

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT
ASHLAND RESOURCE AREA

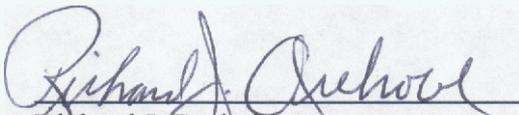
Supplemental Environmental Assessment

for

Shaded Fuelbreak Unit No. 4 of the Middle Thompson Timber Sale

EA No. OR-110

This Supplemental Environmental Assessment was prepared utilizing a systematic interdisciplinary approach integrating the natural and social sciences and the environmental design arts with planning and decision making.


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Date

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ASHLAND RESOURCE AREA
EA COVER SHEET

Project Name and Number: Middle Thompson Shaded Fuelbreak No. 4 OR-110-96-09S

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ASHLAND RESOURCE AREA
Middle Thompson Shaded Fuelbreak No. 4 OR-110-96-09S

TABLE OF CONTENTS

	Page
Chapter 1: Purpose of and Need for Action	
Background	1
Purpose and Need	2
Relationship to Statutes, Regulations, and other Plans	4
Decisions to be Made	5
Relevant Issues	5
Issues Considered but not Analyzed in Detail	6
Chapter 2: Alternatives	
No Action Alternative	7
Proposed Action Alternative	7
Alternatives Considered but Eliminated	8
Chapter 3: Affected Environment	10
General Description of Proposed Project Area	10
High Fire Hazard and Risk	11
Wildlife	12
Chapter 4: Environmental Consequences	14
High Fire Hazard and Risk	14
Wildlife	16
Chapter 5: List of Persons and Agencies Consulted	19
GLOSSARY	20
APPENDIX A: Regional Ecosystem Office Letter	21
APPENDIX B: Siskiyou Mountain Salamander Study Plan	22

Supplemental Environmental Assessment
for
Middle Thompson Shaded Fuelbreak No. 4

CHAPTER 1

BACKGROUND

This Supplemental Environmental Assessment (SEA) for the Middle Thompson Shaded Fuelbreak No. 4 on Shaded Fuelbreak Unit No. 4 of the Middle Thompson Timber Sale is required by the “STIPULATION FOR DISMISSAL” (CIVIL No. 99-3042-CO) between HEADWATERS (Plaintiff) and BUREAU OF LAND MANAGEMENT (defendant) signed August 1999. This Environmental Assessment supplements the 1996 Middle Thompson Creek Projects’ Environmental Assessment and the subsequent 1997 Amended Environmental Assessment (OR-110-96-09).

In August 1999, the BLM agreed to suspend logging operations in Shaded Fuelbreak Unit No. 4 of the Middle Thompson sale until the provisions listed in the “Stipulations for Dismissal” were met.

The “Stipulations for Dismissal” included the following:

- BLM shall not proceed with the publication of this supplemental EA or the logging of Shaded Fuelbreak Unit No. 4 unless the research proposal has been accepted by the Regional Ecosystem Office (REO) as a research exception to the standards and guidelines of the Northwest Forest Plan Record of Decision (page 3). (*In a letter dated March 22, 2000, REO stated that contingent upon a finding of no significant risk in the NEPA process, “the REO finds no reason to deny the request of a research exemption for study activities that are otherwise inconsistent with the SMS Protection Buffer Standards and Guidelines. See Appendix A.*)
- The BLM will “...prepare for public comment a full supplemental environmental assessment of the proposal to carry out the logging and research project on Shaded Fuelbreak Unit No. 4 of the Middle Thompson timber sale (page 3).
- “The Supplemental EA shall discuss and analyze the justification for Shaded Fuelbreak Unit No. 4 and the impacts of not following the protection measures for the Siskiyou mountain salamanders as defined on Page C-28 of the ROD (page 4).

PURPOSE AND NEED

The interagency *Applegate Adaptive Management Area (AMA) Ecosystem Health Assessment* classified the Middle Thompson Creek project area as having a high fire risk and fire hazard (page 48). This assessment recommends reducing fire risk and hazard at a broad scale, utilizing density management, prescribed fire, manual manipulation of live and dead vegetation, and shaded fuelbreaks (page 70). The *Middle Applegate Watershed Analysis* recommends, as a high priority, the construction of shaded fuelbreaks along main ridge lines in order to reduce the risk of loss from the occurrence of catastrophic wildfire (page 91).

