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(M060)

SEP 18 2009

Dear Interested Public:

The enclosed *Environmental Assessment* (EA) for the Galls Firewood project is available for public review. The public review period, advertised on the Medford Bureau of Land Management (BLM) Website, ends on September 28, 2009.

BLM proposes to provide selected hardwood and conifer trees for fuel wood opportunities in the Galls Creek drainage. This project responds to the increasing demand for firewood opportunities for the public, and will address silvicultural objectives for managing conifer and hardwood forests in the areas proposed for treatment. The proposed treatments will release conifer species, including pine species, on lands allocated to commercial forest management. The BLM is working to provide opportunities such as this to encourage biomass utilization to reduce the need for burning debris. It is hoped that by increasing these types of opportunities, that more industries specializing in biomass utilization will take root in Jackson and Josephine Counties. The location of this area was also taken into consideration in terms of convenience to the general public. It is located in close proximity to Interstate 5 (I-5) between Grants Pass and Medford. The legal description of the project area is T. 36 S., R. 3 W. in sections 29, 30, 31, and 33; T. 37 S., R. 3 W., in sections 5, 6, 8, 9 and 17; T. 37 S., R. 4 W., in section 15.

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 28, 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,

John Gerritsma
Field Manager
Ashland Resource Area

Enclosure

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

Jackson County, Oregon

(OR-M060-2009-0035-EA)

ENVIRONMENTAL ASSESSMENT
GALLS FIRE WOOD PROJECT

Specialty	List of Preparers
Botanist	Armand Rebischke
Wildlife Biologist	Steve Godwin
Fire/Fuels Specialist	Mike Appling
Fisheries Biologist	Chris Volpe
Silviculturist	Sean Gordon
Hydrologist	Michael Derrig
Environmental Coordinator	Kristi Mastrofini

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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 Galls Fuel Wood project, a forest management project. This project is designed to be in compliance with 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 forest management 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

BLM proposes to provide selected hardwood and conifer trees for fuel wood opportunities on an estimated 448 acres in the Galls Creek drainage. This project responds to the increasing demand for firewood opportunities for the public and will address silvicultural objectives for managing conifer and hardwood forests in the areas proposed for treatment. The proposed treatments will release conifer species, including pine species, on lands allocated to commercial forest management. The BLM is working to provide opportunities such as this to encourage biomass utilization to reduce the need for burning debris. It is hoped that by increasing these types of opportunities, that more industries specializing in biomass utilization will take root in Jackson and Josephine Counties. The location of this area was also taken into consideration in terms of convenience to the general public. It is located in close proximity to Interstate 5 (I-5) between Grants Pass and Medford. The legal description of the project area is T. 36 S., R. 3 W. in sections 29, 30, 31, and 33; T. 37 S., R. 3 W., in sections 5, 6, 8, 9 and 17; T. 37 S., R. 4 W., in section 15. (see Map 1).

PUBLIC INVOLVEMENT

Public outreach occurred in association with the Galls Foot forest management project starting in the summer of 2005, with the listing of the project in Medford's Messenger, BLM's quarterly newsletter. In November 2005, letters were sent to all private landowners in the Galls and Foots Creek drainages, announcing timber sale and fuels reduction activities were being planned in the area. A description of the activities proposed and a map were included in the mailing. This fuel wood opportunity is a subset of the larger landscape project described during public outreach.

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 which states:

"*Permit fuelwood gathering only in existing cull decks, in areas where green trees are marked by silviculturists for thinning, in areas where blowdown is blocking roads, and in recently harvested timber sale units where down material will impede scheduled post-sale activities or pose an unacceptable risk of wildfire* (USDI 1995, p. 34)".

This fuel wood project is utilizing material that would otherwise be cut and burned to meet silvicultural or fuels reduction objectives.

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 (EA) 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 Galls Firewood 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 1995) 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, there would be continued overabundance of hardwoods compared to conifers, therefore, slowing the growth and vigor of the conifers. No opportunities for firewood would be provided to the public, although future stand treatments and firewood opportunities in this area would not be precluded and could be analyzed under a subsequent EA.

DESCRIPTION OF THE PROPOSED ACTION (ALTERNATIVE 2)

The proposed action involves the cutting and removal of selected hardwoods less than 16 inches diameter breast height (dbh) and Douglas-fir trees less than 16 inches dbh on an estimated 448 acres of BLM-administered lands. Trees determined by the BLM to be roadside hazard trees will also be felled and utilized. Trees would be designated for cutting by the BLM based on silvicultural prescriptions designed to meet forest management objectives for the survival and growth of conifer forests for long-term forest production, including the maintenance of fire resilient pine species and large tree structure.

