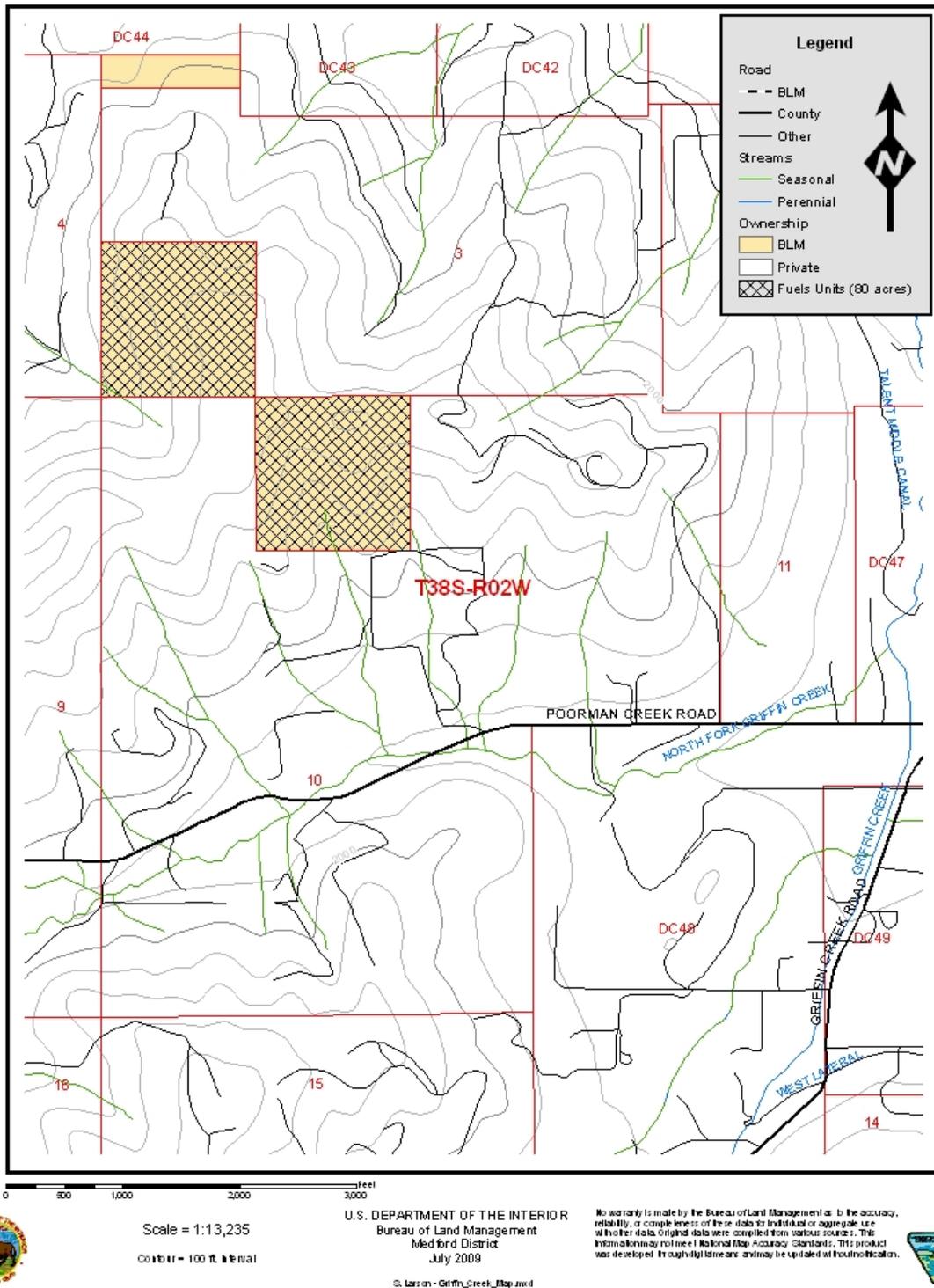
A mosaic of plant communities and vegetation conditions exist within all units including shrubland dominated plant communities, hardwood woodlands, and conifer/hardwood with understory vegetation. As vegetation conditions change through treatment units, the appropriate fuels reduction prescription would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

Table 1. Fuels Treatments by Catchment Basin

Catchment Basin	Acres
Wagner/Anderson Creek	834
Griffin Creek	80
Antelope Creek	524
Lick Gulch	331
Kane Creek	40
Tyler Creek	200
Total Acres	2,009

