

Medford BLM Summer 09 Biological Assessment of Projects that May Affect, but are Not Likely to Adversely Affect (NLAA) northern spotted owls or marbled murrelets.

(Cite as Summer 09 NLAA BA)

I. INTRODUCTION

This Biological Assessment (BA) evaluates one right-of-way (ROW), four (4) timber projects, and three (3) fuels-reduction projects that “may affect and are not likely to adversely affect” (NLAA) northern spotted owls within the Medford District of the Bureau of Land Management (BLM). We seek concurrence from the US Fish and Wildlife Service (Service), agreeing these projects are not likely to adversely affect spotted owls, marbled murrelets, nor spotted owl critical habitat. No designated marbled murrelet critical habitat is affected.

The projects and acres described in the Proposed Action of this BA are proposed to commence in Fiscal Year 2009 or 2010. We expect completion within seven (7) years of receiving a Letter of Concurrence. The effects of projects on plants through 2008 are evaluated in the FY 2009-2013 Programmatic Assessment for Activities that May Affect the listed endangered plant species Gentner’s Fritillary, Cook’s Lomatium, McDonald’s rockcress, and large-flowered wooly meadowfoam (USDI 2008a). Listed fish are consulted upon separately. No other listed species or designated critical habitat will be affected by the activities identified in this BA.

Description of the Action Area

The Action Area is defined as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action (50 CFR 402), and includes all public lands managed by the Medford District BLM and all areas subject to increased ambient noise levels caused by activities associated with the proposed action. Habitat baseline in this document includes habitat on federal ownership on Medford District BLM only.

The Medford District BLM encompasses approximately 862,964 acres of public land in a checkerboard pattern of mixed private and federal ownership acres (GIS calculations DA BA FH 11_2008, USDI 2008b). Not all of these lands are capable of providing owl habitat. The proposed projects (actions) are located within the Oregon Klamath Mountains and Oregon Western Cascades Physiographic Provinces.

Natural plant community types within the Action Area are diverse. In the lower elevations Oregon white oak woodlands and grasslands, chaparral, scattered ponderosa pine, and Douglas-fir occur up to about 2,400 feet in the interior valleys. Above this on the Klamath Mountain side of the valley is the mixed evergreen zone, dominated with Douglas-fir and madrone up to about 4,500 feet, and a mixed conifer zone on the Cascade side dominated by ponderosa pine, Douglas-fir, incense cedar, and white fir in more mesic sites. In both areas, dense, chaparral (sclerophyllous type) communities can occupy large patches of the landscape, composed primarily of wedge-leaf ceanothus (*Ceanothus cuneatus*) and manzanita (*Arctostaphylos*

species). Above 4,500 feet is the white fir zone, grading into a Shasta red-fir zone up to about 6,500 feet. Above this, areas of mountain hemlock and whitebark pine can be found up to open rocky herbaceous grasslands on the highest peaks above timberline.

The ecological diversity of communities and species of the BLM is attributed to its physiographic setting at the confluence of the Klamath and the Cascade ecoregions. Many eastern Cascade and Great Basin species are on the periphery of their range in the Klamath sub-basin and spill into the southern edge of the Rogue valley from the east. The juxtaposition of these regions has led to a diverse array of species including species whose distributions are centered south into the Sierras of California, east into the Great Basin, or north up the Cascades and the Coast range.

The Proposed Action in this BA proposes no habitat treatments in Late Successional Reserves (LSR). No project that reduces dominant, co-dominant, or intermediate canopy will occur within 300 meters of any owl site (See PDC). No habitat within Known Spotted Owl Core Areas (KSOCA) (100 Acre unmapped LSRs) will be affected. All projects were planned under the Northwest Forest Plan (NWFP), (USDA, USDI 1994a, 1994b) and comply with standards and guides. Projects proposed in this BA will maintain all owl habitat located in the NWFP reserves, riparian areas and 1992 and 2008 critical habitat. No treatments will occur in any stand that could be considered older, structurally-complex, and multi-storied.

Private lands

BLM-managed lands are generally intermingled with private lands. Human populations are centered on the cities of Medford, Grants Pass, and Ashland. Private lands comprise approximately 50 percent of the total Action Area. Private forested lands managed for timber production will typically be harvested between 40 and 60 years of age, in accordance with State Forest Practices Act standards. These lands are typically not expected to provide long-term spotted owl nesting, roosting and foraging habitat, although some habitat occurs in private ownership. The conversion of intact suitable habitat in the low elevation woodlands and grasslands into pastures, vineyards, orchards, and home sites is increasing throughout the Rogue Valley.

II. DEFINITIONS

NW Forest Plan Land Use Allocations (USDA USDI 1994b). All projects in this BA were planned under NWFP land use allocations and standards and guidelines and follow the guidelines in place at the time of planning.

Late-Successional Reserves are managed to protect and enhance habitat conditions for late-successional and old-growth related species. These reserves are designed to maintain a functional, interacting late-successional and old-growth ecosystem.

Riparian Reserves are areas along all streams, wetlands, ponds, lakes, and unstable and potentially unstable areas where riparian-dependent resources receive primary emphasis.

Matrix consists of those federal lands not in the categories above.

Recovery Plan

The Service completed the Recovery Plan for the Northern Spotted Owl on May 13, 2008 (USDI 2008c). The Recovery Plan identifies 32 recovery actions. BLM is working with the Service to implement the Recovery Actions (RA) within BLM regulatory authority. In particular, RAs that address Listing Factor A: *The present or threatened destruction, modification or curtailment of the species' habitat or range* (USDI 2008c. P 19).

BLM has members on the interagency work group to address RA 8: *Manage the Klamath Provinces in Oregon and California to meet spotted owl recovery objectives while creating more fire-resilient and fire-resistant forests.* Fuels projects in this BA are designed to be compatible with the current science on fuels reduction in spotted owl habitat, and have been specifically prescribed to maintain spotted owl habitat while concurrently reducing the risk of wildfires.

RA 12: *Standardize Province-specific habitat definitions across the range of the spotted owl using a collaborative process.* Medford BLM works closely with the Service and Forest Service biologists to define local habitats, and will continue this process. Medford BLM has had several field trips with the Service to refine habitat in the field and is working with an interagency group to identify habitat criteria.

Listing Factor E addresses *other natural or manmade factors affecting its continued existence*, and specifically addresses barred owl concerns.

Recovery Action 32: Maintain substantially all of the older and more structurally complex multi-layered forests on Federal lands outside of MOCAs (Managed Owl Conservation Areas) in the Olympic Peninsula, Western Washington Cascades, Western Oregon Cascades, Oregon Coast Range, Oregon and California Klamath and California Coast Provinces, allowing for other threats, such as fire and insects, to be addressed by restoration management actions. These forests are characterized as having large diameter trees, high amounts of canopy cover, and decadence components such as broken-topped live trees, mistletoe, cavities, large snags, and fallen trees. Encourage maintenance of forests with these conditions on non-Federal lands.

...Identification of forest stands meeting this Recovery Action will be conducted by the agencies that administer lands with these forest conditions along with technical assistance from the Service. Forest stands meeting the described conditions are a subset of suitable habitat and actual stand conditions vary across the range.

Medford District BLM, the Rogue River-Siskiyou Forest and the Service have agreed to put together an interdisciplinary team to evaluate the Agency's definition of stands that meet this

RA. BLM has designed projects in this BA to avoid stands that may meet the team's definitions of RA 32 stands.

Level 1 Review

This BA was reviewed by the Level 1 team on August 13, 2009. The Level 1 team includes the USFS Forest Biologist, the Service Biologist, and the Medford BLM District Biologist. All recommendations from that meeting were incorporated into this final draft. The Level 2 team includes the USFS Forest Supervisor, the Service Field Supervisor and the Medford BLM District Manager.

Northern Spotted Owls

Documented Spotted Owl Sites are defined as locations with evidence of continued use by spotted owls, including breeding, repeated location of a pair or single birds during a single season or over several years, presence of young before dispersal, or some other strong indication of continued occupation. Documented spotted owl sites are tracked in the BLM's northern spotted owl database. The majority of the known sites were established through protocol surveys completed in the late 1980s and early 1990s. Protocol surveys are currently conducted only in demographic study areas. Protocol surveys are no longer required outside of the demographic study areas, but owl sites and survey data are recorded in an opportunistic manner. All owl sites receive seasonal protection, unless shown to be non-nesting as described in the Project Design Criteria (see Appendix A, PDC).

Generated ("G") Sites were created by the use of a methodology developed by an interagency team in order to estimate the number of northern spotted owls affected by a proposed federal action in areas where sufficient survey information is not available. The entire set of owl sites used for OEM (Owl Estimation Methodology) analysis includes the generated sites and documented sites. *Methodology for Estimating the Number of Northern Spotted Owls Affected by Proposed Federal Actions* (USDA et al. 2007, corrected 9/2008, Appendix B of DA BA FH USDI 2008b) was used to provide a reasonable basis for estimating potentially-occupied spotted owl nest sites on a given landscape. The OEM aids the Service in estimating of the number of northern spotted owls likely to occur within the area affected by proposed Federal actions.

The methodology relied on known spotted owl locations from spotted owl surveys as the foundation for the template. Survey data, in some cases, was insufficient to estimate the number and distribution of spotted owls on a given area. The known spotted owl locations were supplemented with generated spotted owl locations derived from an analysis of survey data from similar areas within the range of the spotted owl and information on the configuration of habitat in the subject area. Nearest-neighbor distances and known spotted owl density estimates were used to "place" potential spotted owl occupied sites in habitat. Both known spotted owl locations and habitat information were factored into the OEM process to provide the Service a more comprehensive accounting of likely owl distribution and potential adverse effects.

Provincial Home Range is defined as the circle around an activity center and represents the area owls are assumed to use for nesting and foraging in any given year. The home ranges of several owl pairs may overlap. Provincial home range radii vary based on the physiographic province in which they are located: Klamath Mountains Province = 1.3 miles (approximately 3,400 acres), and Cascades West Province = 1.2 miles (approximately 2,900 acres).

Core Area is a 0.5-mile radius circle (approximately 500 acres) from the nest or center of activity to delineate the area most heavily used by spotted owls during the nesting season; it is included in the provincial home range circle. Core areas represent the areas which are defended by territorial owls and generally do not overlap the core areas of other owl pairs. Recent evaluation of owl telemetry literature indicates most spotted owl activities are focused within the 0.5-mile radius around the nest tree (OEM, Appendix B DA BA FH, USDI 2008b).

Nest Patch is the 300-meter radius area around a known or likely nest site; it is included in the core area. Disturbance or treatments that reduce canopy of habitat within this area could potentially affect the reproductive success of nesting birds. Exceptions to this are noted in some site-specific situations.

Owl Activity Periods

Table 1. Northern Spotted Owl Breeding Periods (see also PDC, Appendix A)		
Entire Breeding Period	Critical Breeding Period	Extended Breeding Period
March 1-September 30	March 1-June 30	July 1-September 30

We use these categories of forest land in this BA to aid our analysis. These categories are distinct and are not over-lapping:

Non-habitat

Capable

Dispersal*

NRF (Nesting, Roosting and Foraging)*

*Spotted owls also disperse through NRF habitat. All-dispersal is used to describe dispersal plus NRF.

Nesting, Roosting, and Foraging (NRF) Habitat for the northern spotted owl consists of habitat used by owls for nesting, roosting, *and* foraging. NRF habitat also functions as dispersal habitat. Generally, this habitat is multi-storied, at least 80 years old, and has sufficient snags and down wood to provide opportunities for nesting, roosting, and foraging. The canopy closure generally exceeds 60 percent, but canopy closure or age alone does not qualify a stand as NRF. Other attributes include a high incidence of large trees with various deformities (e.g., large cavities, broken tops, mistletoe infestations, and other evidence of decadence); large snags; large accumulations of fallen trees and other woody debris on the ground; and sufficient open space below the canopy for owls to fly (Thomas et al. 1990). NRF habitat in southwest Oregon is typified by mixed-conifer habitat, recurrent fire history, patchy habitat components, and a higher incidence of woodrats, a high quality spotted owl prey species in our area.

Forsman et al. (1984) described some of the differences in the Klamath Mountains Province, typical of large parts of the Medford District,

“Eighty-one percent of all nests in northwestern Oregon were in cavities, compared to only 50 percent in the Klamath Mountains. These differences appeared to reflect regional differences in availability of the different nest types. Dwarf mistletoe infections in Douglas-fir (and numerous debris platforms that were associated with dwarf mistletoe infections) were common in the mixed coniferous forests of the Klamath Mountains and the east slopes of the Cascades, but did not occur in western Oregon.”

NRF in southwest Oregon varies greatly. It may consist of somewhat smaller tree sizes. One or more important habitat component, such as dead down wood, snags, dense canopy, multistoried stands, or mid-canopy habitat, might be lacking or even absent in portions of southwest Oregon NRF. However, southwest Oregon NRF can support nesting owls if those components are available across the immediate landscape. Forsman et al. (1984) documented the range of nest trees for platform nests (from table) (n=47) range equals 36 to 179 centimeters (cm) (14.2 to 70.5 inches) in diameter at breast height (dbh) averaging 106 cm (41.7 inches) dbh. Mistletoe is occasionally used as a nesting substrate in southwest Oregon, which makes smaller trees suitable as nest trees. The BLM Resource Area wildlife biologists make site-specific determinations and delineations of NRF habitat at the project level. Site-specific determinations are incorporated into the Medford District NRF habitat layer.

Habitat Capable for the northern spotted owl is forest land that is currently not habitat but can become NRF or dispersal in the future, as trees mature and canopy fills in.

Dispersal is a subcategory of “all dispersal” habitat for northern spotted owls. Throughout this document, “dispersal” will be used to describe dispersal-only habitat. Thomas, et al. 1990, defined dispersal habitat as forested habitat more than 40 years old, with canopy closure more than 40 percent, average diameter greater than 11 inches, and flying space for owls in the understory but does not provide the components found in NRF. It provides temporary shelter for owls moving through the area between NRF habitat and some opportunity for owls to find prey, but does not provide all of the requirements to support an owl throughout its life. Dispersal will be used throughout this document to refer to habitat that does not meet the criteria to be NRF habitat, but has adequate cover to facilitate movement between blocks of NRF habitat. Owls also disperse through NRF habitat. The term “all-dispersal” will be used when both dispersal and NRF are intended.

Spotted Owl Habitat Treatment Types

Forest stands in southwest Oregon are often multiple-aged with multiple canopy levels that have resulted from previous harvesting or from past natural stand disturbance such as repeated historic low intensity fire (USDI 1992a, Vol. II, 2-37). The actual interpretation of treatment impacts to owls will be defined by the Resource Area wildlife biologists in collaboration with their Interdisciplinary Team and Field and District Managers. Effects of individual activities will be determined by the BLM following these descriptions.