A combination of methods would be used to provide firewood to the public. One method involves falling designated trees and using a small yarder (e.g. Koehler, Yoder, etc) to yard trees to existing roads and landings for utilization. Another method is to issue permits to the public to fell designated trees; trees would then be bucked and hand carried to existing roads and landings. Under another method, the BLM would fell trees designated for removal; the felled material would be left for permittees to buck and remove by hand for firewood. Tree tops and limbs too small for utilization would be hauled to landing areas for chipping, lopped and scattered, or hand piled and burned.

Trees would be designated for removal by the BLM based on the following silvicultural prescriptions; in general, the three principles of silviculture apply: thin the common, enhance the diverse, and protect the unique. Prescriptions are tailored to site conditions. Portions of the project area are delineated into

respective prescriptions based on their vegetation structure. Vegetation Sites and their prescriptions fall into 4 categories:

1. White Oak
2. Ponderosa Pine
3. Dry Douglas-fir
4. Madrone/California Black Oak Woodland

Items to apply to all treatment areas:

- Leave all hardwood species ≥ 16 inches DBH.
- Do not cut or damage any posted or tagged tree.
- Within 100 feet of roads, snags of all species and diameters may be removed, including conifers with dead tops and declining tops, where their removal is needed to mitigate the roadside hazard to the public and forest workers.

White Oak (*Quercus garryana*) Prescription

Oak savannahs and woodlands, particularly oak woodlands associated with grasslands, represent a biological and cultural legacy in southwest Oregon. Oak woodland restoration can be met by firewood cutting. Shade intolerant oaks require release from faster growing conifers of at least 30 to 40 feet, but often wider (Harrington and Devine 2006). Merchantable conifers may be cut on these sites for oak restoration (Figure 1). Adjacent prairie-oak/oak savannahs can be expanded upon by removing those adjacent conifers overtopping or encroaching in these biological legacy oak sites.

- Leave tree species preference order: White Oak, California Black Oak, Sugar Pine, Ponderosa Pine, Incense Cedar, and Douglas-fir.
- The largest, healthiest oak trees available should be left at 40 ft. ±25% spacing. Leave trees should have large spreading crowns, free of scars or fungal growth on stems, and are visibly good acorn producers (for wildlife production and oak regeneration). Retain oaks with cavities and defects for wildlife.
- Remove surplus vegetation in between white oak leave trees. Douglas-fir up to 16 inches DBH may be removed within 40 ft. ±25% of a white oak leave tree only on white oak sites. Transition areas where white oak and Douglas-fir exist should be treated with the White Oak prescription as illustrated (fig. 1).

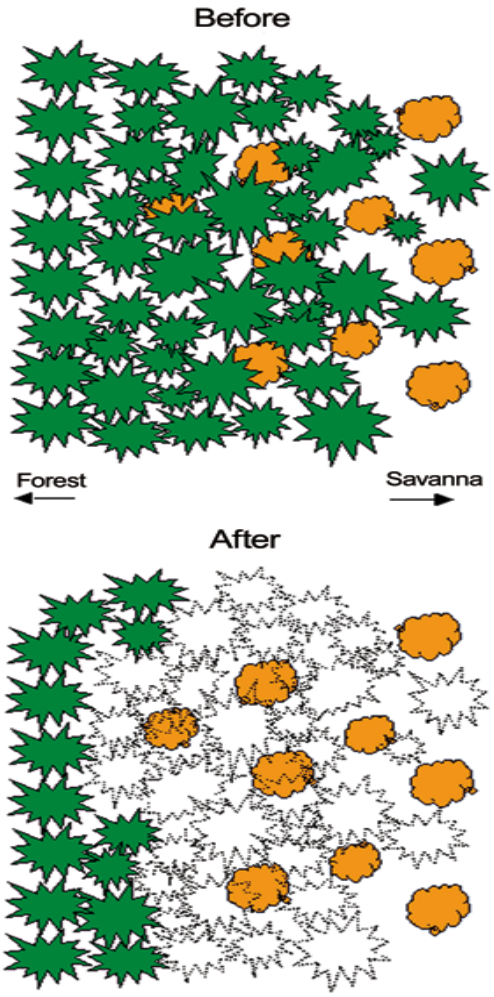

Figure 1. Release of a conifer-encroached oak site (*Source*: USDA 2006).