Shaded fuelbreaks have several important functions in a landscape. In the Middle Thompson Creek project, shaded fuelbreaks are strategically located on ridge lines throughout the watershed. The construction of a shaded fuelbreak involves removing dense understory vegetation, commercially thinning the overstory, and leaving most of the larger overstory trees (average diameter of trees left is 24") for shade and habitat protection. The result is a stand with a significantly decreased fire hazard that serves as a relatively safe and efficient place for firefighters to conduct suppression operations. By providing firefighters with a safe base of operations, fuelbreaks increase the probability of successfully suppressing a wildfire. Fuelbreaks can also change the behavior of a wildfire when it enters the zone with reduced fuel levels.¹ In 1996, a discussion of the role of fuelbreaks at the 17th *Forest Vegetation Management Conference* concluded,

“There will always be a role for well-designed fuelbreak systems which provide options for managing entire landscapes, including wildfire buffers, anchor points for prescribed natural fire and management-ignited fire, and protection of special features (such as urban interface developments, seed orchards, or plantations).”²

The design and construction of a shaded fuelbreak system with as many contiguous sections as possible was an integral part of the Thompson Creek Project (Middle Thompson, Hinkle Gulch and Lower Thompson Timber Sales).

Shaded fuelbreaks, however, are not considered a stand-alone strategy in fuels reduction. They must be designed in the context of the surrounding landscape. Fuelbreaks should be viewed as a set of strategically located entries into the landscape that provide protection against fires while long-term, area-wide treatments are implemented.³ The primary fire management objective for

¹ Agee, J. et al. 2000. The use of Shaded Fuelbreaks in Landscape Fire Management. *Forest Ecology and Management*. 127: 55-66.

² Omi, P.N. 1996. The Role of Fuelbreaks. Proceedings, 17th Forest Vegetation Management Conference, Redding, California.

³ Agee, J. et al.

the Middle Thompson Creek project was to promote long-term resistance to stand replacement wildfires through the reduction of hazardous fuels. Achieving this objective required a landscape-level approach to fuels treatment. The highest priority was given to areas classified as moderate to high hazard that were either adjacent to private property or in the upper 1/3 of the slopes (Shaded Fuelbreak No. 4).

Three fuel management strategies were used in this project. The first strategy, density management, reduced the aerial component of fuels. The second strategy reduced ladder and surface fuels on commercial and non-commercial timber lands throughout the entire project area. The third strategy was the development of a shaded fuelbreak system along the major ridge lines delineating the watershed boundary. A watershed is most effectively compartmentalized through the establishment of contiguous areas where fuel hazard has been reduced. This approach helps reduce the potential size of a wildfire. Shaded Fuelbreak No. 4 is part of the shaded fuelbreak system designed for the eastern ridge line in the Middle Thompson Creek project. Fuelbreak No. 4 connects the Lower Thompson Creek fuelbreak system with the previously burned Ninemile Creek area (**See Image 1**).

During the design of the Middle Thompson Timber Sale, Ashland Resource Area scientists identified Siskiyou mountain salamander (SMS) habitat in, and adjacent to, proposed Shaded Fuelbreak No.4. According to the Standards and Guidelines of the Northwest Forest Plan Record of Decision (NWFP ROD), the following provisions apply:

- “All populations (SMS) must be protected by delineating an occupied site and avoiding disturbance of talus throughout the site...”
- “...a buffer of at least the height of one site-potential tree or 100 feet horizontal distance, whichever is greater, surrounding the site, must be retained around the outer periphery of known sites.”
- “Overstory trees must not be removed within the boundary of this buffer” (NWFP ROD, C-28).”

However, strict adherence to these standards and guidelines would further disrupt the integrity of the shaded fuelbreak system, which is designed to protect habitat by preventing and/or containing catastrophic wildfire.

The NWFP ROD emphasizes using AMAs, such as the Middle Applegate Watershed, for research into the role and effects of fire management on ecosystem functions (ROD D-8). The ROD states:

“The Adaptive Management Areas have scientific and technical innovation and

experimentation as objectives. The guiding principle is to allow freedom in forest management and approaches to encourage innovation in achieving the goals of these standards and guidelines” (ROD D-3).

The BLM proposes to study the impacts of fuelbreak construction on SMS abundance by completing Shaded Fuelbreak No. 4 of the Middle Thompson Timber Sale. The proposed study would be conducted under a Research Exception to the Northwest Forest Plan’s Standards and Guidelines, subject to approval by the Regional Ecosystem Office. The results of this study would provide the BLM with a better understanding of the impact of fuelbreak construction on SMS populations. The study would also document changes in short and long term microclimate and vegetation structure in the treated area. The BLM would use this information when planning future stand treatments.

The objectives of this project are to:

- Promote long term resistance of the area to stand replacement wildfires by reducing fuel hazard through the completion of a planned system of shaded fuelbreaks in the Thompson Creek Watershed.
- Learn how to incorporate mitigating measures for the SMS in the design of shaded fuelbreaks and other stand treatments in a way that minimizes the impact on SMS populations, thus reconciling the sometimes conflicting NWFP ROD’s objectives of reducing fire risk and protecting SMS populations. The resulting knowledge will be used to design management activities that protect SMS habitat in the long term.