Medford BLM mapped suitable NRF habitat on the Owl Habitat Baseline (Appendix A of DA BA FH, USDI 2008b). Resource Area biologists will continue to improve and refine this habitat layer as projects are proposed and field/photo evaluations can be conducted. Acres changed due to fire, blow-down or harvest activities have been incorporated in the Environmental Baseline (USDI, 2008b).

Treat and Maintain NRF or Dispersal Habitat means an action or activity will occur within NRF or dispersal habitat that will not change the classification of that habitat post-treatment. The NRF stand retains large trees, multistoried canopy, standing and down dead wood, diverse understory adequate to support prey, and may have some mistletoe or other decay. Dispersal stands continue to support owl dispersal habitat following treatment.

The effects determination for treating and maintaining habitat is “may affect, not likely to adversely affect” (NLAA) the spotted owl because the treated stand will retain the characteristics that qualify it as the pre-treatment habitat and spotted owls will be able to use the stand as before, and the treatment would not significantly impair the feeding, breeding or sheltering of an owl using that habitat such that harm would occur. Some change to understory vegetation and dense trees may occur. NRF habitat will retain 60 percent canopy cover, large trees and snags, large down wood, and structural diversity important to northern spotted owls. Dispersal habitat will continue to provide at least 40 percent canopy, flying space, and trees 11 inches dbh or

greater, on average, following treatment. The habitat classification of the stand following treatment will be the same as the pre-treatment habitat classification.

Many NLAA fuels, silviculture, and timber projects may have a long-term benefit because they reduce the unnaturally high brush and dense trees that have resulted from years of wildfire suppression. Resulting treated stands are more ecologically-sustainable in ecosystems with high fire return intervals.

No potential disturbance to nesting owls is anticipated with any of these proposed projects. Applying the PDC (Appendix A) will ensure that no potentially disturbing noise or activity would occur within sensitive distances of nesting owls by implementing one or more of the following:

1. avoiding activities during the nesting period,
2. by spacing projects outside sensitive distances, as defined by Mandatory PDC distances and/or
3. by conducting protocol surveys to ensure birds are not nesting at the location or time of the activity.

Spotted Owl Designated Critical Habitat

The final rule for Revised Designation of Critical Habitat for the northern spotted owl was published by the US Fish and Wildlife Service (the Service) in the *Federal Register* was signed on August 12, 2008 (73 Federal Register 157:47326) and became effective on September 12, 2008 (USDI 2008c). Critical Habitat includes the primary constituent elements that support nesting, roosting, foraging, and dispersal. Designated critical habitat also includes forest land that is currently unsuitable, but has the capability of becoming NRF habitat in the future (57 FR 10:1796-1837).

The Service's Critical Habitat delineations are being challenged in court as this BA is being completed. BLM conservatively planned projects to be consistent with current guidelines on the 2008 CHU as well as the 1992 CHU. No projects will remove or downgrade NRF or remove dispersal in either the former 1992 CHU or the 2008 CHU (Appendix A: Summer 09 NLAA Spreadsheet). Maintenance projects in the 1992 and 2008 CHU areas will maintain current habitat and not change the quantity of any former or 2008 CHU habitat nor adversely affect the primary constituent elements used to define the former or 2008 CHU habitat.

Treat and Maintain Critical Habitat means no primary constituent elements are removed or reduced and primary constituent elements of critical habitat are retained. The Endangered Species Act (ESA) consultation handbook (USDA et al. 2002, 4-33), as amended, provides the following information regarding designated critical habitat:

Primary Constituent Elements

The physical and biological features of designated or proposed critical habitat essential to the conservation and recovery (amendment due to *Gifford Pinchot* lawsuit¹) of the species, including, but not limited to the following:

- 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)].

It further defines critical habitat for listed species as: “(1) the specific areas within the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the Act, on which are found those physical or biological features [constituent elements] (I) essential to the conservation of the species and (II) which may require special management considerations or protection ; and (2) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the Act, upon a determination by the Secretary that such areas are essential for the conservation of the species” [16 U.S.C. § 1532(5)(A)]. Designated 1992 critical habitats are described in 50 CFR part 17 and part 226.

The Service defined the following elements of Primary Constituent Elements (PCE), in the 2007 CHU proposed ruling (32450 Federal Register / Vol. 72, No. 112, June 12, 2007 / Proposed Rules) which were later confirmed by reference when the CHU was finalized in 2008.

Sites for habitats that are representative of the historical geographical and ecological distributions of the northern spotted owl for:

PCE-1 Forest types known to support the northern spotted owl across its geographic range...

PCE-2 Forest types as described in PCE 1 of sufficient area, quality, and configuration, or that have the ability to develop these characteristics, to meet the home range needs of territorial pairs of northern spotted owls throughout the year. A home range must provide all of the habitat components and prey needed to provide for the survival and successful reproduction of a resident breeding pair of northern spotted owls....

- *Nesting Habitat: breeding, reproduction, and rearing of offspring...*
- *Roosting Habitat: cover, or shelter...*
- *Foraging Habitat: food, or other nutritional or physiological requirements...*

¹ *Gifford Pinchot Task Force et al. v U.S. Fish and Wildlife Service et al.*, 378 F.3d 1059, 1069-71

PCE-3 Dispersal habitat: The dispersal of juveniles requires habitat supporting both the transience and colonization phases. Habitat supporting the transience phase of dispersal includes, at a minimum, stands with adequate tree size and canopy closure to provide protection from avian predators and at least minimal foraging opportunities. This may include younger and less diverse forest stands than foraging habitat, such as even-aged, pole-sized stands.... Habitat supporting colonization is generally equivalent to roosting and foraging habitat...

III. DESCRIPTION OF THE PROPOSED ACTION

All projects described in this BA avoid any treatment within the nest patch of any owl intercepted by a project boundary to avoid the potential adverse effects described in the OEM process for activities in the nest patch (OEM Appendix B, DA BA FH USDI 2008b). If protocol surveys have not been conducted to confirm the birds are non-nesting that season, activities will be curtailed within the mandatory disturbance distances (PDC Appendix B) to avoid the potential of in-season disturbance. PDCs and nest patch protection will also apply to sites located through the OEM process in areas where field surveys have not documented actual owl sites. Lacking field surveys, these areas indicate the highest likelihood of owl occupancy, and provide a conservative approach to protect birds during the sensitive breeding period.

None of these projects will occur in marbled murrelet habitat nor marbled murrelet critical habitat, although one timber sale, Mini Mule, occurs in Zone B non-murrelet habitat near potential murrelet habitat. Protocol surveys in adjacent potential murrelet habitat will be conducted to ensure the project can proceed without disturbing any currently unknown nesting murrelets. Should a murrelet be confirmed during the surveys, PDCs will be followed to reduce any adverse disturbance to murrelets.

Projects all comply with the PDC (project design criteria) below that are designed to avoid adverse disturbance impacts to owls and murrelets. Recommended PDCs will be followed when possible.

Project Design Criteria

PDC are conservation measures developed to reduce impacts to listed species. PDC include three general components:

- Retention and protection of known nesting trees
and
- Seasonal protection during the critical or extended breeding periods of nesting species
and/or
- Establishing distance protection around active nesting sites to reduce the potential of
disturbance effects.

Mandatory PDC will be applied to all activities associated with this proposed action. Recommended PDC will be incorporated during project implementation when practical. Detailed descriptions of the PDC are provided in Appendix B.

Right of Way (ROW)

The **Cable ROW** application involves construction of an access road across Medford BLM land in Township 34 South, Range 02 West, Section 5 (NW of NE) in the Butte Falls Resource Area. The ROW grant would authorize construction of 1685 feet of natural surface road with 50-foot ROW width. This decision was negotiated between the RA engineer and the applicant. The actual cleared area will be less than 50 feet. The negotiated ROW area will allow flexibility to move the road slightly to avoid a few scattered, larger hardwood trees within the ROW. The ROW would pass through spotted owl dispersal habitat to access private lands in the center of the section. The upper part of the road on private is not NSO habitat. Spotted owls would be able to disperse through the area after road construction.

Timber Sales

The **Speaking Coyote** project proposes the thinning of approximately up to 1200 acres of a mixture of natural and managed forest stands from approximately 40 years old up to 160 years old, spread out through most of Township 33 South, Range 5 West and occurs within the Klamath Demographic Study Area. High quality owl habitat stands were deferred from the project. High quality stands were defined as having high canopy closure, layering, large snags, large down wood, large diameter trees >40" throughout the stand, deformed/broken top/decadent trees, species diversity of firs, and hardwoods. Owl sites have been surveyed within the Demographic Study Area.

Speaking Coyote units intersect with five (5) known and three (3) potential owl home ranges within the core area; four of the known sites are intercepted by dispersal habitat units maintained, and 1 known site with dispersal and suitable habitat maintained. Three (3) potential sites occur within the project area; surveys conducted in 2008 and 2009 around the "core area" of these 2008 OEM selected areas have had no responses.

The **Wolf Pup** project proposes the thinning of approximately 250 acres of natural forest stands from approximately 40 years old up to 150 years old (most all of project is in suitable owl habitat), spread out through most of one township (Township 33 South, Range 7 West) and occurs within the Klamath Demographic Study Area. High quality owl habitat stands were deferred from the project. High quality stands were defined as having high canopy closure, layering, large snags, large down wood, large diameter trees >40" throughout the stand, deformed/broken top/decadent trees, species diversity of firs, and hardwoods. Known and projected owl sites are surveyed. Three (3) known sites and one projected site occur within ½ mile of Wolf Pup units.

The **Mini Mule** project proposes the thinning of approximately 413 acres of managed forest stands 40 to 80 years old spread out through approximately of one quarter of a township

(Township 32 South, Range 9 West). The proposed units are second growth plantations and function as dispersal habitat. Prescriptions would include retaining the largest vigorous trees with large crowns, and thinning the remaining commercial size diameters. Thinning would not retain all suppressed or deformed type trees, but trees with character that represent potential for future sources as nest trees or snags would be favored for retention. Midstory perching or roosting trees would be favored for retention when present. Hardwoods are not marked for removal, and diversity in conifer species would be retained. Known and projected owl sites in the project area are surveyed. High quality owl habitat stands were deferred from the project. High quality stands were defined as having high canopy closure, layering, large snags, large down wood, large diameter trees >40" throughout the stand, deformed/broken top/decadent trees, species diversity of firs, and hardwoods. Approximately one third of the Mini Mule project occurs in 1992 designated CHU OR-67. The project does not occur within the revised 2008 critical habitat. Primary constituent elements present in the dispersal habitat in 1992 CHU OR-67 would be retained.

The Mini Mule project occurs within the marbled murrelet survey zone B, but does not treat murrelet habitat. Surveys will be conducted and if murrelets are found, PDC will be implemented to avoid the potential of adverse impacts from noise and activity.

The **Kelsey Creek** project thins approximately 70 acres of ridgetop natural forest stands qualifying as suitable habitat approximately 80 - 100 years old. Thinning would remove suppressed trees, but would favor the retention of trees with characteristics representing potential for future sources as nest trees or snags. High quality owl habitat stands were deferred from the project. High quality stands were defined as having high canopy closure, layering, large snags, large down wood, large diameter trees >40" throughout the stand, deformed/broken top/decadent trees, species diversity of firs, and hardwoods. Midstory perching or roosting trees would be favored for retention when present. Hardwoods are not marked for removal, and diversity in conifer species would be retained. Prescriptions would include retaining the largest vigorous trees with large crowns, and thinning the remaining commercial size diameters. No Known or projected owl sites occur within ½ mile of the Kelsey Creek units. Surveys would determine if any resident owls occur within ¼ mile of the suitable habitat units.

Kelsey Creek units are spread out through two adjacent sections within the 1992 designated critical habitat unit CHU OR-65, as well as the revised 2008 critical habitat unit #14. Primary constituent elements present would be retained.

Openings may occur in an even or patchy distribution, depending on objectives of the treatment and constraints of the land use allocation. Trees are harvested by individual sawyers, or crews of people with chain saws or machine-mounted saws. Harvest includes the layout, marking, falling, limbing, yarding, and decking the trees to be removed from the site, and all post-treatments to treat slash and re-establish the site (including planting).

Trees are hauled to landings by cable or heavy equipment. Trees are removed from decks or landings by logging trucks. Access to the timber sale involves the use of existing roads in areas where roads already occur, and can also involve the design and development of new roads or

redevelopment of old roads. New roads involve cutting trees from the road prism, grading, hauling gravel, cutting into side banks, installing culverts and waterbars, stabilizing adjacent areas. Trees removed from road prisms are often decked for inclusion in the timber sale, or could be sold in unrelated sales, or could occasionally be used on-site or off-site for watershed restoration, down wood supplementation, or in-stream structures.

All timber sale contracts will contain special provisions which allow additional protection should a previously unknown spotted owl nest be discovered in project areas.

Post-treatment slash reduction is likely, and would retain habitat patches, protect larger down wood, maintain prey habitat and other features to ensure habitat is maintained. PDC (Appendix B) would be followed to avoid any adverse impacts due to noise and activity. Fuels treatments related to site preparation after timber harvest are included in the “footprint” acres reported for the timber sale and are not reported as fuels acres.

Fuels Reduction Projects

Fuels reduction projects in this BA are designed to maintain pre-treatment habitat by design. They incorporate PDC to avoid adverse disturbance. Fuels reduction can include piling and prescribed burning, thinning, and brush treatments. These activities usually consist of the removal of surface fuels, brush or small trees, and the removal of ladder fuels or crowded conifers or hardwoods. Actual prescriptions vary by project, and could also meet timber or other objectives.

Medford BLM has short natural fire return intervals. Years of fire suppression and management actions have resulted in habitat conditions much brushier and denser than would occur under natural burn regimes. Fuels management has three primary purposes: fuels reduction to reduce wildfire hazard, site preparation/slash reduction for improving conifer planting (covered in silviculture and timber above), and restoration of ecosystem function where wildfire has been suppressed. Fuels projects designed to restore ecological function may have long term beneficial effects to owls.

Fuels management includes manual and/or mechanical treatments using chainsaws or mechanical equipment followed up with prescribed fire (pile burning or under-burns. Broadcast burning without pre-treatment (brush fields) can also occur. Mechanical treatment is designed to reduce abnormally high amounts of shrubs and ladder fuels so that subsequent prescribed burning or wildfire won't be as severe. The material may be piled or may be left dispersed, and is usually burned once that material dries out. All units proposed for harvest, fuel reduction, or forest development treatments could also be available for biomass utilization under stewardship contracts. Biomass could be removed using low impact ground-based equipment or cable yarding systems if the biomass removal also maintains habitat. A small portion of the acres may also be burned or brushed again. These fuel treatments are generally implemented over a period of years. The acres in the proposed action are the acres of the fuels treatment “footprint”, and impacts are assessed for the entire treatment period.