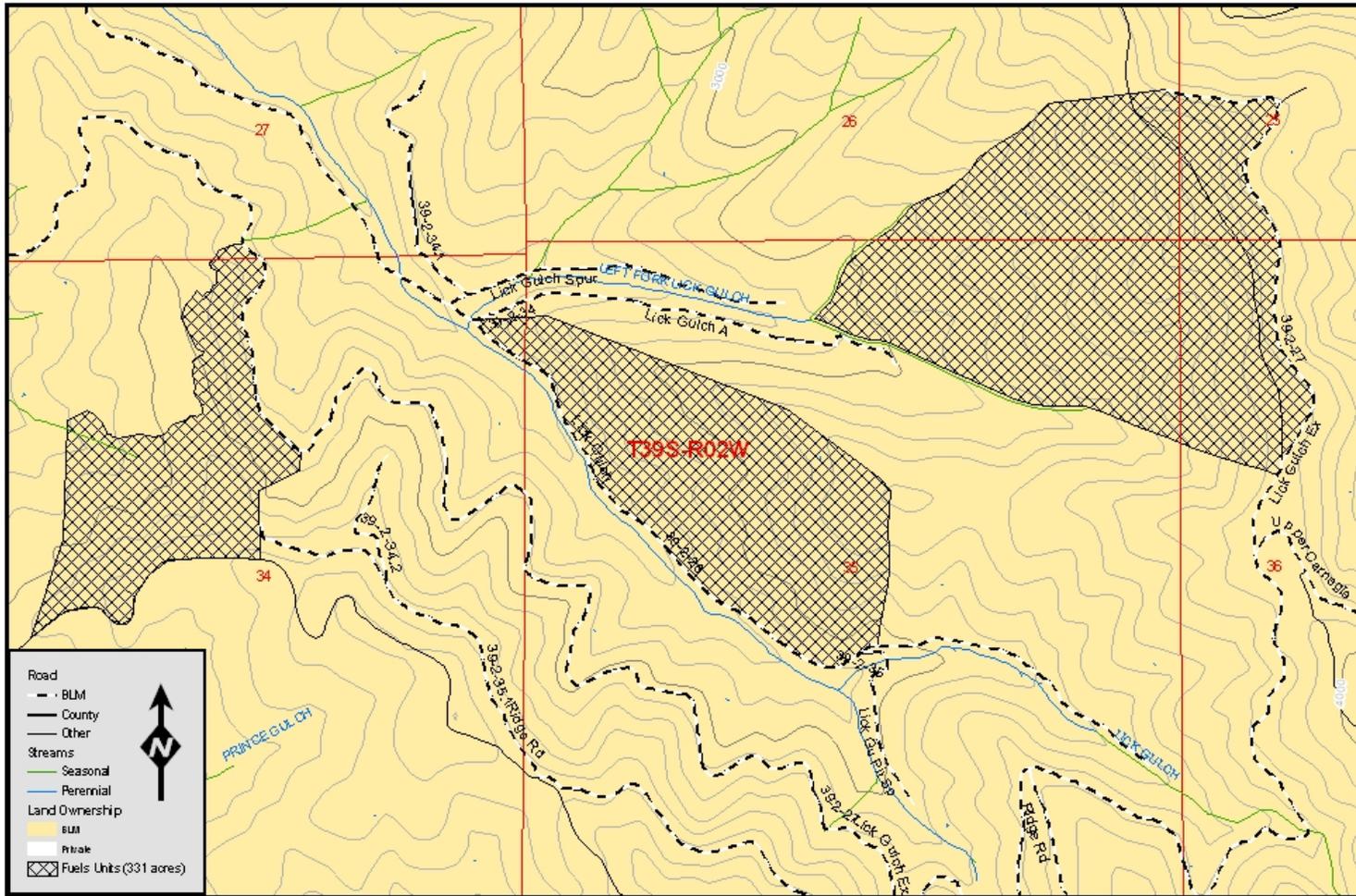
Map 1.

Ashland Fuels Project - Griffin Creek Units



Map 3.

Ashland Fuels Project - Lick Gulch Units



Road
 - BLM
 - County
 - Other

Streams
 - Seasonal
 - Perennial

Land Ownership
 - BLM
 - Private
 - Fuels Units (331 acres)



1:12,935
 Contour = 100 ft. Interval
 Index Contour = 1,000 ft.