Dry Douglas-fir (*Pseudotsuga menziesii*) Prescription

Do not cut merchantable conifers (≥ 8 inches DBH). In areas classified as timber base forestland minimum stocking of conifers must be maintained. All units are below 3,400 ft. elevation. Many low elevation stands are understocked with conifers especially pine. In other stands, however, as crowns have shaded the understory floor over time, Douglas-fir and madrone have initiated in the understory sometimes in dense mats.

1. Leave tree species preference order: Sugar Pine, Ponderosa Pine, Douglas-fir, White Oak, Black Oak, Madrone

2. Maintain 120 BA/AC of conifers while leaving all conifers ≥ 8 inches.

3. Space single stem hardwood or hardwood clump 45 ft. ±25%. Madrone clumps should be cut to leave 3-4 of the largest stems/clump. Oak clumps should be cut to leave 2-3 of the largest stems/clump.

4. Provide 15-25 ft. crown spacing for pine.

5. Use 1/5 acre (53 ft. radius) Pine Group Selection for pine ≥18 inches DBH. Openings should be no closer than 80 feet between openings (200 feet between boles).

6. Space 40 ft. ±25% off of white oak ≥8 inches DBH unless a nearby pine is available to release.

Pine Site (*Pinus ponderosa*) Prescription

Many low elevation hardwood/woodland and Pine sites have developed overstocked conditions of weak Douglas-fir and madrone trees. These stands require density control to open the understory for early seral species, such as Ponderosa pine to reinitiate the understory and diversify the species component.

1. Leave tree species preference order: Sugar Pine, Ponderosa Pine, Douglas fir, White Oak, Black Oak, Madrone.

2. Provide 15-25 ft. crown spacing for pine

3. Use 1/5 acre (53 ft. radius) Pine Group Selection for pine ≥18 inches DBH. Openings should be no closer than 80 feet between openings (200 feet between boles).

4. Douglas-fir up to 12 inches DBH may be cut to release a pine in pine sites only.

5. Space 40 ft. ±25% off of white oak ≥8 inches DBH unless a nearby pine is available to release.

Pacific Madrone (*Arbutus menziesii*) and California Black Oak (*Quercus kelloggii*) Prescription:

1. Leave tree species preference order: SP>PP>IC>DF>CO>MA> WO

2. Leave 60-80 ft² BA/AC of madrone and/or black oak with the widest crown widths. Leave healthy single stem madrone/oak or madrone/oak clump of 2-4 stems. Favor the most open grown dominant or codominant hardwood as leave trees.

3. Leave all conifers ≥ 8 inches DBH.

4. When canopy closure is 90 to 100% for trees 8 inches DBH and larger, cut all understory, suppressed trees less than 8 inches DBH with live crown ratios of less than 30%.

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:

Protecting Riparian Reserves

(1) Riparian Reserve widths in the Galls Firewood Project area are as follows:
- Fish-bearing streams: from 320 to 400 feet slope distance on each side of the stream.
- Perennial nonfish-bearing streams: from 160 to 200 feet slope distance on each side of the stream.
- Intermittent nonfish-bearing streams and unstable and potentially unstable ground: from 100 to 200 feet slope distance on each side of the stream or draw.
- Springs, seeps and other non-stream wetlands less than one acre in size: 100 feet slope distance from the edge of the wetland and associated vegetation. (USDI 2001:133)

(2) No yarding in Riparian Reserves.
(3) No use of skid trails in Riparian Reserves.
(4) No yarding corridors in Riparian Reserves.
(5) Trees would be directionally felled away from Riparian Reserves.
(6) No cutting of conifers greater than 7 inches (dbh) in Riparian Reserves. Manual treatments vegetation treatments would *not occur* within 30 feet of long-duration intermittent streams or within 50 feet of perennial and/or fish-bearing streams.
(7) Riparian hardwood species such as willow, ash, maple, alder, pacific yew, and black oak would not be thinned.
(8) Existing down large woody debris over 16" diameter would not be damaged, driven over, or used for firewood.
(9) Crossing stream channels or riparian areas with vehicles or equipment (including ATVs), would be limited to existing system roads shown on EA maps.
(10) Slash would not be piled in channel bottoms.