Prescribed fire use is dependent upon management objectives. The primary role of prescribed fire has traditionally been for site preparation and fuels reduction. Recently, natural fuels reduction and ecological “improvement” have become end goals of prescribed fire. The effects of prescribed natural fire, when limited to the prescription, can usually be controlled or manipulated.

Antelope Creek Fuels

The BLM proposes to reduce hazardous fuels by slashing and handpile burning non-commercial vegetation on BLM-administered lands in the South Fork Little Butte Creek watershed. 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 project area encompasses approximately 770 acres in the Antelope Creek Drainage which is in the South Fork Little Butte Creek Watershed. All work will be done manually (slash, handpile and burn) with follow up underburning for maintaining treatment areas. This work will reduce the threat of wildland fire burning across public lands and threatening surrounding private lands and structures.

The fuels reduction work would take place in approximately 160 acres of suitable spotted owl habitat. The prescription calls for the removal of most brush and the removal of conifers less than 7 inches in diameter – hardwoods would not be removed. Vegetation removal would not be continuous across the landscape. Riparian reserves, reserve vegetation, leave trees, and brush clumps would be retained. No dominant or codominate trees would be removed.

Antelope Creek fuels would take place within the home ranges of three northern spotted owl sites. Fuels reduction will not take place in the core area (0.5 miles from site center) of any of these northern spotted owl sites. The proposed project is not in 2008 designated critical habitat or 1992 designated critical habitat for the northern spotted Owl.

Tyler Creek Fuels

The BLM proposes to reduce hazardous fuels by slashing and handpile burning non-commercial vegetation on BLM-administered lands in the Bear Creek watershed. 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 project area encompasses approximately 200 acres in the Emigrant Creek Drainage which is in the Bear Creek Watershed. All work would be done manually (slash, handpile and burn) with follow up underburning for maintaining treatment areas. This work would reduce the threat of wildland fire burning across public lands and threatening surrounding private lands and structures.

The prescription calls for the removal of most brush and the removal of conifers less than 7 inches in diameter – hardwoods would not be removed. Vegetation removal would not be continuous across the landscape. Riparian reserves, reserve vegetation, leave trees, and brush clumps would be retained. No dominant or codominate trees would be removed.

The Tyler Creek Fuels project would not take place within the home ranges of any northern spotted owl sites. The Tyler Creek fuels project is not in 2008 designated critical habitat or 1992 designated critical habitat for the northern spotted owl.

Deadman's Fuels

The BLM proposes to reduce hazardous fuels by slashing and handpile burning non-commercial vegetation on BLM-administered lands in the Applegate watershed, within an area classified as the Wildland Urban Interface (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 project area encompasses approximately 1,500 acres in the Star Gulch Drainage which is in the Middle Applegate 5th Field Watershed. All work will be done manually (slash, handpile and burn) with follow up underburning for maintaining treatment areas. This work will reduce the threat of wildland fire burning across public lands and threatening surrounding private lands and structures.

The prescription calls for the removal of most brush and the removal of conifers less than 7 inches in diameter – hardwoods would not be removed. Vegetation removal would not be continuous across the landscape. Riparian reserves, Siskiyou Mountains salamander reserves, 100-acre northern spotted owl cores, and northern spotted owl nest patches would not be treated. No dominant or codominate trees would be removed.

The Deadman's Fuels project would take place within the home ranges of three northern spotted owl sites. The fuel reduction work would take place in approximately 900 acres of suitable spotted owl habitat and 600 acres of dispersal-only habitat. Fuels reduction would also take place in the core area (0.5 mile from site center), but not in the nest patches of any of these sites.

The Deadman's Fuels proposed project is not in 2008 designated critical habitat, but it is in 1992 designated critical habitat unit CHU OR-74. Because only understory vegetation would be removed and there are areas that would remain untreated, the constituent elements of critical habitat would not likely be adversely affected.

Adaptive Management

Adaptive management allows minor project variations to meet site-specific conditions or landscape objectives. There may be minor deviations in the description of projects. This consultation will address these minor alterations in project activities if the following conditions are met:

- Project complies with the RMP to which it is tiered. In this BA, projects comply with the NWFP and the Medford RMP (USDI 1995).
- Impacts and extent of the project are within parameters of described activities in this BA.
- Minor deviations are reviewed by the Level 1 team to ensure impacts to listed species remain the same or less than those described within this BA

- Minimization measures proposed for the project are consistent with the intent and impacts of actions described in this BA

Separate consultation will be required to meet ESA compliance if the project cannot be revised to comply with this consultation, if site-specific NEPA evaluations indicate the project may affect and will likely adversely affect the northern spotted owl or its critical habitat, or if the Level 1/Level 2 teams cannot reach consensus that the project deviation meets the intent, extent and impacts addressed in the BA and subsequent Letter of Concurrence (LOC).

Table 2 Proposed Action by Treatment Type and Resource Area					
RA	Project ID	Prov	Project Type	Total Habitat acres	Nest Patch
BF	Cable ROW	KL	R	3	A
Sum of ROW Projects				3	
GL	Wolf Pup	KL	T	295	A
GL	Kelsey Creek	KL	T	70	A
GL	Mini Mule	KL	T	413	A
GL	Speaking Coyote	KL	T	1,200	A
SUM of Timber Projects				1,978	
AS	Deadman's Fuels	KL	FH	1,500	A
AS	Tyler Creek Fuels	WC	FH	130	A
AS	Antelope Creek	WC	FH	160	A
SUM of Fuels Projects				1,790	
SUM of all Project Acres				3,771	

Key:

BF=Butte Falls Resource Area
 GL=Glendale Resource Area
 AS=Ashland Resource Area

KL=Klamath Physiographic Province
 WC=Western Cascades Physiographic Province
 A= Avoid treatment in the nest patch

IV EFFECTS

A. Effects to NRF

Table 4 shows acres of NRF habitat proposed for treatment. There will be no change to the amount of NRF habitat as a result of any of these treatments. Less than one percent of the NRF

in each physiographic province will be treated. Quality, in many cases, will improve because the post-treatment stand will allow more space for residual trees to develop NRF characteristics. Treated stands are designed to be more resilient to stand-replacement fire, disease and suppression mortality.

Table 3 Effects to NRF					
Province	Project ID	Section 7 Watershed	NRF T&M acres	% NRF within the watershed that is Treated	Acres of NRF within watershed post-project (no change)
Klamath Mtns.	Timber	Rogue Lower Wild	70		103,156
		Rogue Lower Wild Summary	70	0.1%	
Klamath Mtns.	Timber	Rogue Middle	730		
		Rogue Middle Summary	730	0.4%	181,950
Klamath Mtns.	Fuels	Applegate	900		
		Applegate Summary	900	0.5%	173,577
Cascades West	Fuels	Bear	130		
		Bear Summary	130	0.4%	32,437
Cascades West	Fuels	Little Butte	160		
		Little Butte Summary	160	0.4%	39,659
		Combined Watersheds	1,993	0.4%	530,778

Projects within NRF are designed to ensure NRF habitat will retain at least 60% canopy cover, and large trees and snags, large down wood and structural diversity important to northern spotted owls will be retained. Light to moderate thinning will reduce the average canopy cover of the stand to no less than 60 percent. Selective harvest may affect NRF habitat by removing some horizontal and vertical structure. Components important to spotted owls such as nest trees, multi-layered canopies, and dead and down wood that support prey species habitat will remain within a given project area post-harvest, retaining the ability to provide for the nesting, roosting, foraging and dispersal of spotted owls. Effects to spotted owls as a result of the implementation

of harvest treatments within spotted owl NRF habitat will be insignificant to spotted owls for the following reasons:

- Canopy cover will be maintained at 60 percent or greater at the stand level.
- Decadent woody material, such as large snags and down wood will remain post-treatment.
- All multi-canopy, uneven aged tree structure that was present pre-treatment will remain post-treatment. (Potential RA 32 stands will not be treated).
- NRF habitat treatments will be distributed both spatially and temporally throughout the two affected Physiographic provinces.
- Activities will be distributed both spatially and temporally across BLM.
- No nest trees will be removed.
- PDC will avoid adverse disturbance.

Treatments will improve ecological health of the stand, stimulate forage plants important to spotted owl prey, reduce the chance of tree loss due to suppression mortality because the stand has more trees than the site can support over the long-term, and will reduce the intensity and risk of wildfire by removing excess fuels.

Effects to Dispersal

Table 4 Dispersal Treatments by Province and Treatment Type							
Prov	Project Type	Section 7 Watershed	Disp remove	% Dispersal Removed	Disp T&M	% of remaining Dispersal treated	Dispersal in Watershed following project
Klamath Mountains	ROW	Rogue Middle	3	<0.1 %	0		
Klamath Mountains	Timber	Rogue Middle	0		765		
		Rogue Middle Summary	3	<0.1 %	765	2.1%	36,828 (3 Acre decrease)
Klamath Mountains		Rogue Lower Wild	0		413		
		Rogue Lower Wild Summary	0		413	3.8%	10,730 (no change)
Cascades West	Fuels	Applegate	0		600		
		Applegate Summary			600	3.2%	18,582 (no change)
		Combined Total Watersheds			1,778	2.7%	66,139 (3 acre change)

A small amount of dispersal habitat will be treated proposed treatments (Table 5). The Cable ROW construction on BLM administered land occurs in northern spotted owl dispersal habitat. The ROW would pass through spotted owl dispersal habitat to access private lands in the center of the section. An alternative was proposed to provide access without impacting NRF, but three linear acres of dispersal habitat will be removed. No nest patch would be intersected. Spotted owls would be able to disperse through the area after road construction because the road prism is a narrow linear opening, few trees would be removed, no nest trees would be removed, and the area will continue to provide flying space and prey for dispersing owls following treatment.

The timber and fuels projects will 1,778 acres (2.7%) dispersal habitat (Table 5), but prescriptions are designed to maintain spotted owl habitat. The total amount of dispersal habitat in the action area will not change as a result of these treatments. The projects analyzed in this BA are designed to maintain dispersal habitat characteristics post-project. Trees over 11 inches dbh will retain 40 percent canopy cover, a value widely used as dispersal function threshold (Thomas *et al.* 1990). Selective harvest in spotted owl dispersal habitat is not anticipated to diminish the ability of spotted owls to move through treated stands. Flying space will be maintained or improved.

Treatments in dispersal will help restore a more ecologically-sustainable density in these stands. Selective harvest and forest health projects are planned within dispersal habitat in densely-spaced stands that provide dispersal habitat. These treatments will cause an indirect beneficial effect for spotted owls by accelerating the development of late-successional elements, such as large diameter trees, multiple canopy layers, flying space and hunting perches in the long term. The additional light in the stand improves vigor of residual trees, but can also provides light to some of the forage plants important to spotted owl prey, if structural components are retained to provide prey cover habitat. Additionally, post-project snag and coarse woody debris standards will help minimize impacts to spotted owl prey species that utilize these features. Residual young trees rapidly respond to increased space and light following treatment and develop increased bole and crowns. Suppression mortality, a condition where unnaturally crowded trees suppress growth and viability of those trees, will be avoided. Wild fire resiliency will be improved. Remaining trees will have more water, space and light to be healthier and grow faster, and develop more structural diversity. The results of these treatments could have long-term beneficial effects to spotted owls by reducing the risks of loss to fire or suppression mortality of the stand, and setting the stand to a trajectory more favorable to use by spotted owls.

Effects to spotted owls as a result of the implementation of selective harvest treatments within spotted owl dispersal habitat will be insignificant to spotted owls for the following reasons:

- There will be an insignificant decrease (3 acres) of spotted owl dispersal habitat in the Action Area as a result of these proposed activities.
- Canopy cover will be maintained at 40 percent.
- Decadent woody material, such as large snags and down wood will be maintained during these treatments.

- If thinned stands are allowed to develop into late-seral conditions, they will develop structural diversity more rapidly than an unthinned stand because residual trees will grow faster in more ecologically-sustainable conditions.
- Very dense stands will be opened by thinning, thereby improving conditions for dispersing spotted owls.
- Thinning dispersal habitat could reduce the rate of spread and intensity of wildland fires common to Medford BLM.
- No nest trees will be removed; nest patches will be avoided.
- PDC will avoid adverse disturbance impacts
- Necessary components of spotted owl dispersal habitat will be retained.

B. Effects to Prey

Harvest and fuels treatments may improve foraging habitat conditions for prey. Lemkuhl et al (2006) confirmed the importance of maintaining snags, down wood and mistletoe. Gomez et al (2005) noted that commercial thinning in young stands of coastal Oregon Douglas-fir (35-45 yr) did not have a measurable short-term effect on density, survival or body mass of northern flying squirrels, another important prey species for spotted owls. Gomez et al (2005) also noted the importance of fungal sporocarps, which were positively associated with large down wood.

Residual trees, snags and down wood that are retained in the thinned stands will provide some cover for prey species over time, and will help minimize harvest impacts to some prey species. Some arboreal prey species will venture into harvest units a short distance for food. Northern spotted owls seldom venture far into non-forested stands to hunt. However, edges can be areas of good prey availability and potentially increased vulnerability (i.e. better hunting for owls) (Zabel 1995). The retained trees may respond favorably to more light and resources and gain height and canopy over time.

Projects described in this BA are designed to maintain existing owl habitat, and in many cases improve it by opening the stand, improving ecological sustainability and reducing fire risks. Treatments will retain most habitat for prey, although some understory vegetation will be altered for a period of time up to ten (10) years. Prey animals may be more exposed in the disturbed area or may move away from the disturbed area over the short term. Some minor changes in prey availability may occur as cover is disturbed and animals move around in the understory. They may become more vulnerable and exposed. The disturbance might attract other predators such as other owls, hawks and mammalian predators. This may increase competition for owls in the treatment area, but the exposure of prey may also improve prey availability for northern spotted owls. The spacing, timing and standards and guidelines of the projects described in this BA, are designed to ensure there will be no adverse impacts on spotted owls.

Minor vegetation treatments may also improve forage conditions, provided under-story structure and cover are retained. Removal of some tree canopy, provided it is not too extreme, will bring more light and resources into the stand, stimulating forbs, shrubs and other prey food. Once the initial impact of disturbance recovers, the understory habitat conditions for prey food will increase over the next few years, until shrubs and residual trees respond to again close in the stand. The positive and negative changes to prey habitat are difficult to measure, and will be

small scale in terms of owl home range and prey habitat. Patchiness and spacing will be built into projects at the stand scale to ensure impacts to prey habitat remain not likely to adversely affect owls.

C. Effects to Owls from Noise and Activity

Treatment activities have the potential of some insignificant noise that could carry into adjacent stands. Mandatory PDC (Appendix B) will protect owl sites. Only activities designed to avoid adverse impacts from noise and disturbance are included in this BA. Standards and guides from the NWFP and the current Medford RMP will be applied. Additional conservation measures may be implemented at the site specific project level by the ID teams reviewing these projects. Projects will be designed to ensure the project won't cause adverse affects. Some owls may notice noise or activity, but due to the PDC, these noises and activities will not cause "*significant impairment to feeding, breeding and sheltering such that harm would occur.*" (US Fish and Wildlife Service ESA Handbook, version 3)(USDI 2002).