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 July 2009

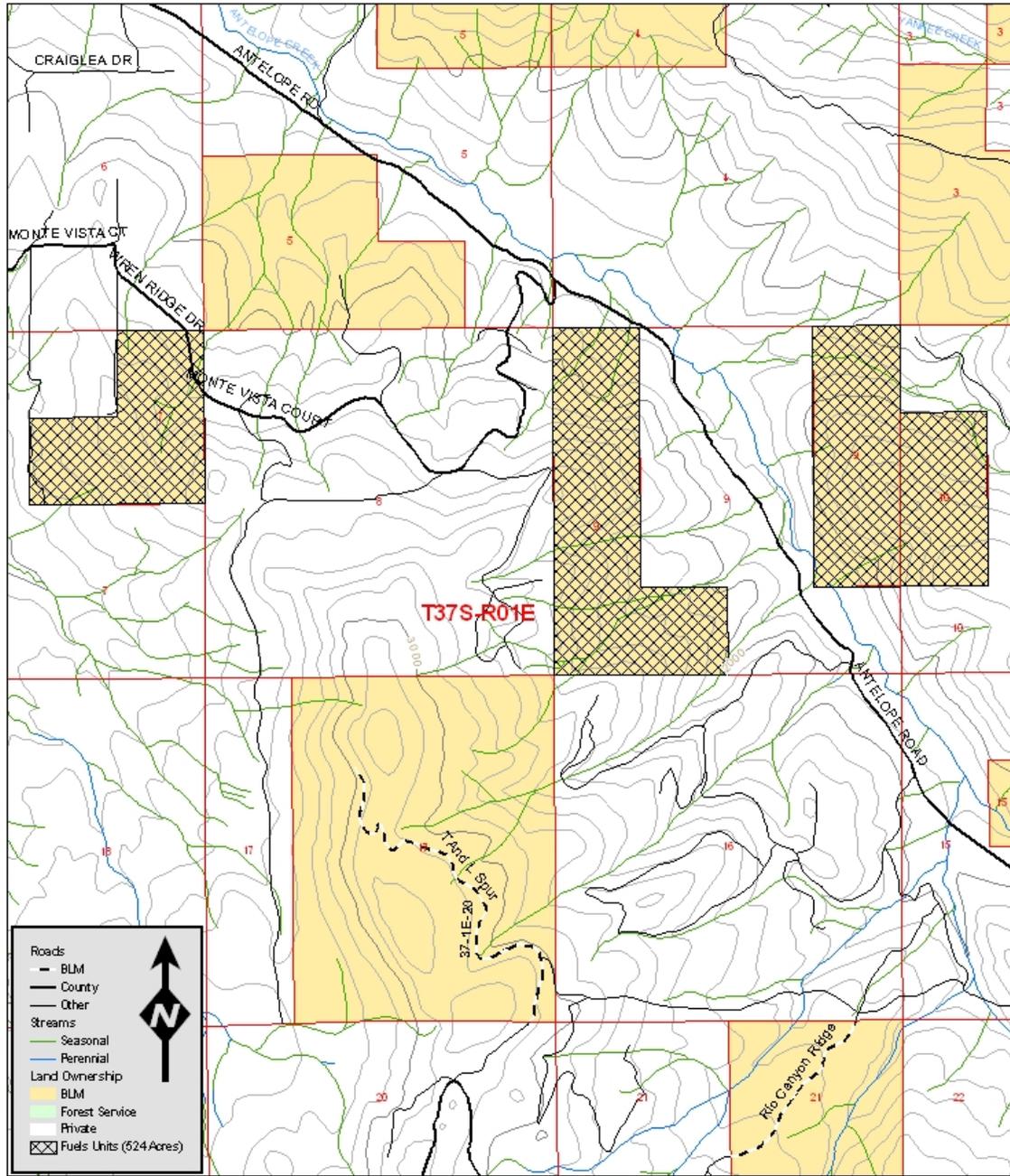
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Map 4.

Ashland Fuels Project - Antelope Creek Fuels Units



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 Contour = 100 ft.
 Index Contour = 1000 ft.