Table 1: Riparian Reserve (RR) Buffer Distances for Manual Non-Commercial Treatment Areas

Riparian Reserve Type	Manual Treatments	Handpiles
Fish-bearing	50 ft. no treatment buffer either side of stream channel	Not allowed within 50 ft. each side of stream channel
Perennial	50 ft. no treatment buffer either side of stream channel	Not allowed within 50 ft. each side of stream channel
Long-duration intermittent	30 ft. no treatment buffer either side of stream channel	Not allowed within 50 ft. each side of stream channel
Short-duration intermittent	Where necessary (treating through is okay, as prescribed)	Not allowed within stream channel or draw bottom
Springs/seeps/wetlands and unstable draws	Not allowed in RR	Not allowed in RR

Reducing or Eliminating Surface Soil Erosion and Soil Productivity Loss

(1) The project would retain levels of downed coarse woody material, greater than 16 inches at the large end, at or greater than current levels in order to maintain soil productivity and structure for cavity nesting species. *
(2) Wherever trees are cut to be removed, directional felling away from dry draws or irrigation ditches would be practiced. Trees would be felled to the lead in relation to skid trails. Irrigation ditches in the project area would be protected from damage and kept free from slash. *
(3) All skid trails would be waterbarred according to BLM standards.
(4) Yarding up and down dry draws would be avoided. The intent is to minimize the occurrence of erosion and compaction in existing areas of concentrated surface or substrate flow.
(5) Slash left on site by the project would be hand piled or lopped and scattered. No handpiles within 50 feet either side of perennial or long-duration intermittent streams and no piling in short-duration intermittent channels or dry draws would be allowed.
(6) Old skid trails would not be opened or driven on without the approval of the authorized officer. Cut material would be placed on the running surface of old skid trails or jeep roads that are authorized to be used.
(7) Old skid roads would not be treated near the intersections with system roads in order to provide a visual screen and discourage vehicular access.
(8) Crossings through dry draws would be limited and approved by authorized officer; vehicles or equipment would not drive up the draw bottoms. Dry draw crossings would not involve any soil disturbance.
(9) Piles would be dispersed across treatment areas. Piles would be burned when soil and duff moisture are high.
(10) A seasonal restriction would be required on natural surfaced roads prohibiting wet season use (typically October 15th to May 15th). This would protect the road from damage and decrease

the amount of sedimentation that would occur. This restriction could be waived under dry conditions Dry conditions are defined as 18% or less soil moisture measured adjacent to the road prism and at a 3 inch depth. *

(11) Permittees/contractors would be required to keep road corridor and road drainage ditches cleaned and free of debris.

Preventing Chemical Water Pollution

(1) Foam retardant would not be used in Riparian Reserves.*

(2) The contractors and permittees would be responsible for meeting all state and federal requirements for maintaining water quality. Standard contract stipulations would include the following:

(3) All project activities must comply with State of Oregon DEQ OAR 340-142, *Oil and Hazardous Materials Emergency Response Requirements.*

- Heavy equipment would be inspected and cleaned before moving onto the project site in order to remove oil and grease, noxious weeds and excessive soil. *
- Hydraulic fluid and fuel lines on heavy mechanized equipment must be in proper working condition in order to avoid leakage. *
- Waste diesel, oil, hydraulic fluid and other hazardous materials and contaminated soil would be removed from the site and disposed of in accordance with DEQ regulations. Areas that have been saturated with toxic materials would be excavated to a depth of 12 inches beyond the contaminated material or as required by DEQ. *
- Equipment refueling would be conducted outside Riparian Reserves. *
- Equipment containing toxic fluids would not be stored in or near (within 300 feet) a stream channel anytime. *

Reduce disturbance (noise & habitat) impacts to the Northern Spotted Owl (listed as Threatened under ESA)

(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.

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

(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.

(3) Tree felling and yarding would not occur within 0.25 miles of any **known** nest site or activity center from March 1- September 30, unless protocol surveys have determined the activity center to be not occupied, non-nesting, or failed in a nesting attempt. Waiver of the seasonal restriction is valid until March 1 of the following year.