BLM biologists evaluated all projects in this biological assessment against the known and potential owl sites. Only those projects that would occur outside the critical breeding period (Mar 1 to June 30) or outside the appropriate disturbance distance (Appendix B), or both, are included in this BA. Nest patches are avoided.

D. Effects to Murrelets from Noise and Activity

Medford BLM has conducted many years of surveys in wide-spread locations throughout Zone B with no confirmation of marbled murrelets. Murrelet surveys are being conducted to ensure no murrelets are within the disturbance distance of the project units that occur within Zone B. One year of surveys has documented no activity. Should the second year of surveys confirm murrelets, seasonal PDCs will be applied to harvest in the murrelet zone B units of the Mini Mule timber sale.

D. Effects to Critical Habitat

No projects occur within 2008 CHU for northern spotted owls or marbled murrelet CHU.

The CHU of spotted owls is under litigation. BLM evaluated the effects of 1992 CHU for these projects. No NRF removal or downgrade will occur in 2008 CHU, nor will dispersal habitat be removed. Table 6 indicates habitat treatments that maintain habitat will occur in five (5) 1992 and one (1) 2008 critical habitat units. The 2008 CHU project is also within 1992 CHU. None of the primary constituent elements of critical habitat will be removed or adversely affected with these treatments.

RA	Project ID	1992 CHU #	All BLM acres	NRF	NRF T&M	% NRF treated	Acres of Disp	Disp T&M	% Dispersal treated	all CHU acres	% CHU unit treated
GL	Wolf Pup	OR-64	5,653	3,277	230	7.0%	428	15	3.5%	245	4.3%
GL	Kelsey Creek	OR-65	84,554	49,717	70	0.1%	11,267	0	0%	70	0.1%
GL	Mini Mule	OR-67	19,611	10,074	0	0%	1,981	165	8.3%	165	0.1%
GL	Speaking Coyote	OR-32	43,012	24,543	500	2.0%	5,702	630	11.0%	1,130	2.6%
AS	Deadman's Fuels	OR-74	28,209	15,093	900	6.0%	3,532	600	17.0%	1,500	5.3%

Baseline habitat acres are from 2008 DA BA FH, Table 15, pg 42. (USDI, 2008b).

RA	Project ID	2008CHU #	All BLM acres	NRF	NRF T&M	% NRF treated	Acres of Disp	Disp T&M	% Dispersal treated	% CHU unit treated
GL	Kelsey Creek	2008 CHU # 14	95,606	59,800	70	0.1%	13,277	0	0	0.1%

Baseline habitat acres calculated by Steve Haney, GIS on August 24, 2009.

These projects will not affect the NRF primary constituent element of CHU because:

Projects within NRF are designed to ensure NRF habitat will retain at least 60% canopy cover, and large trees and snags, large down wood, and structural diversity important to northern spotted owls will be retained. Light to moderate thinning will reduce the average canopy cover of the stand to no less than 60 percent. Selective harvest may affect NRF habitat by removing some horizontal and vertical structure. Components important to spotted owls such as nest trees, multi-layered canopies, and dead and down wood that support prey species habitat will remain within a given project area post-harvest, retaining the ability to provide for the nesting, roosting, foraging and dispersal of spotted owls. Effects to spotted owls as a result of the implementation of harvest treatments within spotted owl NRF habitat will be insignificant to spotted owls for the following reasons:

- Canopy cover will be maintained at 60 percent or greater at the stand level.
- Decadent woody material, such as large snags and down wood will remain post-treatment.

- All multi-canopy, uneven aged tree structure that was present pre-treatment will remain post-treatment. (Potential RA 32 stands will not be treated).
- NRF habitat treatments will be distributed both spatially and temporally throughout the two affected Physiographic provinces.
- Activities will be distributed both spatially and temporally across BLM.
- No nest trees will be removed.
- PDC will avoid adverse disturbance.

Treatments will improve ecological health of the stand, stimulate forage plants important to spotted owl prey, reduce the chance of tree loss due to suppression mortality because the stand has more trees than the site can support over the long-term, and will reduce the intensity and risk of wildfire by removing excess fuels.

Treatments in 1992 and 2008 critical habitat will not adversely affect the dispersal primary constituent elements of CHU in those areas because:

- There will be no decrease of spotted owl dispersal habitat in 1992 or 2008 CHU as a result of these proposed activities.
- Canopy cover will be maintained at 40 percent.
- Decadent woody material, such as large snags and down wood will be maintained during these treatments.
- If thinned stands are allowed to develop into late-seral conditions, they will develop structural diversity more rapidly than an unthinned stand because residual trees will grow faster in more ecologically-sustainable conditions.
- Very dense stands will be opened by thinning, thereby improving conditions for dispersing spotted owls.
- Thinning dispersal habitat could reduce the rate of spread and intensity of wildland fires common to Medford BLM.
- No nest trees will be removed; nest patches will be avoided.
- PDC will avoid adverse disturbance impacts
- Necessary components of spotted owl dispersal habitat will be retained.

NRF also functions as high-quality dispersal. The amount of All-dispersal (NRF plus dispersal) within each CHU remains the same.

Treatments in 1992 and 2008 critical habitat will not adversely affect the foraging primary constituent elements of CHU in those areas because:

- Foraging habitat will be maintained in 1992 and 2008 CHU.
- Treatments in CHU are designed to maintain or enhance the primary constituent elements of CHU, including foraging.
- Thinning will allow more light to reach plants important to many prey species, and is likely to improve fruit/nut bearing capability over time.
- Down wood, snags and some untreated patches will be retained in treatment areas to provide prey refugia during the treatment.

E. Northern Spotted Owl Recovery Plan

RA 8

Manage the Klamath Provinces in Oregon and California to meet spotted owl recovery while creating more fire-resilient forests.

Much of the forest in the Klamath Province experiences a frequent fire return interval. The Deadman's Palm fuels project is consistent with RA 8 objective. Thinning stands in this area will restore stocking rates to healthier levels and reduce the chance of mortality suppression or wildfire losses. All stands are managed on a sustainable yield basis.

Recovery Action 32

BLM has specifically avoided treating stands that could meet the description in Recovery Action 32: *Maintain substantially all of the older and more structurally complex multi-layered conifer forests on Federal lands outside of MOCAs (USDI 2008c, pg 34-35).*

None of the projects in this BA remove habitat from multi-storied and structurally complex forested stands. Projects were designed to avoid these types of stands.

V. CONCLUSION

Medford BLM has determined that the combined treatments described in the BA will not reduce the amount of spotted owl habitat. The disturbance related to the projects in this BA will incorporate distance and/or seasonal PDC to avoid adverse effects from noise or smoke. Treatments in 1992 and 2008 CHU are designed to maintain owl habitat, reduce suppression loss from crowding and improve the ecological condition and fire resiliency of these areas. Medford BLM seeks concurrence from the Service that the projects described in this BA "may affect and will not likely adversely affect" (NLAA) spotted owls and spotted owl critical habitat.

Medford BLM has determined that the harvest of the Mini Mule timber sale may affect, but will not likely adversely affect (NLAA) marbled murrelets because it occurs within non-murrelet habitat in Zone B of the Marbled Murrelet occupied zone. To date (9/2009), no murrelets have been documented on the Medford District, but protocol surveys, and appropriate PDC will ensure that implementing the project will not have noise or activity impacts to nesting murrelets.

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APPENDIX A: Summer 09 NLAA Spreadsheet (separate document to facilitate formatting)

APPENDIX B: PROJECT DESIGN CRITERIA

Project design criteria (PDC) are measures applied to project activities designed to minimize potential detrimental effects to proposed or listed species. PDC usually include seasonal restrictions and may also include clumping of retention trees around nest trees, establishment of buffers, dropping the unit(s)/portions, or dropping the entire project. Use of project design criteria may result in a determination of no effect for a project which would have otherwise been not likely to adversely affect. In other cases, project design criteria have resulted in a determination of not likely to adversely affect for a project which might have otherwise been determined to be likely to adversely affect. The goal of project design criteria is to reduce adverse effects to listed or proposed threatened or endangered species.

Physical impacts to habitat and disturbances to spotted owls will be reduced or avoided with PDC. Listed are project design criteria designed for the programmatic impacts discussed in the *Effects of the Action* section.

Medford BLM retains discretion to halt and modify all projects, anywhere in the process, should new information regarding proposed and listed threatened or endangered species arise. Minimization of impacts will then, at the least, include an appropriate seasonal restriction; and could include clumping of retention trees around the nest trees, establishment of buffers, dropping the unit(s)/portions, or dropping the entire project.

The seasonal or daily restrictions listed below may be waived at the discretion of the decision maker if necessary to protect public safety (as in the case of emergency road repairs or hazard tree removal). Emergency consultation with the Service will then be initiated in such cases, where appropriate.

PDC for disturbance are intended to reduce disturbance to nesting spotted owls or marbled murrelets. For this consultation, potential disturbance could occur near either documented owl sites or projected owl sites. To estimate likely occupied habitat outside of known home ranges, nearest-neighbor distances and known spotted owl density estimates were utilized to “place” potential spotted owl occupied sites in suitable habitat. Marbled murrelets are difficult to locate. No murrelets have been documented on the District, but Medford remains within zone B. To ensure that activities that have the potential of disturbing marbled murrelets are reduced to NLAA (or NE), we will impose the PDC in or adjacent to marbled murrelet habitat.

Any of the following Mandatory PDC may be waived in a particular year if nesting or reproductive success surveys conducted according to the USFWS endorsed survey guidelines reveal that spotted owls are non-nesting or that no young are present that year. Waivers are only valid until March 1 of the following year. Previously known sites/ activity centers are assumed occupied until protocol surveys indicate otherwise.

Mandatory Project Design Criteria (owls)

A. Activities (such as tree felling, yarding, road construction, hauling on roads not generally used by the public, prescribed fire, muffled blasting) that produce loud noises above ambient levels will not occur within specified distances (Appendix A-1) of any documented or projected owl site between March 1 and June 30 (or until two weeks after the fledging period) – unless protocol surveys have determined the activity center to be not occupied, non-nesting, or failed in their nesting attempt. The distances may be shortened if significant topographical breaks or blast blankets (or other devices) muffle sound traveling between the work location and nest sites.

B. The action agency has the option to extend the restricted season until September 30 during the year of harvest, based on site-specific knowledge (such as a late or recycle nesting attempt) if project would cause a nesting spotted owl to flush. (See disturbance distance).

C. Burning will not take place within 0.25 miles of spotted owl sites (documented or projected) between 1 March and 30 June (or until two weeks after the fledging period) unless substantial smoke will not drift into the nest stand.

D. To minimize the number of potential spotted owl nest trees used for used for instream structures, only the following sources will be used:

- (I) Trees already on the ground in areas where large woody material is adequate;
- (II) Trees that lack structural conditions (snags, cavities) suitable for spotted owls.

APPENDIX A-1-MANDATORY RESTRICTION DISTANCES TO AVOID DISTURBANCE TO SPOTTED OWL SITES

Activity	Documented Owl Site
Heavy Equipment (including non-blasting quarry operations)	105 feet
Chain saws	195 feet
Impact pile driver, jackhammer, rock drill	195 feet
Small helicopter or plane	360 feet*
Type 1 or Type 2 helicopter	0.25 mile*
Blasting; 2 lbs of explosive or less	360 feet
Blasting; more than 2 lbs of explosives	1 mile

* If below 1,500 feet above ground level

Above-ambient noises further than these Table B-1 distances from spotted owls are expected to have either negligible effects or no effect to spotted owls. The types of reactions that spotted owls could have to noise that the Service considers to have a negligible impact, include flapping

of wings, the turning of a head towards the noise, hiding, assuming a defensive stance, etc. (USFWS 2003).

Recommended Project Design Criteria--Murrelets

Restrict operations from March 1 through September 15 (through the extended breeding period) within disturbance distances (unless protocol surveys demonstrate non-nesting).

Protocol surveys are conducted according to: Evans Mack, D., W. P. Ritchie, S. K. Nelson, E. Kuo-Harrison, and T. E. Hamer. 2003. Methods for surveying Marbled Murrelets in forests: a revised protocol for land management and research. Pacific Seabird Group Technical Publication Number 2. Available from <http://www.pacificseabirdgroup.org>

Appendix A-2 Mandatory Marbled Murrelet Project Design Criteria

Impacts	Species: Marbled Murrelet
Disturbance	(II) Mandatory -For Survey Areas A and B work activities (such as tree felling, yarding, road and other construction activities, hauling on roads not generally used by the public, muffled blasting) which produce noises above ambient levels will not occur within specified distances (see table below) of any occupied stand or unsurveyed suitable habitat between April 1 – August 5. For the period between August 6 – September 15, work activities will be confined to between 2 hours after sunrise to 2 hours before sunset. See Fuels management PDCs for direction regarding site preparation and prescribed fire.
Disturbance	(III) Mandatory -Clean up trash and garbage daily at all construction and logging sites. Keep food out of sight so as to not attract crows and ravens (predators on eggs or young murrelets).
Disturbance	(IV) Mandatory- Blasting (open air/unmuffled) – No blasting activities during the critical breeding period (1 April through 15 August) within 1.0 mile of occupied stands or unsurveyed suitable habitat. This distance may be shortened if significant topographical breaks or blast blankets (or other devices) muffle sound traveling between the blast and nest sites or less than 2 lbs of explosives are used If so, then use described distance.
Disturbance	1) Recommended Delay project implementation until after September 15 where possible
Disturbance	2) Recommended Between 1 April and 15 September, concentrate disturbance activities spatially and temporally as much as possible (e.g., get in and get out, in as small an area as possible; avoid spreading the impacts over time and space).
Disturbance	(IV) Mandatory- Blasting (open air/unmuffled) – No blasting activities 1 April through 15 September within 1.0 mile of occupied stands or unsurveyed suitable habitat. This distance may be shortened if significant topographical breaks or blast blankets (or other devices) muffle sound traveling between the

	blast and nest sites or less than 2 lbs of explosives are used If so, then use described distance.
Disturbance	1) Recommended Delay project implementation until after September 15 where possible
Disturbance	2) Recommended Between 1 April and 15 September, concentrate disturbance activities spatially and temporally as much as possible (e.g., get in and get out, in as small an area as possible; avoid spreading the impacts over time and space).
Restoration projects	<p>Mandatory</p> <p>To minimize the number of potential spotted owl or murrelet nest trees used for instream structures, only the following sources shall be used:</p> <p>(I) Trees already on the ground in areas where large woody material is adequate;</p> <p>(II) Trees lacking suitable nesting structure for spotted owls or murrelets or contributing to trees with suitable nesting structure, as determined by an action agency wildlife biologist.</p>
Fuels	<p>Mandatory</p> <p>(I) Burning would not take place within 0.25 mile of known occupied marbled murrelet sites, or unsurveyed marbled murrelet habitat between April 1 and August 6 unless substantial smoke will not drift into the occupied site or suitable habitat.</p> <p>(II) All broadcast and under-burning operations (except for residual “smokes”) will be completed in the period from two hours after sunrise to two hours before sunset.</p> <p>(IV) During helicopter operations, flights over suitable habitat will be restricted (helicopter should be a least 1,500 feet above ground level); if not possible, fly a minimum of 500 feet above suitable habitat (above canopy).</p>
Wildfire	<p>Mandatory</p> <p>Whenever possible, protect known nest sites of any listed species from high intensity fire. Update Resource Information Book annually; incorporate new nests or sites as soon as possible.</p>
Wildfire	<p>Mandatory</p> <p>(I) From 1 April - 5 August noise disturbance should be minimized inside occupied stands and within 0.25 mile of the edge of these stands. In order to accomplish this objective, minimize repeated aircraft flights that are less than 1,500 feet Above Ground Level (AGL). Also, minimize the use of fire line explosives within 1 air mile of occupied stands during the protection period.</p>
	Light Hand Tactics or Minimize Impact Suppression Tactics (MIST) should receive consideration for use within the protection zones for northern spotted owls and murrelets.