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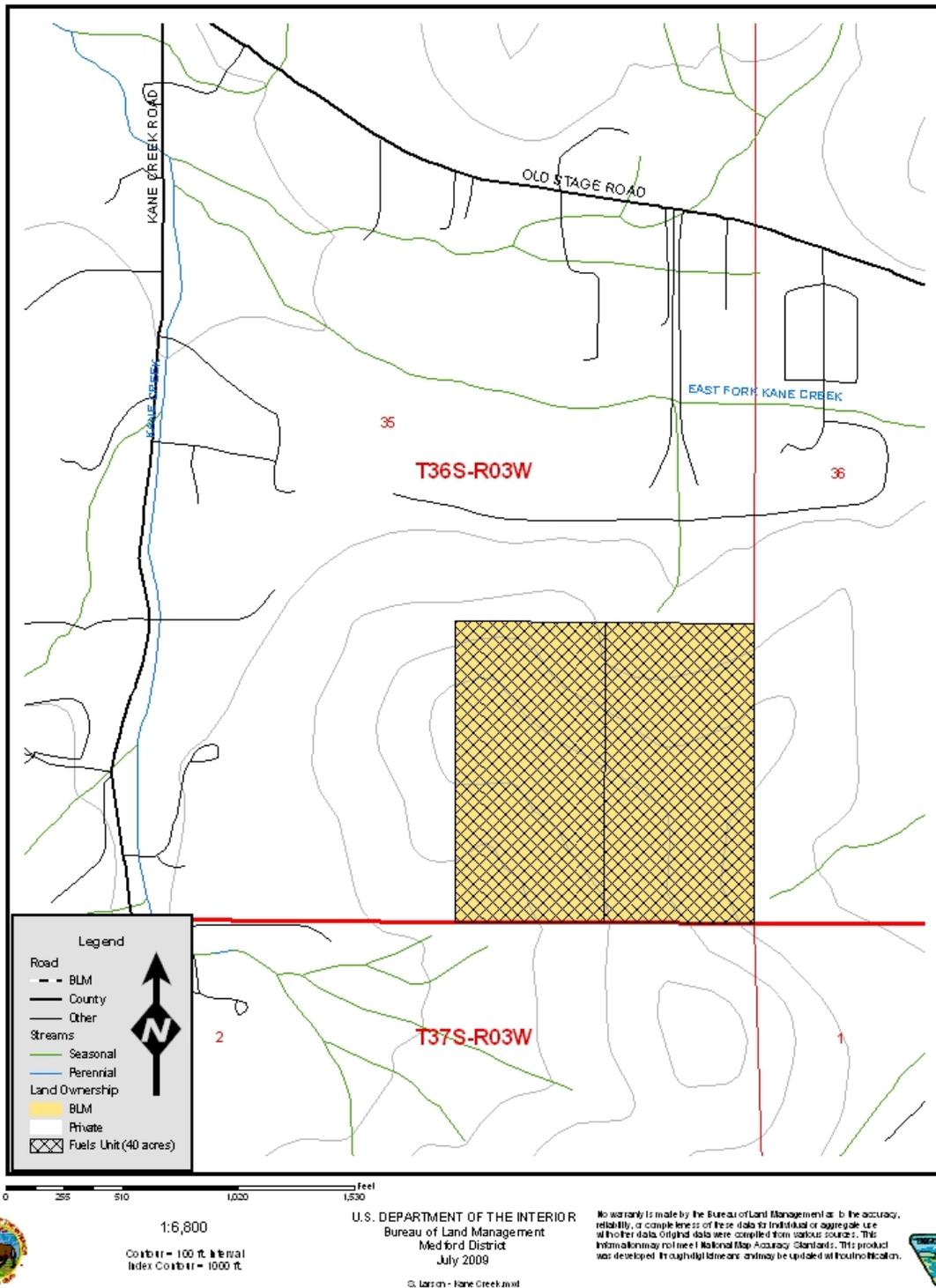
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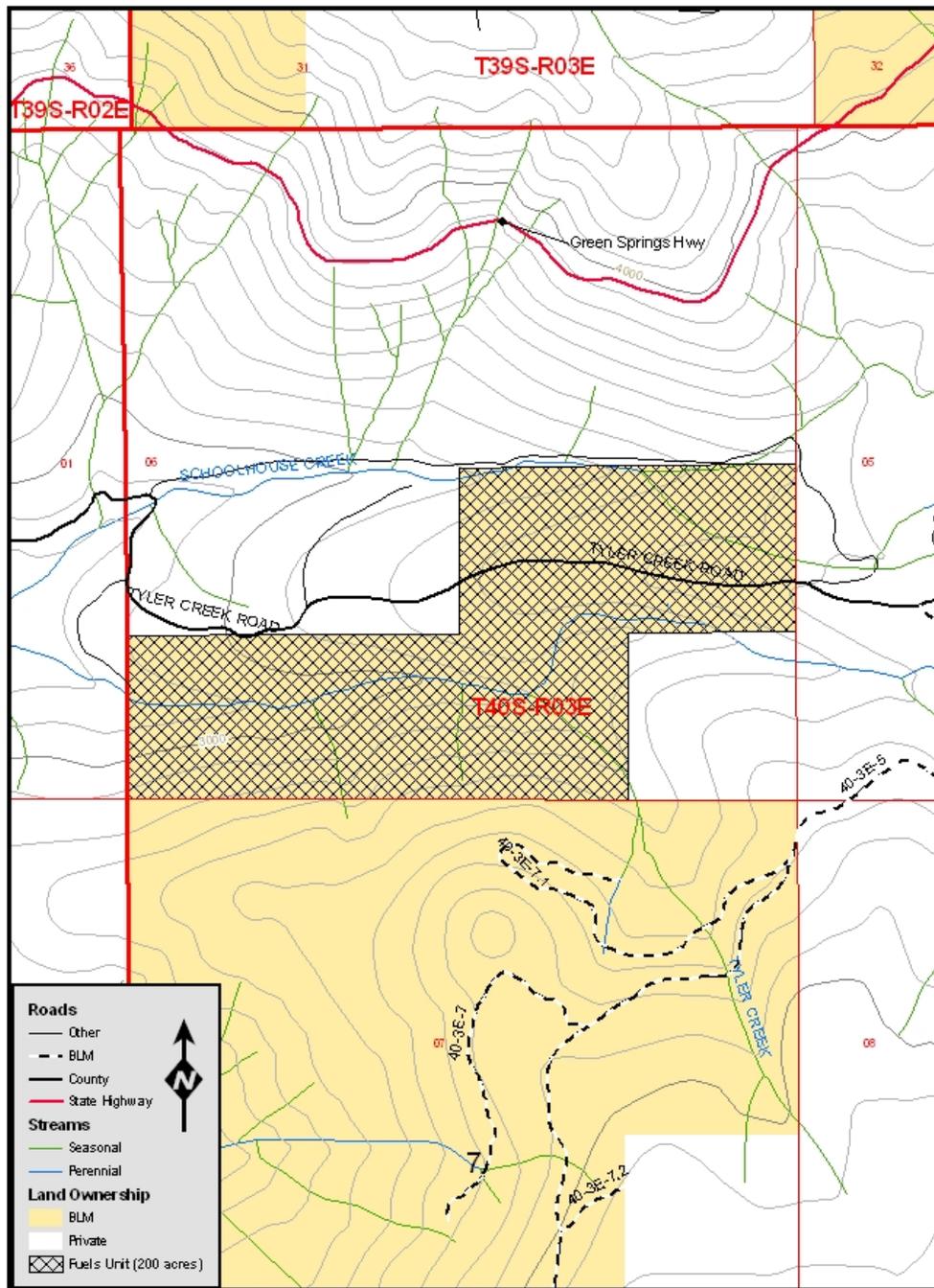
Map 5.