Provide wildlife trees and habitat for cavity dependent species

(1) Retain a minimum of 3 snags per acre greater than 17 inches DBH where available. Retention of snags greater than 17 inches DBH within the interior of the stands would mitigate impacts to cavity-dependent species.
(2) Do not target large, broken-top trees and large snags with loose bark for removal. Retain and protect these structures where possible.
(3) The project would retain levels of downed coarse woody material, greater than 16 inches at the large end, at or greater than current levels in order to maintain soil productivity and structure for cavity nesting species. *

Minimize or avoid impacts to Special status plant species

(1) Federal listed, State listed, Bureau Sensitive, and Bureau Assessment species within proposed treatment areas would be protected by establishing variable radius botanical reserves or seasonal restrictions (Table 3). Botanical reserve boundaries will be based on evaluation of species habitat needs, assessment of site and micro-site conditions, and impact of proposed treatments.
(2) Buffer sizes: a minimum of 25 feet from the population boundary (a site, or the outer edge of a polygon encompassing the population). No harvest activity within the buffer.
(3) No heavy equipment, skidders, yarders, etc., within 75 feet of a buffer (100 feet from the occurrence).
(4) No tree falling into or yarding through buffered sites.
(5) No tree planting within 75 feet of the edge of the buffer (100 feet from occurrence), so as to maintain edge and more open habitat.
(6) Do not locate anchor trees within known sites. This includes anchor trees on Federal land requested by private landowners.

Minimize the spread of noxious weeds

(1) Vehicle and equipment use may occur off existing roads in the project area ONLY during the dry season. Dry season is typically May 15 to October 15.
(2) Units shall be treated in a specified order: un-infested units first, infested areas last. Maps and instructions shall be provided to operators prior to starting operations.
(3) Mechanical equipment (e.g. yarders, etc.) would be power washed and cleaned of all soil and vegetative material before entering the project area. Equipment moving from a weed infested work site to or through a non-infested area will be field washed before moving. Field washing station would include a high pressure pump, containment mat, filter system, and a holding tank.
(4) Roadside noxious weed populations would be treated prior to project activities with subsequent treatments as necessary and as funding is available.
(5) Native seed will be sown on disturbed areas to prevent the spread of noxious weeds and exotic species, as resources and funding are available.

Protecting Water Developments and Water Quality

(1) Millers Gulch drainage in 36s-3w Section 31 has private water rights and a right-of-way containing a water tank and pipe; all operations in the vicinity of this development must be aware of the location of these facilities and protect them from damage during the implementation of the project.

Implementation Monitoring

The majority of actions described under this proposal would be implemented through firewood permits and/or service or stewardship contracts. Implementation monitoring is accomplished through the contract administration process. Project design features included in the project description are carried forward into permit and contract specifications. Agency contract administrators and inspectors monitor the daily operations of contractors to ensure that contract specifications are implemented as designed. If work is not being implemented according to contract specifications, contractors or permittees would be ordered to correct deficiencies. If deficiencies are not corrected work stops.

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 Galls Foot Timber Sale, located in the same drainage, is analyzed and documented in the Galls Foot Environmental Assessment in compliance with the National Environmental Policy Act (NEPA). The Galls Foot Timber Sale Environmental Assessment was distributed for public review in 2006. The Galls Foot Timber Sale Decision Record and project implementation has been deferred. At this time it is anticipated that the Galls Foot Timber Sale may move forward in 2012/13.

The anticipated effects of this Galls Firewood project are anticipated to be minimal and limited to the site due to stringent application of project design features. As such this project is not expected to contribute to significant adverse cumulative effects at the landscape or watershed scale.

ALTERNATIVE 1 (NO ACTION ALTERNATIVE)

Under the No-Action Alternative there would be no effects to resources from project activities. However, there would be a continued overabundance of hardwoods compared to conifers, therefore, slowing the growth and vigor of the conifer tree species. This alternative would not meet the purpose and need to provide opportunities for firewood and to encourage biomass utilization.

ALTERNATIVE 2 (PROPOSED ACTION ALTERNATIVE)

Vegetation and Fuels

Forest stand thinning in Dry Douglas fir forest stands would reduce tree densities, thus, allowing for improved individual tree vigor and growth, and improved forest health.

Shade tolerant and faster growing Douglas-fir encroach upon shade intolerant white oak contributing to the decline of white oak savannahs. Releasing the white oak component of Douglas-fir encroached white oak sites will help to restore legacy white oak savannahs in Southwestern Oregon (Drawing from USDA 2006: *A practical guide to oak release*).