Quarries	<p>Mandatory For any occupied stands or unsurveyed suitable habitat within 0.25 miles of the quarry operation, restrict operation of the quarry from April 1 to August 5. Agency biologists also have the discretion to modify the 0.25-mile zone depending on topography and the level of noise - what equipment will be present (crusher or dozer/ripper or only loading of existing stockpiled rock).</p> <p>Recommended 2) For active nest stands or unsurveyed suitable habitat within 0.25 mile of the quarry operation, restrict operation of the quarry from April 1 through September 15 (unless protocol surveys demonstrate non-nesting).</p>
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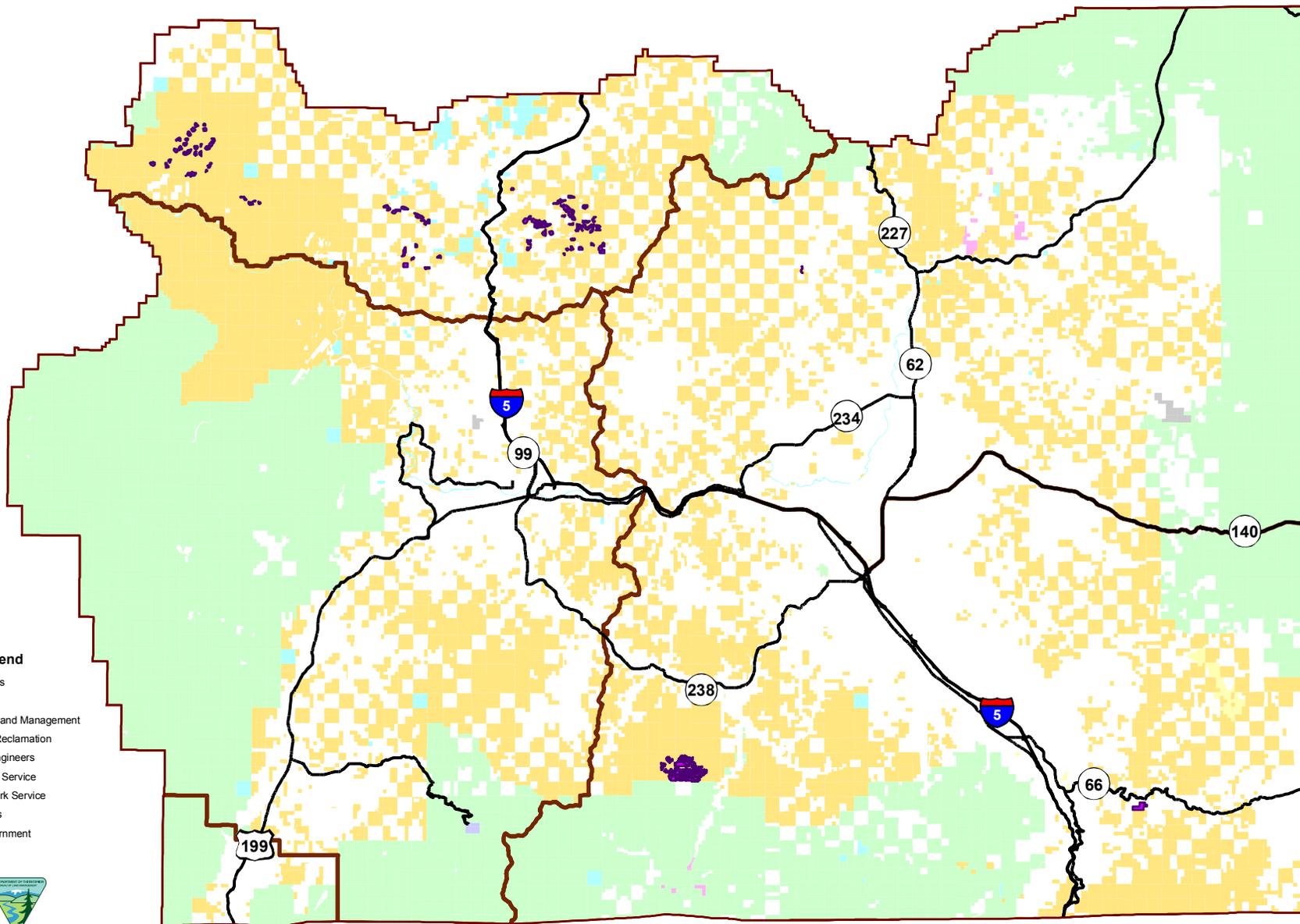
APPENDIX C: Map of Project Area (separate document for formatting purposes).

Appendix A Summer 09 NLAA

INFORMATION		GENERAL EFFECTS												CHU /LSMA EFFECTS				LSMA EFFECTS										MAMU ACRES						Comment							
RA	Project ID (12 characters)	Prov	watershed	Project Type	Stewardship	1994 RMP LUA	PRMP LUA	NRF remove	NRF dwngrd	NRF T&M	Disp remove	Disp T&M	Total Habitat acres	Nest Patch	Disturb lv blank	CHU Name	CHU #	NRF T&M	Disp remove	Disp T&M	all CHU acres	LSR Name	LSR#	NRF remove	NRF dwngrd	NRF T&M	Disp remove	Disp T&M	all LSR acres	LSMA Name	NRF remove	NRF dwngrd	NRF T&M		Disp remove	Disp T&M	all LSMA acres	Mamu	Mamu CHU	Com. Y/N	Fuels? Y or N
BF	Cable ROW	KL	Rogue Middle	R	N	M	T	0	0	0	3	0	3	A		NONE	NONE					NONE	NONE																Y	N	Provides access to pvt. land.
GL	Wolf Pup	KL	Rogue Middle	T	N	M	T	0	0	230	0	65	295	A		NA (OLD)	OR-64	230	0	15	245	NONE	NONE	0	0	0	0	0	0								0	0	N		1 Generated owl site in south end of proj (being surveyed), the rest is covered by
GL	Kelsey Creek	KL	Rogue Lower wild	T	N	M	T	0	0	70	0	0	70	A		NA (OLD)	OR-65	70	0	0	70	NONE	NONE	0	0	0	0	0									0	0	N		ridgetop NRF habitat, avoids oldgrowth/ structural complex stands; 1/2 mile beyond nearest "G" nest patch
GL	Kelsey Creek	KL	Rogue Lower wild	T	N	M	T	0	0	70	0	0	70	A		Rogue/ Umpqua	14	70	0	0	70	NONE	NONE	0	0	0	0	0									0	0	N		structural complex stands; 1/2 mile beyond nearest "G" nest patch; same 70 acres that also falls in CHU #OR-65
GL	Mini Mule	KL	Rogue Lower wild	T	N	M	T	0	0	0	0	413	413	A		NONE	OR-67	0	0	165	165	NONE	NONE	0	0	0	0	0									0	0	N		Project NSO and Mamu surveyed to protocol so should be no disturbance
GL	Speaking Coyote	KL	Rogue Middle	T	N	M	T	0	0	500	0	700	1,200	A		NONE	OR-32	500	0	630	1,130	NONE	NONE	0	0	0	0	0									0	0	N		3 Generated owl sites in south end of proj, north end covered by overlapping home ranges and surveyed yearly
AS	Deadman's Fuels	KL	Applegate	FH	N	A	T	0	0	900	0	600	1,500	A		NA (OLD)	OR-74	900	0	600	1,500	NONE	NONE	0	0	0	0	0									0	0	N	Y	Standard fuels Rx with some patches retained. No treatment in nest patch or pre-1994 spotted owl LSRs. Also, no treatment in Siskiyou Mountains salamander reserves.
AS	Tyler Creek Fuels	WC	Bear	FH	N	M	T	0	0	130	0	0	130	A		NONE	NONE	0	0	0	0	NONE	NONE	0	0	0	0	0									0	0	N	Y	Removal of conifer vegetation less than 7 inches. No hardwood removal, and shrub clumps will be retained.
AS	Antelope Creek Fuels	WC	Little Butte	FH	N	M	T	0	0	160	0	0	160	A		NONE	NONE	0	0	0	0	NONE	NONE	0	0	0	0	0									0	0	N	Y	Nearest owl site is more than 1 mile away. Removal of conifer vegetation less than 7 inches. No hardwood removal, and shrub clumps will be retained.

Medford BLM District

Summer 09 NLAA Project Units On BLM Lands



Legend

-  Project Units
- Ownership**
-  Bureau of Land Management
-  Bureau of Reclamation
-  Corps of Engineers
-  U.S. Forest Service
-  National Park Service
-  State Lands
-  Local Government
-  Private



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.



Prepared By: dsasli
Current Date: 07/20/2009 01:57:40 PM



United States Department of the Interior



FISH AND WILDLIFE SERVICE

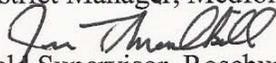
Roseburg Field Office
2900 NW Stewart Parkway
Roseburg, Oregon 97471
Phone: (541) 957-3474 FAX: (541)957-3475

In Reply Refer To: 8330.I0159 (09)
Filename: MBLM Summer 2009 Informal
Tails #: 13420-2009-I-0159
TS#: 09-1815

October 15, 2009

Memorandum

To: District Manager, Medford District BLM, Medford, Oregon.

From: 
Field Supervisor, Roseburg Fish and Wildlife Office, Roseburg, Oregon.

Subject: Endangered Species Act Section 7 Consultation regarding Activities that may affect Listed Species on Public Lands administered by the Medford District of the Bureau of Land Management

This responds to your request for the U.S. Fish and Wildlife Service's (Service) written concurrence on the Medford District of the Bureau of Land Management's (District) determination that implementation of one road right of way, four timber sales and three fuels reduction projects may affect, but are not likely to adversely affect, the threatened northern spotted owl (*Strix occidentalis caurina*) (spotted owl) and its designated critical habitat; or the threatened marbled murrelet (*Brachyramphus marmoratus*) (murrelet). Those activities and the basis for your determination are discussed in your biological assessment (Assessment) (USDI BLM 2009), received in our office on September 7, 2009.

This response was prepared in accordance with the implementing regulations for section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1536 et seq.) (Act), as amended, and is based on information provided in the Assessment, phone discussions and meetings between Service and District staff.

DEFINITIONS

Activity Periods

Spotted Owl

The breeding period of the spotted owl is March 1 - September 30.
The critical breeding period of the spotted owl is March 1- June 30.

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Murrelet

The breeding period of the murrelet is April 1 - September 15.

The critical breeding period of the murrelet is April 1 - August 5.

Detections and Sites

Spotted owl provincial home range: is defined by a circle located around an activity center, which represents the area owls are assumed to use. Provincial home radii vary in length based on the physiographic province in which the home range is located. Coast Range: 1.5 miles; Klamath Mountains: 1.3 miles; Cascades West: 1.2 miles.

Known Owl Activity Center (KOAC): is a designated late Successional reserve protecting approximately 100 acres of the best habitat adjacent to a nest site or activity center for all spotted owl sites known prior to January 1, 1994 on federal lands managed by the District.

Murrelet Detection: is defined as the observation, either visual or auditory, of one or more marbled murrelets during a survey.

Murrelet Site: is a site where there has been at least one murrelet detection.

Occupied Murrelet Site: is where murrelets have been observed exhibiting behavior, such as circling at or above the forest canopy that strongly indicates the site has some importance for breeding of murrelets (Pacific Seabird Group [PSG] 2003).

Habitats

Spotted Owl

Dispersal habitat: for the spotted owl, consists of forest lands generally greater than 40 years of age with canopy cover of 40 percent or greater and an average diameter at breast height (dbh) of 11 inches or greater. Spotted owls use dispersal habitat to move between blocks of suitable habitat; juveniles use it to disperse from natal territories.

Suitable habitat (NRF): for the spotted owl consists of habitat used by owls for nesting, roosting and foraging (NRF). Suitable habitat also functions as dispersal habitat. Generally, this habitat is 80 years of age or older, multi-storied and has sufficient snags and down wood to provide opportunities for nesting, roosting and foraging. The canopy cover generally exceeds 60 percent. District wildlife biologists make site-specific determinations and delineations of suitable habitat.

Suitable habitat: for the marbled murrelet consists of habitat used by murrelets for nesting. Generally, this habitat is 80 years of age or older, contains multiple canopy layers, and contains platforms or nesting branches ≥ 5.9 inches (15 cm) in diameter (Burger 2002, Nelson & Wilson 2002: 24, 27, 42, 97, 100). District wildlife biologists make site-specific determinations and delineations of suitable habitat.

Capable (potential) murrelet habitat: includes any forested area within 50 miles of the ocean containing a residual tree component, small patches of residual trees, or one or more platforms (PSG 2003). District wildlife biologists make site-specific determinations and delineations of potential suitable habitat.

Critical Habitat: includes the primary constituent elements necessary to support the nesting, roosting, foraging and dispersal of spotted owls. These physical and biological features that provide the essential life history requirements of the species include, but are not limited to, the following:

- 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, and rearing (or development) of offspring; and
- Habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

Murrelets

According to the Assessment, this proposed action is not planned to occur within suitable habitat for murrelets.

Effects

Disturbance: the combination of ambient noise levels, timing, duration, and intensity of noise, smoke or vibrations, and human presence associated with heavy equipment and management activities that have the potential to disturb or disrupt the natural and essential behaviors of spotted owls or murrelets, such that harm or harassment may occur.

Habitat Modification

Spotted Owl

Treat and Maintain: Means to affect the quality of spotted owl suitable habitat by modifying the forest stand without altering the functionality of such habitat.