Ashland Fuels Project - Kane Creek Unit



Map 6.

Ashland Fuels Project - Tyler Creek Unit



1:13,228
 Contour = 100 ft.
 Index Contour = 1000 ft.

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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, and are developed to avoid or reduce the potential for adverse impacts to resources. The Project Design Features (PDFs) also incorporate 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 Reserves.

- (2) Equipment refueling would be conducted within a confined area outside Riparian Reserves.

Riparian Reserve Specifications

The following table (Table 2) outlines Riparian Reserve widths, as defined by the 1995 Medford District Resource Management Plan (RMP) and no-treatment buffers proposed for this project.

Table 2. Riparian Reserves and Required Project Specifications

Stream Type or Feature	Riparian Reserves (1995 Resource Management Plan)	Project No Treatment Buffers (on each side of streams and around water bodies)
Fish-bearing	2 site potential trees or 300 feet whichever is greatest	50 feet
Perennial	1 site potential tree or 150 feet whichever is greatest	50 feet
Seasonally flowing streams and wetlands less than 1 acre	1 site potential tree or 100 feet whichever is greatest	50 feet
Dry draws		No handpiles (or handpile burning) within draw bottom.
Constructed ponds, reservoirs and wetlands greater than 1 acre	1 site potential tree or 150 feet whichever is greatest	50 feet
Lakes and natural ponds	2 site potential trees or 300 feet whichever is greatest	50 feet

Note: Fuels treatments are permitted within RRs (RMP 1995) as needed to reduce the potential for uncharacteristic wildfires and achieve aquatic conservation strategy (ACS) objectives. The above are project specific guidelines to ensure sufficient stream shade and minimize erosion potential.

- (1) With underburns, no ignition would occur within Riparian Reserves.
- (2) Fire lines would be avoided to the extent possible within Riparian Reserves, in order to prevent the creation of pathways that could route sediment to water bodies.
- (3) Where fire lines are constructed in Riparian Reserves, place slash or other native mulch materials to provide 80 percent effective ground cover.
- (4) The removal of material for firewood, poles, or other special forest products would not occur within Riparian Reserves.
- (5) Fuels treatments within Riparian Reserves 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 hand piled 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 3 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 3. 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) All special status plants will be protected by a combination of protections buffers and seasonal restrictions, depending on existing habitat conditions and species needs.

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.
- (3) Native seed will be sown on disturbed areas to prevent the spread of noxious weeds and exotic species, as resources and funding are available.

Reduce Impacts to Air Quality

- (1) Implement prescribed burns in accordance with the Oregon Smoke Management Plan to reduce emissions and 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.

Units proposed for fuels reduction work in this EA are scattered across eight drainages and four fifth field watersheds on the Ashland Resource Area, with only a very minor proportion of each fifth field watershed affected by this project. Additionally, fuels reduction prescriptions thin conifer/hardwood stands 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 effects of this project proposal are limited to the site and the potential for this project to contribute to significant adverse cumulative effects is low. Also refer to resource by resource discussion of effects below.

The Wagner-Anderson and Bald Lick Timber Sales, under various stages of development and analysis, overlay two of fifth-field watersheds referenced above. A detailed Environmental Assessment will be produced in compliance of the National Environmental Policy Act (NEPA) for the Wagner Anderson timber sale project that will be subject to public and administrative review. The Bald Lick project was analyzed previously in the Bald Lick Environmental Assessment. Cumulative effects analyses considering past, present, and reasonable foreseeable actions, including this fuels reduction project, are/will be included in each timber sale environmental assessment.

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. 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.

In general the existing fuel profile within the project area represents a moderate to high resistance to control under average climatic conditions. 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 under the action alternative for increased fire behavior. 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 of 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 Resources

The affected areas are located within Tyler Creek, Wagner Creek, Anderson Creek, Coleman Creek, Griffin Creek (all in the Bear Creek Watershed), Lick Gulch (Little Applegate Watershed), Kane Creek (Rogue River/Gold Hill Watershed) and Antelope Creek (South Fork Little Butte Creek Watershed). The South Fork Little Butte Creek Watersheds is designated as Tier 1 Key Watershed.