California black oak and Pacific madrone are frequently encountered together in the hardwood woodlands of the Galls Creek area. McDonald and Tappeiner (1990) describe madrone growth as slow, especially in diameter. On good sites in forested canyons and draws they describe it as a stately tree with a tall and straight bole; and on poor sites as low and shrubby with multiple stems, especially on south-facing benches and ridges. Elliott and others (2002) state that low inherent disease resistance, severe weather, and the absence of fire predisposes Pacific madrone to disease. They add that the critical diameter for open-grown or codominant madrone seems to be around 16 inches dbh in that a madrone tree this size "is in balance between carbon production and demand." A reduction in stand density supplies previously unavailable resources to the remaining trees. A stand that fully utilizes the limited available resources exhibits improved vigor against diseases and severe weather.

Black oaks are less fire tolerant than white oak and do not require the amount of sunlight needed by white oak. However, black oak requires more sunlight than Pacific madrone. McDonald and Vaughn (2007) found that in a thinned hardwood stand including Pacific madrone and California black oak, volume growth per tree was highest when stands were thinned from 66-75 ft^2 BA/AC. They also found that stems in clumps grew about the same diameter as single stems whereas, untreated areas grew stems in clumps at a slower rate than single stems.

Biomass utilization for firewood will reduce forest surface and ladder fuels. Post activity slash treatment will lop and scatter or handpile and burn concentrated areas of unutilized tops and limbs. The dead and down fuel component would only increase slightly in areas lopped and scattered. This material would begin to break down from soil contact and moisture within 2 to 3 years. Therefore, the overall fire hazard rating within the area would not increase.

Soil Resources

Soil series identified in the project units are Caris, Offenbacher, Tallowbox, Vannoy, Voorhies, and McMullin. These soils have depths ranging from 20 to 60 inches and are all well drained. It is estimated that the natural erosion rates for soils in the Applegate geomorphological erosion response unit (GERU) are approximately 0.7 yd^3/ac/yr. Erosion rates increased slightly in harvest areas to 0.8 yd^3/ac/yr (Amaranthas 1985, p. 230). Erosion rates are highly dependent on the intensity and amount of rainfall that a particular site receives in a given time period. Other factors that affect erosion rates are steepness of slope, ground cover, soil particle cohesion and amount/degree of disturbance. The Caris and Offenbacher soils often have a mantle of gravel on the surface that has potential to unravel and move down slope when disturbed; this potential is higher on slopes over 60 percent. A map showing the location of all soils in the project area is on file at the Medford District BLM Office.

Erosion rates would exhibit only a slight (<15%) increase over natural levels where firewood is yarded using a small yarder. Where yarding occurs, disturbance would be similar to that reported by Landsberg (7 percent of the cutting unit area). The yarding trails are usually narrow (2 to 4 feet), with shallow compacted troughs of surface soil partially covered by scattered litter and slash, which helps to slow and disperse water runoff and hold soil particles on site. Although erosion rates would increase in the units where yarding occurs, most soil particles would not reach local waterways under normal rainfall conditions and return to near normal rates usually within five years as vegetative cover is reestablished. In most operations, a major portion of the harvest area would remain essentially undisturbed.

Water Resources & Fish

Stream surveys have been conducted in the project area in association previous project planning efforts in the area. The stream condition was assessed, the location of wetland and unstable areas was documented, and stream channels were classified as perennial, intermittent, or dry draws. Stream maps were updated with the new information. Riparian Reserve widths were determined site-specifically using the 1995 Medford District RMP Standards and Guidelines (USDI 1995) and the *Rogue River-Gold Hill Watershed Analysis* (USDI 2001).

The majority of the affected areas are located within the Galls Creek watershed, with a lesser amount located within the Foots Creek and Miller Gulch. Galls Creek is listed (303d) as impaired for summer temperatures. The primary water quality concerns associated with this proposal are delivery of sediment to watercourses by roads, activity generated fuels within riparian areas, and potential loss of stream shade. Since no shade producing vegetation would be cut within riparian areas, the amount of shade would remain unchanged. Road use either by contractors or the public during wet periods 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. A secondary effect could be the blocking of inboard ditches and other drainage features through physical disturbance and improper slash disposal.

Correct implementation of required Project Design Features would, under most circumstances, minimize adverse effects, and ensure compliance with all applicable statutes and management direction, including cumulative impacts and impacts to wetlands, floodplains, and drinking water aquifers.

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, the project area is 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 2004-2009 by qualified botanists. The surveys also included all 2001 Record of Decision Survey & Manage Category A and C (where pre-disturbance surveys were previously required) species plus amendments made by the Annual Species Reviews. Surveys were conducted using the intuitive controlled survey method. These surveys found five occurrences of the federally-listed vascular plant *Fritillaria gentneri* in one section, T. 36 S., R. 3 W., Section 31.