Treat and maintain spotted owl dispersal-only habitat: means retention of a canopy cover of greater than 40 percent along with other habitat elements, such as snags, down wood, tree-height class-diversity, and older hardwoods will be maintained post project implementation, which adequately provide for spotted owl dispersal and are in accordance with the District's Resource Management Plan (RMP) (USDI BLM 2008).

Treat and maintain spotted owl NRF habitat: means a canopy cover of greater than 60 percent along with other habitat elements, including snags, down wood, tree-height class-diversity, and older hardwoods. These habitat elements will be maintained post project implementation, in accordance with the District's RMP (USDI BLM 2008), and in a manner that adequately provides for spotted owl nesting, roosting, and foraging within the stand.

Murrelet

The Assessment states the proposed action will not modify any suitable habitat for the murrelet.

Effects Determinations

Spotted Owls

Habitat modification treatments that treat and maintain stands of spotted owl NRF or dispersal habitat *may affect, are not likely to adversely affect* spotted owls.

Habitat modification treatments that remove stands of spotted owl dispersal habitat outside of designated critical habitat units *may affect, are not likely to adversely affect* spotted owls.

Disturbance that occurs outside of the critical breeding seasons and/or beyond the recommended disruption distances *may affect, is not likely to adversely affect* spotted owls.

Murrelets

Disturbance that occurs outside of the critical breeding seasons as well as outside of daily timing restricted times *may affect, is not likely to adversely affect* murrelets.

DESCRIPTION OF THE ACTION AREA

The Action Area is defined in the implementing regulations for section 7 of the Act as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action (50 CFR 402). For this consultation, the action area includes all project units, as well as all areas subject to increased ambient noise levels caused by activities associated with the proposed action. Activities associated with this proposed action will be implemented in both the Klamath Mountains and Cascades West physiographic provinces.

As described in the Assessment, federal lands managed by the District encompass approximately 862,964 acres of public land, which occurs in a checkerboard pattern of alternating sections of private and federal lands (based on District geographic information system calculations). Not all of these lands are capable of providing owl habitat.

Human populations are centered on the cities of Medford, Grants Pass, and Ashland. Private lands comprise approximately 50 percent of the action area. Private forested lands managed for timber production will typically be harvested between 40 and 60 years of age, in accordance with State Forest Practices Act standards. These lands are typically not expected to provide long-term spotted owl nesting, roosting and foraging habitat, although some habitat occurs in private ownership. The conversion of intact suitable habitat in the low elevation woodlands and grasslands into pastures, vineyards, orchards, and home sites is increasing throughout the Rogue Valley.

DESCRIPTION OF THE PROPOSED ACTION

The Assessment includes a detailed description of the proposed action, and is herein incorporated by reference. According to the Assessment, all projects were planned and comply with the standards and guidelines of the Northwest Forest Plan (NWFP), (USDA FS and USDI BLM 1994a, 1994b). The District plans to implement the projects included in the proposed action fiscal year 2010, and expect completion within seven years of receiving a Letter of Concurrence. No treatments will occur in any stand the District believes could be considered older, structurally-complex, and multi-storied; currently the District and the Service are developing a process for determining structurally complex stands. Table 1 displays activity types and number of acres associated with this proposed action.

Table 1. Proposed Action.

Project Name	Physiographic Province	Number of Acres
Road Right of Way (ROW)		
Cable ROW	Klamath Mountains	3
Timber Harvest		
Wolf Pup	Klamath Mountains	295
Kelsey Creek	Klamath Mountains	70
Mini Mule	Klamath Mountains	413
Speaking Coyote	Klamath Mountains	1,200
Fuels Reduction		
Deadman's Fuels	Klamath Mountains	1,500
Tyler Creek Fuels	West Cascades	130
Antelope Creek Fuels	West Cascades	160
Total		3,771

A summary of the proposed activities, as described in the Assessment, follows:

Right of Way (ROW)

Cable ROW: involves construction of 1,685 feet of natural surface road with a 50-foot width across District-managed lands in Township 34 South, Range 02 West, Section 5 (NW of NE) in the Butte Falls Resource Area. The actual cleared area will be less than 50 feet wide. The ROW would pass through spotted owl dispersal habitat to access private lands in the center of the section. The negotiated ROW area will allow flexibility to move the road slightly to avoid a few scattered, larger hardwood trees within the ROW. The upper part of the road, which occurs on private land, does not occur within spotted owl habitat.

Timber Sales

Speaking Coyote: includes the thinning of up to 1,200 acres of natural and managed forest stands, ranging in age from approximately 40 to 160 years old, spread out through most of Township 33 South, Range 5 West. This project occurs within the Klamath spotted owl

demographic study area. According to the Assessment, the District planned this project in a manner that avoids forest stands the District considers high quality spotted owl habitat (USDI FWS 2008). As described in the Assessment, the District defined high quality spotted owl habitat stands as having high canopy closure, layering, large snags, large down wood, large diameter trees (greater than 30 inches) throughout the stand, deformed/broken top/decadent trees, species diversity of firs, and hardwoods.

Wolf Pup: includes the thinning of approximately 250 acres of natural forest stands which range in age from 40 years to 150 years old, spread out through most of one township (Township 33 South, Range 7 West). This project occurs within the Klamath spotted owl demographic study area. According to the Assessment, the District planned this project in a manner that avoids forest stands the District considers high quality spotted owl habitat (USDI FWS 2008). As described in the Assessment, the District defined high quality spotted owl habitat stands as having high canopy closure, layering, large snags, large down wood, large diameter trees (greater than 30 inches) throughout the stand, deformed/broken top/decadent trees, species diversity of firs, and hardwoods.

Mini Mule: includes the thinning of approximately 413 acres of managed forest stands which range in age from 40 to 80 years old, spread out through approximately one quarter of a township (Township 32 South, Range 9 West). The proposed treatment units occur in forest stands of second growth plantations, which function as spotted owl dispersal habitat. Prescriptions would include retaining the largest, vigorous trees with large crowns, and thinning the remaining commercial size diameters. Thinning would not retain all suppressed or deformed type trees. However, trees with character that represents potential for future sources as nest trees or snags would be favored for retention. Midstory perching or roosting trees would be favored for retention when present. Hardwoods are not marked for removal, and diversity in conifer species would be retained.

According to the Assessment, the District planned this project in a manner that avoids forest stands the District considers high quality spotted owl habitat (USDI FWS 2008). As described in the Assessment, the District defined high quality spotted owl habitat stands as having high canopy closure, layering, large snags, large down wood, large diameter trees (greater than 30 inches) throughout the stand, deformed/broken top/decadent trees, species diversity of firs, and hardwoods.

Approximately one third of the Mini Mule project occurs in spotted owl critical habitat unit (CHU) OR-67 (USDI FWS 1992). The project does not occur within the revised 2008 critical habitat (USDI FWS 2008). According to the Assessment, the primary constituent elements present in the dispersal habitat would be retained post-project implementation.

The Mini Mule project occurs within the marbled murrelet survey zone B, but does not treat murrelet habitat. According to the Assessment, surveys will be conducted. If murrelets are found, the District will implement mandatory Project Design Criteria (PDC) (Appendix A), designed to avoid the potential of adverse impacts from noise and project related activity. A spreadsheet from the Assessment is included (Appendix B) which provides additional project information.

Kelsey Creek: includes the thinning of approximately 70 acres of natural forest stands which occur along a ridgetop, and which is 80 – 100-year old spotted owl NRF habitat. Thinning would remove suppressed trees, but would favor the retention of trees with characteristics representing potential for future sources as nest trees or snags. Mid-story trees that could serve as perching or roosting sites for spotted owls would be favored for retention when present. Hardwoods are not marked for removal, and diversity in conifer species would be retained. Prescriptions would include retaining the largest, vigorous trees with large crowns, and thinning the remaining commercial size diameters. According to the Assessment, the District planned this project in a manner that avoids forest stands the District considers high quality spotted owl habitat (USDI FWS 2008). As described in the Assessment, the District defined high quality spotted owl habitat stands as having high canopy closure, layering, large snags, large down wood, large diameter trees (greater than 30 inches) throughout the stand, deformed/broken top/decadent trees, species diversity of firs, and hardwoods.

Kelsey Creek units are spread throughout two adjacent sections within spotted owl CHU OR-65 (USDI FWS 1992), as well spotted owl designated CHU 14 (USDI FWS 2008). According to the Assessment, implementation of this project will be done in such a manner as to retain the primary constituent elements of spotted owl designated critical habitat post-project implementation. Post-treatment slash reduction is likely. Fuels treatments related to site preparation after timber harvest are included in the “footprint” acres reported for the timber sale and are not reported as fuels acres.

Fuels Reduction Projects

According to the Assessment, fuels management activities included in the proposed action have three primary purposes: fuels reduction to reduce wildfire hazard; site preparation/slash reduction for improving conifer planting (covered in silviculture and timber above); and restoration of ecosystem function where wildfire has been suppressed. Fuels reduction projects included in the proposed action were designed to maintain pre-treatment habitat conditions for spotted owls. The District plans to implement mandatory PDC, designed to avoid adverse disturbance.

Fuels reduction activities included in this proposed action can include piling and prescribed burning, thinning, and brush treatments. These activities usually consist of the removal of surface fuels, brush or small trees, and the removal of ladder fuels or crowded conifers or hardwoods. Prescriptions vary by project, and could also meet timber or other objectives. As described in the Assessment, these fuel treatments are generally implemented over a period of years. The acres in the proposed action represent the acres of the fuels treatment “footprint”, and impacts are assessed for the entire treatment period.

Antelope Creek Fuels: includes the reduction of hazardous fuels by slashing and handpile burning of non-commercial vegetation in the South Fork Little Butte Creek watershed. According to the Assessment, the objective of this project 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 project area encompasses approximately 770 acres in the Antelope Creek

Drainage which is in the South Fork Little Butte Creek Watershed. All work will be done manually (slash, handpile and burn) with follow up underburning for maintaining treatment areas. This work will reduce the threat of wildland fire burning across public lands and threatening surrounding private lands and structures. The prescription for this project includes the removal of most brush and conifers less than seven inches in diameter. Hardwood tree species would not be removed. Vegetation removal would not be continuous across the landscape. Riparian reserves, reserve vegetation, leave trees, and brush clumps would be retained. No dominant or codominate trees would be removed.

Tyler Creek Fuels: includes the reduction of hazardous fuels by slashing and handpile burning non-commercial vegetation in the Bear Creek watershed. As described in the Assessment, the objective of this project 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 project area encompasses approximately 200 acres in the Emigrant Creek Drainage, which is in the Bear Creek Watershed. All work would be done manually (slash, handpile and burn) with follow up underburning for maintaining treatment areas. This work would reduce the threat of wildland fire burning across public lands and threatening surrounding private lands and structures.

According to the Assessment, the prescription for this project includes the removal of most brush and conifer trees less than seven inches in diameter. Hardwood tree species will not be removed. Vegetation removal would not be continuous across the landscape. Riparian reserves, reserve vegetation, leave trees, and brush clumps would be retained. No dominant or co-dominate trees would be removed. The Tyler Creek Fuels project would not take place within the home ranges of any spotted owl sites, and does not occur within 1992 or 2008 critical habitat for the spotted owl.

Deadman's Fuels: includes the reduction of hazardous fuels by slashing and handpile burning non-commercial vegetation, within an area classified as the Wildland Urban Interface (WUI). The objective of this project 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 project area encompasses approximately 1,500 acres in the Star Gulch Drainage within the Middle Applegate fifth field watershed. The Deadman's Fuels project would take place within the home ranges of three spotted owl sites, within approximately 900 acres of spotted owl NRF habitat and 600 acres of spotted owl dispersal-only habitat. Fuels reduction would also take place in the core area (0.5 mile from site center), but not in the nest patches of any of these sites. This project will occur within spotted owl CHU OR 74, as designated in 1992 (USDI FWS 1992), but does not occur within any spotted owl critical habitat designated in the 2008 revision (USDI FWS 2008).

All work will be done manually (slash, handpile and burn) with follow up under-burning for maintaining treatment areas. This work will reduce the threat of wildland fire burning across public lands and threatening surrounding private lands and structures. The prescription for this project includes the removal of most brush and conifer trees less than seven inches in diameter. Hardwood trees will not be removed. Vegetation removal would not be continuous across the landscape. Riparian reserves, 100-acre spotted owl core areas, and spotted owl nest patches would not be treated. No dominant or co-dominate trees would be removed.

Adaptive Management

Adaptive management allows minor project variations to meet site-specific conditions or landscape objectives. Therefore, there may be minor deviations in the description of projects. The District considered these minor deviations in the Assessment, and has determined deviations consistent with the following guidelines are consistent with the effects determinations made in the Assessment:

- Project complies with the Districts RMP (USDI BLM 2008) to which it is tiered, and with the Plan.
- Impacts and extent of the project are within parameters of described activities in the Assessment.
- Deviations will be reviewed by the Level 1 team to ensure impacts to listed species remain the same or less than those described within the Assessment.
- Minimization measures proposed for the project are consistent with the intent and impacts of actions described in the Assessment.

Separate consultation will be required to meet Endangered Species Act compliance if the project cannot be revised to comply with the effects analyzed in this consultation, if site-specific National Environmental Policy Act evaluations cause the District to make an effects determination of may affect, likely adversely affect the spotted owl, murrelets or designated critical habitat for the spotted owl or murrelet.

Project Design Criteria

PDC are conservation measures developed to reduce or avoid impacts to listed species. Conservation measures may include implementation of seasonal restrictions to reduce impacts during critical breeding seasons, retention of known nest trees and/or restricting activities within a certain distance of known sites to reduce impacts of disturbance. The District plans to apply mandatory PDC, to all activities associated with this proposed action. The District will apply recommended PDC during project implementation when practical. Detailed descriptions of the PDC, as provided by the District, are provided in Appendix A.

EFFECTS OF THE ACTION

Effects of the Action on Spotted Owl NRF Habitat

According to the Assessment, the District proposes to implement activities that will treat and maintain up to 1,993 acres (Table 2) of spotted owl NRF habitat in association with the proposed action. All projects have been designed to maintain existing spotted owl NRF habitat amounts and in many cases, the District states habitat quality may improve as post-treatment forest stands allow more space for residual trees to develop the characteristics of spotted owl NRF habitat. Additionally, treatments have been designed to result in forest stands more resilient to stand-replacement fires, disease and suppression mortality.

Table 2. Effects to Spotted Owl NRF Habitat.

Watershed	Acres of Spotted Owl NRF Habitat¹	Acres of Spotted Owl NRF Habitat Treated and Maintained due to Timber Harvest and ROW	Acres of Spotted Owl NRF Habitat Treated and Maintained due to Fuels	Total Acres of Spotted Owl NRF Habitat Treated and Maintained	Percent of Spotted Owl NRF Habitat Treated and Maintained
Klamath Mountains Physiographic Province					
Applegate	173,577	0	900	900	0.5
Rogue Lower Wild	103,156	70	0	70	0.1
Rogue Middle	181,950	733	0	733	0.4
Sub-total	458,683	803	900	1,703	0.4
West Cascades Physiographic Province					
Bear	32,437	0	130	130	0.4
Little Butte	39,659	0	160	160	0.4
Sub-total	72,096	0	290	290	0.4
Total	530,779	803	1,190	1,993	0.4

¹ From the Biological Assessment (USDI BLM 2009).