Streams in the vicinity of proposed fuels units can be 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. In the Bear Creek Watershed, Tyler Creek, Wagner Creek and Coleman Creek are listed as water quality impaired (303d) for summer water temperatures, and Griffin and Coleman Creeks are listed as impaired for fecal coliform. Antelope Creek is listed for temperature and fecal coliform in the Little Butte Creek Watershed. Neither Kane Creek nor Lick Gulch is listed as water quality impaired.

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

All of the proposed project area catchments contain stream reaches that support populations of fish. Wagner Creek and Antelope Creek are listed Coho Critical and Essential Fish Habitat (CCH and EFH) for coho salmon. Proposed units are in close proximity to listed fish habitat in both of these catchments. Aquatic habitats across the project areas have 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 Wagner 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

Bureau Special Status Plants, Lichens, and Fungi (SSP) include species that are listed as threatened or endangered under the Endangered Species Act (ESA), proposed or candidates for listing, State listed, and

Bureau designated Sensitive species.

On July 25, 2007, the Survey and Manage requirements were removed from the Resource Management Plans of nine BLM Districts (including Medford's) through the Record of Decision To Remove the Survey and Manage Mitigation Measure Standards and Guidelines from Bureau of Land Management Resource Management Plans Within the Range of the Northern Spotted Owl (July 2007 ROD). Conservation of rare and little known species is provided for by the Endangered Species Act and the BLM's Special Status Species Program (BLM Manual 6840).

On July 25, 2007, the Oregon State Office Instruction Memorandum No. OR-2007-072 updated the State Director's Special Status Species List to incorporate the July 2007 ROD and to include species additions and deletions from the application of the most recent scientific data. This list was finalized with the February 6, 2008 Instruction Memorandum No. OR-2008-038.

Of the four federal endangered (*Arabis macdonaldiana*, *Fritillaria gentneri*, *Limnanthes floccosa* ssp. *grandiflora*, *Lomatium cookii*) and one candidate (*Calochortus persistens*) plants on the Medford District, portions of the project area are within the range of *Fritillaria gentneri*.

Surveys for all species, except fungi, on the Medford District SSP list were conducted in spring and summer of 2009 by qualified botanists. Surveys also included all 2001 Record of Decision Survey & Manage Category A and C (where pre-disturbance surveys are required) species plus amendments made by the Annual Species Reviews. Surveys were conducted using the intuitive controlled survey method. These surveys found occurrences of special status lichens (*Leptogium teretiusculum*, Bureau Strategic – mitigation optional); vascular plants (*Fritillaria gentneri*, Federally-listed Endangered and Bureau Sensitive; *Horkelia tridentata* ssp. *tridentata*, Bureau Sensitive; *Eucephalus vialis*, Bureau Sensitive and former Survey and Manage Category A; *Ranunculus austro-oreganus*, Bureau Sensitive; *Limnanthes floccosa* ssp. *bellingiana*, Bureau Sensitive. Any sites of federally-listed or candidate plants found outside their defined range would have been reported.

Of the 20 species of fungi that are on the Medford District SSP list, 17 are former Survey and Manage (S&M) Category B species whose status determined that pre-disturbance surveys were impractical and not required (Table 4). Two of the 20 fungi species are former S&M Category E or F where their S&M status was undetermined and pre-disturbance surveys were not required. One species of the 20 fungi is not a former S&M species but is a hypogeous (underground) fungus, as are other of the previously referenced fungi where pre-disturbance surveys were impractical. Oregon State Office Information Bulletin No. OR-2004-145 reaffirmed that these surveys were impractical and further stated that Bureau policy (Manual Section 6840) would be met by known site protection and large-scale inventory work (strategic surveys).

Table 4. Bureau Sensitive & Former Survey and Manage Fungi Species

Scientific Name	SSP Status	Former S&M	NatureServe Status	Med Occur.	GeoBOB Occur.
<i>Boletus pulcherrimus</i> *	BSO	B	G2G3/S2	6	44
<i>Dermocybe humboldtensis</i> *	BSO	B	G1G2/S1	0	4
<i>Gastroboletus vividus</i> *	BSO	B	G2?/S1	1	5
<i>Gomphus kauffmanii</i>	BSO	E	G2G4/S3?	4	72
<i>Gyromitra californica</i>	BSO	B	G4/S2	0	42
<i>Helvella crassitunicata</i>	BSO	B	G3/S2	0	27
<i>Leucogaster citrinus</i>	BSO	B	G3G4/S3S4	1	46
<i>Martellia fragrans</i>	BSO	B	G2G3/S1S3	0	2
<i>Otidea smithii</i>	BSO	B	G2/S2	0	10
<i>Phaeocollybia californica</i> *	BSO	B	G2?/S2?	3	36
<i>Phaeocollybia olivacea</i>	BSO	F	G2/S2	13	110
<i>Phaeocollybia oregonensis</i> *	BSO	B	G2?/S2	0	14
<i>Phaeocollybia pseudofestiva</i>	BSO	B	G3/S3?	3	46
<i>Ramaria largentii</i>	BSO	B	G3/S2?	2	20
<i>Ramaria spinulosa</i> var. <i>diminutiva</i> *	BSO	B	GUT2/S1?	0	1
<i>Rhizopogon chamaleontinus</i> *	BSO	B	G1G2/S1S2	1	1
<i>Rhizopogon clavitisporus</i>	BSO		G2G3/S1S2	0	4
<i>Rhizopogon ellipsosporus</i> *	BSO	B	G1G3/S1S3	5	5
<i>Rhizopogon exiguus</i> *	BSO	B	G1G3/S1S2	1	3
<i>Sowerbyella rhenana</i>	BSO	B	G3G5/S3	8	64