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 3). 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) through fiscal year 2004.

Table 3. Bureau Sensitive & Former Survey and Manage Fungi Species

Scientific Name	SSP Status	S&M	NatureServe Status	Med Occur.	GeoBOB Occur.
*Boletus pulcherrimus**	BSO	B	G2G3/S2	6	44
*Dermocybe humboldtensis**	BSO	B	G1G2/S1	0	4
*Gastroboletus vividus**	BSO	B	G2?/S1	1	5
Gomphus kauffmanii	BSO	E	G2G4/S3?	4	72
Gyromitra californica	BSO	B	G4/S2	0	42
Helvella crassitunicata	BSO	B	G3/S2	0	27
Leucogaster citrinus	BSO	B	G3G4/S3S4	1	46
Martellia fragrans	BSO	B	G2G3/S1S3	0	2
Otidea smithii	BSO	B	G2/S2	0	10
*Phaeocollybia californica**	BSO	B	G2?/S2?	3	36
Phaeocollybia olivacea	BSO	F	G2/S2	13	110
*Phaeocollybia oregonensis**	BSO	B	G2?/S2	0	14
Phaeocollybia pseudofestiva	BSO	B	G3/S3?	3	46
Ramaria largentii	BSO	B	G3/S2?	2	20
Ramaria spinulosa var. *diminutiva**	BSO	B	GUT2/S1?	0	1
*Rhizopogon chamaleontinus**	BSO	B	G1G2/S1S2	1	1
Rhizopogon clavitisporus	BSO		G2G3/S1S2	0	4
*Rhizopogon ellipsosporus**	BSO	B	G1G3/S1S3	5	5
*Rhizopogon exiguus**	BSO	B	G1G3/S1S2	1	3
Sowerbyella rhenana	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 roadside in T. 36 S., R. 3 W., Section 30 within the project area. These sites have been treated the past three years according to the Medford Districts' Integrated Weed Management Plan (1998) by herbicide spraying and handpulling. Three years of weed treatments have reduced these populations by approximately 75 percent.

Alternative 1 (No Action)

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 plants or populations. Noxious weed and invasive plant species present in the project area would continue to be treated as funding and resources allow.

Alternative 2 (Proposed Action)

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 *Fritillaria gentneri* sites will be protected by a combination of variable radius protection buffers and seasonal restrictions (see PDF's). Protection buffers are areas around special status plants delineated by flagging and signs to show no treatment, modified treatment and/or seasonal restriction. Buffer area sizes vary depending on the proposed activity, the needs of the population and existing habitat characteristics. Seasonal restrictions on operations generally cover the period of Special Status Species above-ground growth – in this case, February 15th through June 30th. A minimum canopy cover of 40% at or above plant level must be maintained. Vegetation providing canopy cover above this level and within proposed prescriptions may be removed outside of growing season. Generally, proposed treatments would produce stand conditions that are less dense and decadent. Treatments within buffers are designed to produce beneficial habitat changes, i.e., reduced competition for light, water and nutrients, and reduced fuels to avoid high intensity fires that could damage or kill plants. These protection measures will ensure that the proposed action will have no affect on *Fritillaria gentneri* as listed under the Endangered Species Act.

Noxious Weeds

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 and equipment use. 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 two years.

Wildlife

The proposed action involves removal of brush and small trees (up to 16 inches dbh) 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 landscapes 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 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 (*Contopus cooperi*)	BCC
Rufous Hummingbird (*Selasphorus rufus*)	BCC
Allen's Hummingbird (*Selasphorus sasin*)	BCC
Mourning Dove (*Zenaida macroura*)	GBBDC

The proposed project would remove selected conifer and hardwood trees up to 16 inches in diameter. Some of the project, the roadside hazard tree removal, is in suitable or dispersal 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. Informal consultation was completed (February 6, 2009 Letter of Concurrence). One treatment unit occurs adjacent to a known northern spotted owl location. 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.

Cultural Resources

The Galls Foot Firewood project area was reviewed for the potential for adverse impacts to cultural resources. Cultural resource surveys and clearances were completed previously in association with the Galls Foot timber sale and fuels reduction projects. 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. Since 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. All operations on BLM-administered lands are required to meet Occupational Safety and Health Association regulations for worker and public safety. 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.

a. Potential Effects to Public Health and Safety.