According to the Assessment, implementation of the proposed action will treat and maintain up to 1,993 acres of spotted owl NRF habitat. Collectively, implementation of all projects included in the proposed action will result in the treatment of less than one percent of extant spotted owl NRF habitat within each physiographic province (Table 2). The Assessment states that the quality of spotted owl NRF habitat, in many cases, will improve because the post-treatment stand will allow more space for residual trees to develop spotted owl NRF habitat characteristics. Treated stands are designed to be more resilient to stand-replacement fire, disease and suppression mortality.

Light to moderate thinning will reduce the average canopy cover of the stand to no less than 60 percent. Selective harvest may affect NRF habitat by removing some horizontal and vertical structure. Components important to spotted owls such as nest trees, multi-layered canopies, and dead and down wood that support prey species habitat will remain within a given project area post-harvest, retaining the ability to provide for the nesting, roosting, foraging and dispersal of spotted owls. The District has determined effects to spotted owls as a result of treating and maintaining up to 1,993 acres of spotted owl NRF habitat will be insignificant and *may affect, are not likely to adversely affect* spotted owls for the following reasons:

- Canopy cover will be maintained at 60 percent or greater at the stand level.
- Decadent woody material, such as large snags and down wood will remain post-treatment.
- All multi-canopy, uneven aged tree structure that was present pre-treatment will remain post-treatment.

- Treatments within stands of spotted owl NRF habitat will be distributed both spatially and temporally throughout the two affected physiographic provinces.
- No nest trees will be removed.
- Treatments are expected to improve the ecological health of treated stands, stimulate forage plants important to spotted owl prey species, reduce the chance of tree loss due to suppression mortality because the stand has more trees than the site can support over the long-term, and will reduce the intensity and risk of wildfire by removing excess fuels.
- Implementation of mandatory PDC will avoid adverse disturbance to spotted owls.

For the above reasons, the Service concurs with the District’s finding that these proposed treatments *may affect, are not likely to adversely affect* the spotted owl.

Effects to Spotted Owl Dispersal Habitat

Spotted owl dispersal habitat is comprised of both spotted owl NRF habitat and spotted owl dispersal-only habitat. The analysis below reflects an analysis of the effects to spotted owl dispersal-only habitat (referred to as dispersal habitat for the purposed of this analysis).

Treat and Maintain

The proposed action includes timber harvest and fuels reduction activities that, collectively, will result in the treatment and maintenance of up to 1,778 acres (Table 3) of spotted owl dispersal habitat.

Table 3. Effects to Spotted Owl Dispersal Habitat.

Watershed	Acres of Spotted Owl Dispersal Habitat ¹	Acres of Spotted Owl Dispersal Habitat Treated and Maintained due to Timber Harvest	Acres of Spotted Owl Dispersal Habitat Treated and Maintained due to Fuels	Total Acres of Spotted Owl Dispersal Habitat Treated and Maintained	Percent of Spotted Owl NRF Habitat Treated and Maintained
Applegate	66,139	0	600	600	0.9
Rogue Lower Wild	10,730	0	413	413	3.9
Rogue Middle	36,828	765	0	765	2.1
Total	113,697	765	1,013	1,778	1.6

¹ From the Biological Assessment (USDI BLM 2009).

As detailed in the Assessment, trees over 11 inches diameter at breast height will retain 40 percent canopy cover, a value widely used as a dispersal function threshold (Thomas et al. 1990). Implementation of the proposed action within spotted owl dispersal habitat is not anticipated to diminish the ability of spotted owls to move through treated stands. The District anticipates these treatments will cause an indirect beneficial effect for spotted owls by accelerating the development of late-successional elements, such as large diameter trees, multiple canopy layers, flying space and hunting perches in the long term. The additional light in the stand improves vigor of residual trees, but can also provides light to some of the forage plants important to spotted owl prey, if structural components are retained to provide prey cover habitat.

Additionally, snag and coarse woody debris remaining in treated stands post-treatment will help minimize impacts to spotted owl prey species that utilize these features. Residual young trees rapidly respond to increased space and light following treatment and develop increased bole and crowns. Suppression mortality, a condition where unnaturally crowded trees suppress growth and viability of those trees, will be avoided. Wildfire resiliency will be improved. Remaining trees will have more water, space and light to be healthier and grow faster, and develop more structural diversity.

The District has determined the effects to spotted owls, as a result of the implementation of up to 1,778 acres of timber harvest and fuels reduction treatments within spotted owl dispersal habitat will be insignificant and *may affect, are not likely to adversely affect* spotted owls for the following reasons:

- Canopy cover in treated stands will be maintained at 40 percent.
- Decadent woody material, such as large snags and down wood will be maintained during these treatments.
- Very dense stands will be opened by thinning, thereby improving conditions for dispersing spotted owls.
- Thinning treatments are designed to reduce the rate of spread and intensity of wildland fires common to the action area.
- No nest trees will be removed.
- All spotted owl nest patches will be avoided.
- Implementation of mandatory PDC will avoid adverse disturbance to spotted owls.

For the above reasons, the Service concurs with the District's finding that these proposed treatments *may affect, are not likely to adversely affect* the spotted owl.

Removal

As described in the Assessment, up to three acres of spotted owl dispersal habitat may be removed in association with the Cable road right-of-way permit. The removal of these three acres represents 0.008 percent of the 36,828 acres of dispersal habitat in the Rogue Middle watershed. The District believes the removal of this small amount of spotted owl dispersal habitat will be insignificant to the ability of spotted owls to disperse within the action area, and *may affect, is not likely to adversely affect* spotted owls for the following reasons:

- The ROW does not occur within the nest patch of any spotted owl sites.
- The District anticipates spotted owls would be able to disperse through the area after road construction, because the road prism is a narrow linear opening.
- No spotted owl nest trees would be removed.
- The District anticipates the treated area will continue to provide flying space and prey species for dispersing spotted owls post- treatment.

The Service concurs with the District's finding that the removal of up to three acres of spotted owl dispersal habitat associated with the Cable ROW *may affect, is not likely to adversely affect* the spotted owl.

Effects to Spotted Owl Prey Species

The Assessment presents a finding that the proposed harvest and vegetation treatments are likely to maintain or improve foraging habitat conditions for spotted owl prey species. Lemkuhl et al. (2006) confirmed the importance of maintaining snags, down wood, canopy cover, and mistletoe to support populations of spotted owl prey species. Gomez et al. (2005) noted that commercial thinning in young stands of coastal Oregon Douglas-fir (35-45 yr) did not have a measurable short-term effect on density, survival or body mass of northern flying squirrels, an important prey species for spotted owls. Gomez et al. (2005) also noted the importance of fungal sporocarps, which were positively associated with large down wood.

Residual trees, snags and down wood that are retained in the thinned stands will provide some cover for prey species over time, and will help minimize harvest impacts to some prey species. Some arboreal prey species will venture into harvest units a short distance for food. Spotted owls seldom venture far into non-forested stands to hunt. However, edges can be areas of good prey availability and potentially increased vulnerability (i.e., better hunting for spotted owls) (Zabel et al. 1995). The retained trees may respond favorably to more light and resources and gain height and canopy over time.

The proposed projects considered herein are designed to maintain existing spotted owl habitat at the stand level, and in many cases improve it by opening the stand, improving ecological sustainability and reducing fire risks. Treatments are also designed to retain habitat for spotted owl prey. Spotted owl prey animals may be more exposed in treatment areas, or may move away from the area over the short term. As prey move around in response to the proposed treatments they may become more vulnerable and exposed to predation by spotted owls. The disturbance might attract other predators such as other owls, hawks and mammalian predators, which may increase competition for spotted owls in the treatment area.

Some changes to habitat features caused by the proposed action may improve forage conditions for spotted owls, provided under-story structure and cover are retained. Removal of some tree canopy, provided it is not too extreme, will bring more light and resources into the stand, stimulating forbs, shrubs and other prey food. Once the initial impact of disturbance recovers (6 months to two years), the understory habitat conditions for prey food would increase over the next few years, until shrubs and residual trees respond to close in the stand.

Overall, the spacing, timing and standards and guidelines for proposed projects described in the Assessment are likely to avoid adverse impacts to spotted owls with respect to prey availability by retaining habitat features in treated stands that support prey species populations although localized, short-term changes in prey species distribution and abundance are likely to occur within a treated stand. The dispersion of treatment sites over a large area is especially important in maintaining spotted owl prey populations within the action area. On this basis, the District has determined effects to spotted owls, as described here, would be insignificant.

Effects to Spotted Owl Critical Habitat Designated in 1992

We include an analysis of spotted owl critical habitat designated in 1992 and in 2008 due to on-going litigation, which may result in vacating the 2008 designation and reinstatement of the 1992 designation.

Effects to Spotted Owl NRF Habitat

The District plans to treat and maintain up to 1,700 acres of spotted owl NRF habitat associated with the implementation of timber harvest and fuels reduction activities within four individual CHUs (Tables 4). According to the Assessment, implementation of these activities will not decrease the primary constituent elements of spotted owl NRF habitat because the function of the treated stands will be maintained. The District anticipates nesting, feeding, sheltering and dispersal conditions of pre-treatment spotted owl NRF habitat will be retained, and, in many cases, improved.

Table 4. Effects to Spotted Owl NRF Habitat within Designated Critical Habitat Units (1992).

Project Name	CHU	Total Acres	Total Acres on District Managed Lands	Acres of District Spotted Owl NRF Habitat	Acres of Spotted Owl NRF Habitat Treated and Maintained	Percent of District Spotted Owl NRF Habitat Treated and Maintained
Wolf Pup	OR 64	4,944	5,653	3,277	230	7.0
Kelsey Creek	OR 65	86,532	84,554	49,717	70	0.1
Speaking Coyote	OR 32	42,743	43,012	24,543	500	2.0
Deadman's Fuels	OR 74	31,144	28,209	15,093	900	6.0
Total		165,363	161,428	92,630	1,700	1.8

¹ Spotted Owl NRF Habitat Baseline from the District's 2008 Programmatic Biological Assessment (USD I BLM 2008).

As described in the Assessment, the District has determined implementation of the proposed action will be insignificant and *may affect, is not likely to adversely affect* spotted owl NRF habitat within designated critical habitat because:

- No primary constituent elements will be reduced in quantity or quality.
- There will be no change in the amount of spotted owl NRF habitat in the four affected CHUs.
- Canopy cover within treated stands of spotted owl NRF habitat will be retained at 60 percent or greater, allowing for the continued nesting, roosting and foraging of spotted owls within treated stands.

- Decadent woody material in the treatment areas, such as large snags and down wood, will remain post-treatment, providing habitat for spotted owl prey species.
- Multi-canopy, uneven-aged tree structure present prior to treatments will remain post-treatment, providing important habitat features of spotted owl NRF habitat.
- Post treatment structural conditions will maintain habitat conditions for spotted owl prey species, particularly woodrats, in treatment areas.
- No spotted owl nest trees will be removed.
- Treatments will be distributed both spatially and temporally within the four affected CHUs.

As described in the Assessment, anticipated beneficial effects which may result from the implementation of thinning and fuels reduction treatments include:

- Improved ecological condition of treated stands.
- Reduction in the chance of tree loss due to suppression mortality.
- Reduced risk of stand loss due to wild land fires.
- Increase in the amount of forage plants important to spotted owl prey species.

For the above reasons, the Service concurs with the District’s finding that implementation of 1,700 acres of thinning and fuels reduction treatments within the four affected CHUs *may affect, is not likely to adversely affect* spotted owl NRF habitat within designated critical habitat.

Spotted Owl Dispersal Habitat

According to the Assessment, up to 1,410 acres of spotted owl dispersal-only habitat will be treated and maintained as a result of timber harvest and fuels reduction treatments planned to occur within four individual CHUs (Table 5).

Table 5. Effects to Spotted Owl Dispersal Habitat within Designated Critical Habitat (1992).

Project Name	CHU	Total Acres	Total Acres on District Managed Lands	Acres of District Spotted Owl Dispersal Habitat	Acres of Spotted Owl Dispersal Habitat Treated and Maintained	Percent of District Spotted Owl Dispersal Habitat Treated and Maintained
Wolf Pup	OR 64	4,944	5,653	428	15	3.5
Mini Mule	OR 67	98,366	19,611	1,981	165	8.3
Speaking Coyote	OR 32	42,743	43,012	5,702	630	11.0
Deadman’s Fuels	OR 74	31,144	28,209	3,532	600	17.0
Total		177,197	161,428	11,643	1,410	12.1

As described in the Assessment, the District has determined the effects of this proposed action will be insignificant and *may affect, is not likely to adversely affect* spotted owl dispersal habitat within designated critical habitat because:

- No primary constituent elements will be reduced in quantity or quality.
- There will be no change in the amount of spotted owl dispersal habitat in the four affected CHUs.
- Canopy cover within treated stands of spotted owl dispersal habitat will be retained at 40 percent or greater, allowing for the continued dispersal of spotted owls throughout treated stands.
- Very dense stands will be opened by thinning, improving conditions for dispersing spotted owls.
- Decadent woody material in the treatment areas, such as large snags and down wood, will remain post-treatment, providing benefits to spotted owl prey species.
- Multi-canopy, uneven-aged tree structure present prior to treatments will remain post-treatment, providing important habitat features of spotted owl habitat.
- Post treatment structural conditions will maintain habitat conditions for spotted owl prey species, particularly woodrats, in treatment areas.
- Treatments will not occur within the nest patch of any known or predicted spotted owl sites.
- Implementation of mandatory PDC will avoid adverse disturbance to spotted owls.

For the above reasons, the Service concurs with the District’s finding that the implementation of up to 1,410 acres of spotted owl dispersal habitat within four individual CHUs (Table 5) *may affect, are not likely to adversely affect* spotted owl dispersal habitat within designated critical habitat.

Effects to Spotted Owl Critical Habitat Designated in 2008

Effects to Spotted Owl NRF Habitat

According to the Assessment, the 70 acres of Kelsey Creek project occurs in spotted owl critical habitat designated in both 1992 and 2008 (Tables 4 and 6). No decrease in any primary constituent elements of spotted owl dispersal habitat will occur as a result of the implementation of this proposed action because the function of the treated stands will be maintained. According to the Assessment, the District anticipates habitat conditions of pre-treatment spotted owl NRF habitat will be retained.

Table 6. Effects to Spotted Owl NRF Habitat within Designated Critical Habitat Units (2008).