BSO = Bureau Sensitive in Oregon

G = Global Rank

S = State Rank

T = Trinomial (subspecies, variety, race) Rank

1 = Critically imperilled because of extreme rarity or because it is somehow especially vulnerable to extinction or extirpation, typically with 5 or fewer occurrences.

2 = Imperilled because of rarity or because other factors demonstrably make it very vulnerable to extinction (extirpation), typically with 6-20 occurrences.

3 = Rare, uncommon, or threatened but not immediately imperilled, typically with 21-100 occurrences.

4 = Not rare and apparently secure but with cause for long-term concern, usually with more than 100 occurrences.

5 = Demonstrably widespread, abundant, and secure.

? = Not yet ranked or assigned rank is uncertain.

Former S&M Category B = Rare species, pre-disturbance surveys not practical, manage all known sites, strategic surveys

Former S&M Category E = Rare species, status undetermined, pre-disturbance surveys not required, strategic surveys

Former S&M Category F = Uncommon species, status undetermined, pre-disturbance surveys not required, strategic surveys

Centaurea solstitialis (yellow starthistle), a state-listed noxious weed, occurs in several units within the project area. Some of these sites were treated this year according to the Medford Districts' Integrated Weed Management Plan (1998).

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 weed and invasive plant species present in the project area would continue to persist and expand. In the absence of an implemented project, treatment of existing infestations would be a low priority.

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 on 2,009 acres. 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.

Alternative 2 would manage vegetation in a manner to contribute to more fire resilient vegetation conditions. 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 Reserves can result in sediment transport to stream channels. Stream shade can be affected by reductions in canopy closure within Riparian Reserves. 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 2,009 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 Reserves. This, in addition to maintaining 50% canopy closure (or greater) within Riparian Reserves 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 could still occur across the landscape, including areas where fuel treatments have occurred. In the short and possibly intermediate term though, these treatments would 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 would have little effect on hydrology related processes because stream channels and riparian areas would be protected from ground disturbance. Stream shading would likely not be affected by the project, so stream temperatures would not be increased. The project has benefits to functioning of Riparian Reserves by promoting conditions that may allow late seral conditions to develop more quickly in these areas through thinning of competing small diameter vegetation.

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-barred 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 Wagner 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. As no aquatic habitat parameters would be affected, Aquatic Conservation Strategy objectives would also remain unaffected.

Botanical Resources -

It is BLM policy to: a) conserve and recover ESA-listed and proposed species and the ecosystems upon which they depend; and b) to initiate proactive conservation programs which minimize the potential for listing of BLM designated sensitive species under the ESA, and to ensure that actions requiring authorization or approval by the BLM are consistent with the conservation of BLM sensitive species. (BLM Manual 6840 – Special Status Species Management).

All special status plant sites will be protected by a combination of variable radius protection buffers, seasonal restrictions and no piling of slash within population boundaries (Table 5). 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. 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. Buffer area sizes vary depending on the needs of the population and existing habitat characteristics. These protection measures will ensure that the proposed action will not trend these species towards listing under the Endangered Species Act.

Table 5. Special Status Plants, Required Project Design Features

Unit	Special Status Species	Conservation Measures
39-1W-01	HOTRT	Seasonal restriction; no piles within buffer
39-1W-12	FRGE, HOTRT	No treatment in buffer if canopy cover < 40%; 50' seasonal restriction, no piles within buffer
39-1W-13	HOTRT	Seasonal restriction; no piles within buffer
39-2W-34	EUVI8	Seasonal restriction; no piles within buffer
39-2W-35	EUVI8	Seasonal restriction; no piles within buffer
39-2W-25,26,35,36	EUVI8, LETE13	Seasonal restriction; no piles within buffer
37-1E-07	RAAU	Seasonal restriction; no piles within buffer
37-1E-09	LIFLB	Seasonal restriction; no piles within buffer
37-1E-09/10	LIFLB	Seasonal restriction; no piles within buffer

The proposed treatment could promote the spread of noxious weeds and other exotic species due to canopy cover reduction and ground disturbance including pile burning. However, it is expected that continued noxious weed control measures and sowing native grass seed and other available native species on disturbed areas would prevent the spread of noxious weeds and exotic species. Current funding allows for continued treatment of noxious weeds in the project area for the next 2 years.