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Use of Plastic Covering for Burn Piles

Because the objective of this project is to utilize biomass material, the need to handpile and burn material would be reduced. Unutilized tree limbs and tops will be lopped and scattered; however, some handpiling and burning may be needed to treat concentrated areas of slash created from vegetation thinning.

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.

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.

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 interested adjacent landowners and 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)
Rogue River Valley Irrigation Co.
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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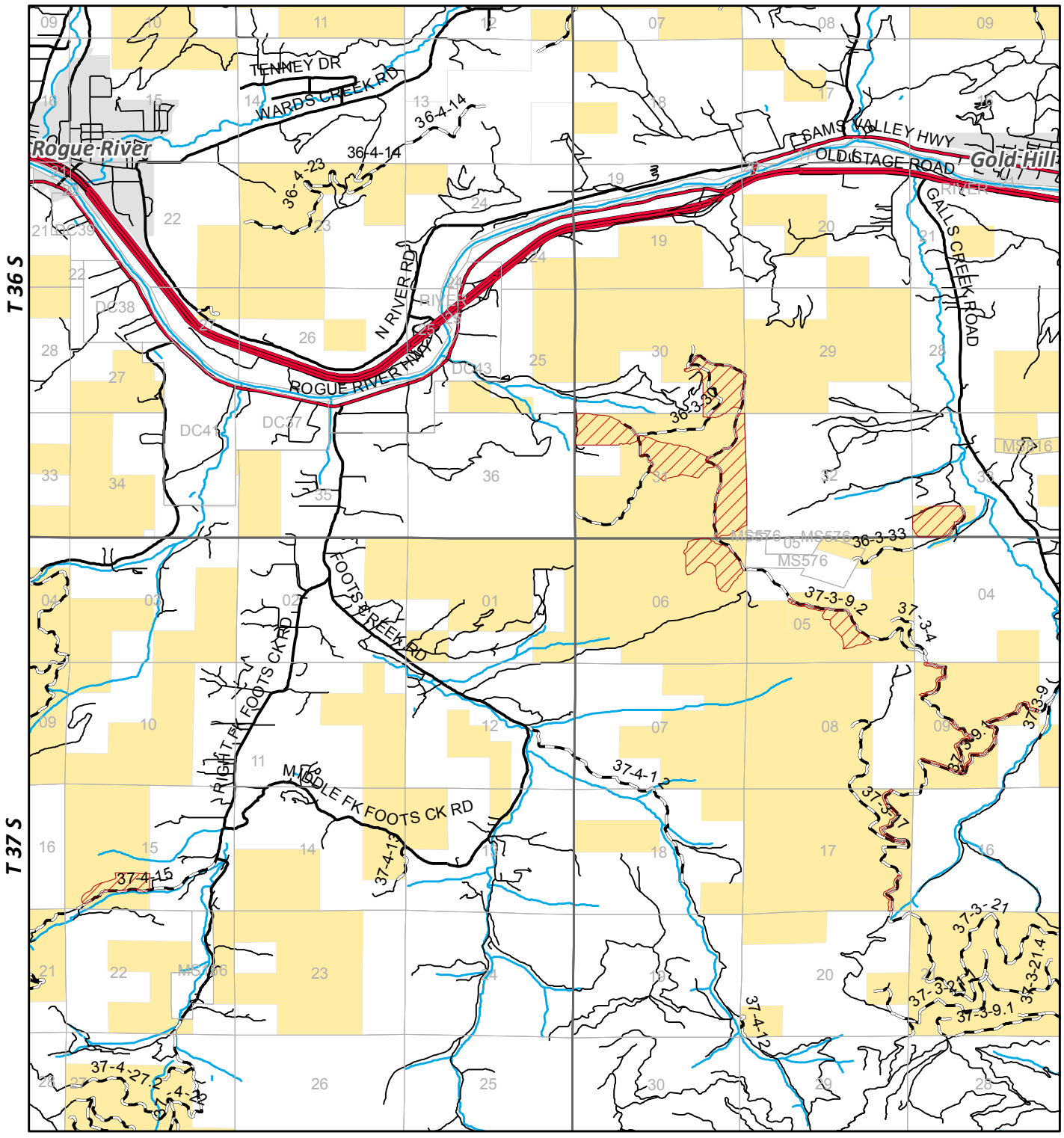
Galls Firewood Project



Firewood Units

Land Ownership
- BLM
- Private

Streams
- Perennial

Roads
- Other
- BLM
- County
- State/US Highway
- Interstate

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Medford District
September 2009

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