Project Name	CHU	Total Acres	Total Acres on District Managed Lands	Acres of District Spotted Owl NRF Habitat	Acres of Spotted Owl NRF Habitat Treated and Maintained	Percent of Spotted Owl NRF Habitat Treated and Maintained
Kelsey Creek	CHU 14	183,800	95.606	59,800	70	0.1

As described in the Assessment, the District has determined implementation of the proposed action will be insignificant and *may affect, is not likely to adversely affect* spotted owl designated critical habitat because:

- No primary constituent elements will be reduced in quantity or quality.
- There will be no change in the amount of spotted owl NRF habitat in the affected CHU.
- Canopy cover within treated stands of spotted owl NRF habitat will be retained at 60 percent or greater, allowing for the continued nesting, roosting and foraging of spotted owls within treated stands.
- Decadent woody material in the treatment areas, such as large snags and down wood, will remain post-treatment, providing habitat for spotted owl prey species.
- Multi-canopy, uneven-aged tree structure present prior to treatments will remain post-treatment, providing important habitat features of spotted owl NRF habitat.
- Post treatment structural conditions will maintain habitat conditions for spotted owl prey species, particularly woodrats, in treatment areas.
- No spotted owl nest trees will be removed.
- Treatments will be distributed both spatially and temporally within one affected CHU.

As described in the Assessment, anticipated beneficial effects which may result from the implementation of thinning and fuels reduction treatments include:

- Improved ecological condition of treated stands.
- Reduction in the chance of tree loss due to suppression mortality.
- Reduced risk of stand loss due to wild land fires.
- Increase in the amount of forage plants important to spotted owl prey species.

For the above reasons, the Service concurs with the District's finding that implementation of 70 acres of thinning treatments within CHU 14 *may affect, is not likely to adversely affect* spotted owl designated critical habitat.

Effects to Spotted Owl Dispersal Habitat

Based on information provided in the Assessment, the proposed action does not include any treatments in spotted owl dispersal habitat within critical habitat designated in 2008 (USDI FWS 2008).

Effects to Spotted Owls due to Disturbance

As detailed in the Assessment, portions of this proposed action may occur in non-habitat for spotted owls, yet have the potential to result in noise which could carry into occupied spotted owl habitat. The application of mandatory PDC by is anticipated to result in the avoidance of adverse noise disturbance to spotted owls. Additional conservation measures may be implemented at the site specific, project level by interdisciplinary teams during project reviews.

According to the Assessment, the District has planned the projects included in the proposed action in a manner that avoids adverse impacts from noise and disturbance to spotted owls. The District plans to implement mandatory PDC (Appendix A), which require distance and timing restrictions designed to reduce disturbance to spotted owls. The opportunistic application of recommended PDC will provide additional conservation benefits to spotted owls. District biologists evaluated all projects included in the proposed action against known and predicted spotted owl sites (USDI/USDA 2008). Only those projects that would occur outside the critical breeding period (March 1 to June 30) or outside the appropriate disturbance distance (Appendix A), or both, were included in the proposed action. Therefore, the District has determined effects to spotted owls due to disturbance associated with the implementation of the proposed action *may affect, are not likely to adversely affect* spotted owls.

Based on the above information, the Service agrees with the determination disturbance associated with the proposed action *may affect, is not likely to adversely affect* spotted owls.

Effects to Marbled Murrelets

As of January, 2009, murrelets have not been documented as occurring on public lands managed by the District. However, District biologists continue to survey potential murrelet suitable habitat in areas of planned projects. According to the Assessment, if survey efforts confirm occupancy (as defined by survey protocol [Evans et al. 2003]), the District will modify project implementation to avoid potential adverse effects to murrelets.

Habitat Modification

According to the Assessment, activities included in the proposed action will not occur within suitable habitat for murrelets.

Disturbance

Disturbance to murrelets associated with the implementation of the above activities will be limited by application of mandatory PDC (Appendix A) that impose seasonal restrictions during the critical breeding season, and/or restrict activities within disturbance threshold distances of unsurveyed suitable habitat or known murrelet nest sites. Application of the recommended PDC would further reduce potential impacts. The District has determined implementation of this proposed action will be insignificant and *may affect, are not likely to adversely affect* murrelets because:

- Site-specific field surveys will take place in areas suspected of containing potential murrelet habitat.
- The District plans to implement mandatory PDC, designed to reduce potential adverse effects from disturbance (Appendix A).

For the above reasons, the Service concurs with the District's finding that the proposed action *may affect, is not likely to adversely affect* the murrelet due to disturbance associated with the implementation of the proposed action.

Concurrence

This response is prepared in accordance with section 7(a)(2) and 7(c) of the Act, and concludes informal consultation on the project pursuant to 50 CFR 402. The Service concurs with the effects determination made by the District that the above Proposed Action, as detailed in the Assessment and in the Description of the Proposed Action and Effects section of this letter, *may affect, is not likely to adversely affect* the spotted owl and spotted owl critical habitat, and *may affect, is not likely to adversely affect* the murrelet. This concurrence is based on the fact that all projects, both individually and collectively, will implement the standards and guidelines of the NWFP (USDA FS and USDI BLM 1994a), comply with the District's RMP (USDI BLM 2008), and will incorporate the mandatory PDC described in Appendix A.

Incidental take is not expected and is not authorized for this consultation. Consultation on this action should be reinitiated if 1) new information reveals effects of the action that may affect listed species or designated critical habitat in a manner or to an extent not considered in this consultation; 2) the action is subsequently modified in a manner that causes an effect to a listed species or designated critical habitat that was not considered in this consultation; 3) a new species or critical habitat is designated that may be affected by this project.

Because the proposed action is not likely to adversely affect spotted owls, murrelets, or spotted owl designated critical habitat within the action area, it is not necessary to consider whether the action will jeopardize the species or adversely modify the value of their designated critical habitat.

If any questions arise concerning the contents of this concurrence letter, please contact Cynthia Donegan at 541-957-3469.

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Appendix A: Project Design Criteria

Project design criteria (PDC) are measures applied to project activities designed to minimize potential detrimental effects to proposed or listed species. PDC usually include seasonal restrictions and may also include clumping of retention trees around nest trees, establishment of buffers, dropping the unit(s)/portions, or dropping the entire project. Use of project design criteria may result in a determination of no effect for a project which would have otherwise been not likely to adversely affect. In other cases, project design criteria have resulted in a determination of not likely to adversely affect for a project which might have otherwise been determined to be likely to adversely affect. The goal of project design criteria is to reduce adverse effects to listed or proposed threatened or endangered species.

Physical impacts to habitat and disturbances to spotted owls will be reduced or avoided with PDC. Listed are project design criteria designed for the programmatic impacts discussed in the Effects of the Action section.

Medford BLM retains discretion to halt and modify all projects, anywhere in the process, should new information regarding proposed and listed threatened or endangered species arise. Minimization of impacts will then, at the least, include an appropriate seasonal restriction; and could include clumping of retention trees around the nest trees, establishment of buffers, dropping the unit(s)/portions, or dropping the entire project.

The seasonal or daily restrictions listed below may be waived at the discretion of the decision maker if necessary to protect public safety (as in the case of emergency road repairs or hazard tree removal). Emergency consultation with the Service will then be initiated in such cases, where appropriate.

PDC for disturbance are intended to reduce disturbance to nesting spotted owls or marbled murrelets. For this consultation, potential disturbance could occur near either documented owl sites or projected owl sites. To estimate likely occupied habitat outside of known home ranges, nearest-neighbor distances and known spotted owl density estimates were utilized to “place” potential spotted owl occupied sites in suitable habitat. Marbled murrelets are difficult to locate. No murrelets have been documented on the District, but Medford remains within zone B. To ensure that activities that have the potential of disturbing marbled murrelets are reduced to not likely to adversely affect (NLAA) (or no effect (NE)), we (Medford BLM) will impose the PDC in or adjacent to marbled murrelet habitat.

Any of the following Mandatory PDC may be waived in a particular year if nesting or reproductive success surveys conducted according to the Service endorsed survey guidelines reveal that spotted owls are non-nesting or that no young are present that year. Waivers are only valid until March 1 of the following year. Previously known sites/ activity centers are assumed occupied until protocol surveys indicate otherwise.

Mandatory Project Design Criteria (spotted owls)

A. Activities (such as tree felling, yarding, road construction, hauling on roads not generally used by the public, prescribed fire, muffled blasting) that produce loud noises above ambient levels will not occur within specified distances (Table A-1) of any documented or projected owl site between March 1 and June 30 (or until two weeks after the fledging period) – unless protocol surveys have determined the activity center to be not occupied, non-nesting, or failed in their nesting attempt. The distances may be shortened if significant topographical breaks or blast blankets (or other devices) muffle sound traveling between the work location and nest sites.

B. The action agency has the option to extend the restricted season until September 30 during the year of harvest, based on site-specific knowledge (such as a late or recycle nesting attempt) if project would cause a nesting spotted owl to flush. (See disturbance distance).

C. Burning will not take place within 0.25 miles of spotted owl sites (documented or projected) between 1 March and 30 June (or until two weeks after the fledging period) unless substantial smoke will not drift into the nest stand.

D. To minimize the number of potential spotted owl nest trees used for used for instream structures, only the following sources will be used:

- (I) Trees already on the ground in areas where large woody material is adequate;
- (II) Trees lacking suitable nesting structure for spotted owls.

Table A-1. Mandatory Restriction Distance to Avoid Disturbance to Spotted Owl Sites.

Activity	Documented Owl Site	Projected Owl Site**
Heavy Equipment (including non-blasting quarry operations)	105 feet	761 feet
Chain saws	195 feet	851 feet
Impact pile driver, jackhammer, rock drill	195 feet	851 feet
Small helicopter or plane	360 feet*	1016 feet
Type 1 or Type 2 helicopter	0.25 mile*	0.512 mile
Blasting; 2 lbs of explosive or less	360 feet	1016 feet
Blasting; more than 2 lbs of explosives	1 mile	1.12 miles

* If below 1,500 feet above ground level

** Radius distances were increased by 656 feet (200 meters) around estimated nest sites to provide additional protection, since the exact location of owls is unknown in these areas.

Above-ambient noises further than these Table B-1 distances from spotted owls are expected to have either negligible effects or no effect to spotted owls. The types of reactions that spotted owls could have to noise that the Service considers to have a negligible impact, include flapping of wings, the turning of a head towards the noise, hiding, assuming a defensive stance, etc. (USDI FWS 2003).

Recommended Project Design Criteria--Murrelets

Restrict operations from March 1 through September 30 (through the extended breeding period) within disturbance distances (unless protocol surveys demonstrate non-nesting).

Table B-2. Mandatory Marbled Murrelet Project Design Criteria

Impacts	Species: Marbled Murrelet
Disturbance	(II) Mandatory: For Survey Areas A and B work activities (such as tree felling, yarding, road and other construction activities, hauling on roads not generally used by the public, muffled blasting) which produce noises above ambient levels will not occur within specified distances (see table below) of any occupied stand or unsurveyed suitable habitat between 1 April–5 August. For the period between August 6 to September 15, work activities will be confined to between 2 hours after sunrise to 2 hours before sunset. See Fuels management PDCs for direction regarding site preparation and prescribed fire.
Disturbance	(III) Mandatory: Clean up trash and garbage daily at all construction and logging sites. Keep food out of sight so as to not attract crows and ravens (predators on eggs or young murrelets).
Disturbance	(IV) Mandatory: Blasting (open air/unmuffled) – No blasting activities during the critical breeding period (April 1 to August 15) within 1.0 mile of occupied stands or unsurveyed suitable habitat. This distance may be shortened if significant topographical breaks or blast blankets (or other devices) muffle sound traveling between the blast and nest sites or less than 2 lbs of explosives are used. If so, then use described distance.
Disturbance	1) Recommended: Delay project implementation until after September 15, where possible
Disturbance	2) Recommended: Between April 1 to September 15, concentrate disturbance activities spatially and temporally as much as possible (e.g., get in and get out, in as small an area as possible; avoid spreading the impacts over time and space).
Disturbance	(IV) Mandatory: Blasting (open air/unmuffled)–No blasting activities April 1 to September 15, within 1.0 mile of occupied stands or unsurveyed suitable habitat. This distance may be shortened if significant topographical breaks or blast blankets (or other devices) muffle sound traveling between the blast and nest sites or less than 2 lbs of explosives are used. If so, then use described distance.
Disturbance	1) Recommended: Delay project implementation until after September 15, where possible
Disturbance	2) Recommended: Between April 1 to September 15, concentrate disturbance activities spatially and temporally as much as possible (e.g., get in and get out, in as small an area as possible; avoid spreading the impacts over time and space).
Restoration projects	Mandatory: To minimize the number of potential spotted owl or murrelet nest trees used for instream structures, only the following sources shall be used: (I) Trees already on the ground in areas where large woody material is adequate;

Impacts	Species: Marbled Murrelet
	(II) Trees lacking suitable nesting structure for spotted owls or murrelets or contributing to trees with suitable nesting structure, as determined by an action agency wildlife biologist.
Fuels	<p>Mandatory:</p> <p>(I) Burning would not take place within 0.25 mile of known occupied marbled murrelet sites, or unsurveyed marbled murrelet habitat between April 1 and August 6 unless substantial smoke will not drift into the occupied site or suitable habitat.</p> <p>(II) All broadcast and under-burning operations (except for residual “smokes”) will be completed in the period from two hours after sunrise to two hours before sunset.</p> <p>(IV) During helicopter operations, flights over suitable habitat will be restricted (helicopter should be a least 1,500 feet above ground level); if not possible, fly a minimum of 500 feet above suitable habitat (above canopy).</p>
Wildfire	<p>Mandatory:</p> <p>Whenever possible, protect known nest sites of any listed species from high intensity fire. Update Resource Information Book annually; incorporate new nests or sites as soon as possible.</p>
Wildfire	<p>Mandatory:</p> <p>(I) From April 1 to August 5, noise disturbance should be minimized inside occupied stands and within 0.25 mile of the edge of these stands. In order to accomplish this objective, minimize repeated aircraft flights that are less than 1,500 feet Above Ground Level (AGL). Also, minimize the use of fire line explosives within 1 air mile of occupied stands during the protection period.</p>
	<p>Light Hand Tactics or Minimize Impact Suppression Tactics (MIST) should receive consideration for use within the protection zones for northern spotted owls and murrelets.</p>
Quarries	<p>Mandatory:</p> <p>For any occupied stands or unsurveyed suitable habitat within 0.25 miles of the quarry operation, restrict operation of the quarry from April 1 to August 5. Agency biologists also have the discretion to modify the 0.25-mile zone depending on topography and the level of noise-what equipment will be present (crusher or dozer/ripper or only loading of existing stockpiled rock).</p> <p>Recommended:</p> <p>2) For active nest stands or unsurveyed suitable habitat within 0.25 mile of the quarry operation, restrict operation of the quarry from April 1 to September 15 (unless protocol surveys demonstrate non-nesting).</p>