Wildlife

The proposed action involves removal of brush and small trees from the project area. This vegetation currently serves as habitat for a variety of wildlife species (e.g. birds, woodrats). The proposed action may reduce the suitability of these habitats for some species. Ample areas of similar brush and small tree habitat exist in close proximity to the areas to be treated under the proposed action. These untreated areas will continue to provide habitat for these species to persist. Treated areas will regenerate as shrub and brush species return and reserved vegetation is allowed to grow with increased vigor. This new vegetation will provide higher quality forage for deer, elk, and other grazing/browsing species. 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 many larger wildlife species (e.g. deer, elk, bear).

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 6 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. Each of these species use some of the habitat components which would be removed by this 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 6: 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 nesting, roosting, or foraging habitat and some is in 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. Primary constituent elements of Northern Spotted Owl habitat will not be removed or reduced. Primary constituent elements include:

- space for individual and population growth, and for normal behavior;
- food, water, air, light, minerals, or other nutritional or physiological requirements;
- cover or shelter;
- sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and
- habitats that are protected from disturbance or are representative of the historic geographic and ecological distributions of a species [50 CFR 424.12(b)].

Because the habitat would continue to function as suitable or dispersal-only habitat for spotted owls, the project is not likely to 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 was informally consulted on with the U.S. Fish and Wildlife Service.

Cultural Resources

The entire Ashland Fuels Reduction project area was reviewed for the potential for adverse impacts to cultural resources. A portion of the project area was previously surveyed for cultural resources in association with past landscape level vegetation management proposals. Additional cultural resource surveys were recently completed for project units not covered by past projects. 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.

Other Effects

a. Potential Effects to 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 in the drainages treated. 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. The MOU suggests that the plastic material is removed prior to burning when practicable. Adequate debris/slash is placed over the plastic sheeting to ensure the plastic remains covering the piles until the piles are burned. As stated above this ensures the most rapid and complete combustion of slash debris. Due to the difficulty of removing the plastic cover from below the debris, especially after long-term exposure to the elements, it is operationally and economically impractical to remove the plastic prior to burning. Therefore, the plastic is usually left in place and burned along with the pile. As required, polyethylene sheeting is used to cover piles.

Commenters have suggested that Kraft Paper should be used in place of PE to cover the burn piles. 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.

b. Potential for highly controversial environmental effects.

The proposed fuels reduction project and its anticipated effects are similar in nature to those of many other past and ongoing projects implemented across the Medford District BLM and are within the scope of and consistent with the current Medford Resource Management Plan. No significant or unique level of controversy concerning the effects of this project has been identified.

c. Potential for highly uncertain and potentially significant environmental effects or unique or unknown environmental risks.

The process for estimating the anticipated effects are well known and this project is limited in scope and intensity. The estimated environmental effects identified for this project have been determined to be within the effects described in the Medford District Proposed Resource Management Plan Environmental Impact Statement or otherwise determined to be insignificant as the project is designed to avoid or minimize the potential for adverse environmental effects.

d. Potential to establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects.

Projects of this nature are routinely being implemented on federal lands across the Medford District and within the vicinity of the project area. Therefore, this decision would not establish precedent for future projects.

Environmental Justice

This project was reviewed for the potential for disproportionately high or adverse effects on minority or low income populations; no adverse impacts to minority or low income populations would occur. *Executive Order 12898 (Environmental Justice).*

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
Bureau of Reclamation
Jackson County Stockmen's Association
Jackson County Commissioners
Jackson Co. Soil and Water Conservation District
Klamath Siskiyou Wildlands Center
Medford Irrigation District
Medford Water Commission
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)
Rogue River Valley Irrigation Co.

Seven Basins Watershed Council
Little Butte Watershed Council
Southern Oregon University Library
Southern Oregon Timber Industries
Pacific Legal Foundation

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

REFERENCES

- Agee, J.K. 1993. *Fire Ecology of Pacific Northwest Forests*. Island Press. Washington. D.C.
- Agee, J.K. 1996. *The influence of forest structure on fire behavior*. P. 52-68, in Proceedings of the 17th Forest Vegetation Management Conference. Jan. 16-18, 1996 Redding, CA.
- Agee, J.K., Skinner, C.N. 2005. *Basic principles of forest fuel reduction treatments*. Forest Ecology and Management. Elsevier B.V.
- Franklin, J.F., and Agee, J.K. 2003. *Forging a Science-Based National Forest Fire Policy*. Issues in Science and Technology, fall 2003.
- Garcia, A. Esperanza M., and Font R. 2003. *Comparison between products yields in pyrolysis and combustion of different refuse*. Journal of Analytical and Applied Pyrolysis, 68-69: 577-598.
- USDI Bureau of Land Management. 1995. *Record of Decision and Resource Management Plan*. Medford Oregon.
- USDI Bureau of Land Management. 1994. *Proposed Resource Management Plan/Environmental Impact Statement*. Medford Oregon.
- Wrobel C. and Reinhardt. 2003. *Review of potential air emissions from burning polyethylene plastic sheeting with piled forest debris*. United States, USDA Forest Service. Seattle WA: Pacific Northwest Research Station.