RELATIONSHIP TO STATUTES, REGULATIONS, AND OTHER PLANS

The proposed action and alternatives are in conformance with the direction given for the management of public lands in the Medford District by the Oregon and California Lands Act of 1937 (O&C Act) and the Federal Land Policy and Management Act of 1976 (FLPMA) alternatives. This document supplements the Middle Thompson EA (OR 110-96-09).

DECISIONS TO BE MADE ON THIS ANALYSIS

The Ashland Resource Area Field Manager must decide:

- Whether or not the impacts of the proposed action are significant to the human environment beyond those impacts addressed in previous NEPA documents. (If the impacts are not significant, then a Finding of No Significant Impact (FONSI) can be issued and a decision can be implemented. If any impacts are determined to be significant to the human environment, then an Environmental Impact Statement must be prepared before the manager makes a decision.)
- Whether to implement the proposed action alternative or defer to the no action alternative.

RELEVANT ISSUES

The original Middle Thompson EA previously identified and analyzed many relevant issues that apply to this SEA. During the scoping process for this SEA, the Ashland Resource Area mailed a letter to all individuals and organizations on the Middle Thompson mailing list requesting the identification of issues relevant to this EA. Issues relevant to the analysis in this document are listed below:

- The effectiveness of Shaded Fuelbreak No. 4 as a tool to provide firefighters a safe and efficient place to conduct wildfire suppression operations and increase the probability of successfully attacking a wildfire.
- The impact of not following the SMS protection measures as outlined in the NWFP ROD, including the removal of overstory trees within occupied salamander habitat and habitat buffers.
- The impact to SMS habitat adjacent to the project.
- The practicality of designing a shaded fuelbreak with measures that mitigate the impact to the SMS population and maintain the integrity of the project.
- The consequences of not taking proactive measures to protect the landscape from wildfire.
- The importance of Siskiyou mountain salamander habitat in the Applegate Adaptive Management Area to the persistence of the species.

ISSUES CONSIDERED BUT NOT ANALYZED IN DETAIL

The following issues were identified during the scoping process, but were not considered relevant to this analysis. These issues include those that have already been analyzed in a previous and related NEPA document (i.e. The Middle Thompson EA (OR 110-96-09)), or issues that go beyond the scope of this EA and are not relevant to the decision maker.

- The economic impact to the purchaser of the sale. *This is a contractual issue and is covered in the contract between BLM and the purchaser.*
- The effects of prescribed burning on the health of local residents. *Effects on air quality are analyzed in the Medford District's Resource Management Plan and programmatic EA for prescribed burning.*
- The effects of prescribed burning on survey and manage species such as molluscs. *There are no known survey and manage mollusc sites in Shaded Fuelbreak No. 4. Surveys were not required at the time of the Middle Thompson Amended Decision.*
- The potential for controlled prescribed fire to become uncontrollable. *Prescribed burning was analyzed in the original Middle Thompson EA.*
- *The effect of the proposed project on wildlife travel corridors.* The project design features outlined in the analysis of this project would help mitigate the impacts to wildlife species that use this ridge for travel.

CHAPTER 2 Alternatives

INTRODUCTION

This chapter describes the no action and proposed action alternatives. This chapter also outlines specific project mitigation features that are an essential part of the project design.

The Ashland Resource Area has developed a proposed action designed to meet the project objectives outlined in the Middle Applegate Watershed Analysis (pages 91-93) and in accordance with the best management practices as outlined in the Medford District RMP (pages 149-177).

NO ACTION ALTERNATIVE

The no action alternative would reverse the Amended Decision Record of the Middle Thompson EA (1/31/97). Under this alternative, the BLM would not implement Shaded Fuelbreak No.4 and no treatment would take place in the area. Shaded Fuelbreak No.4 was originally purchased by Boise Cascade Corporation as part of the Middle Thompson timber sale. Implementation of this alternative would require BLM to buy back the sold timber from Boise Cascade at current market value.

PROPOSED ACTION ALTERNATIVE

This alternative would implement the Amended Decision Record for the Middle Thompson Creek EA (OR110-96-09), which added Shaded Fuelbreak No. 4 to the Middle Thompson timber sale. Shaded Fuelbreak No. 4 transects Siskiyou mountain salamander (SMS) habitat. The proposed action would be implemented in conjunction with the SMS Study (see Appendix B). The study would investigate the effects of a shaded fuelbreak on the SMS population.

This alternative includes Project Design Features (PDFs) developed to mitigate or reduce anticipated adverse environmental impacts that might result from implementation of the proposed action (**See Image 2**). All PDFs listed in the original Middle Thompson EA (with the exception of protection buffers for SMS) would apply. The Amended EA of Middle Thompson Creek included the following PDFs. The original text appears in bold. Additional clarification is provided in italics.

- **“A higher level of canopy will be retained in the portions of the fuelbreak transecting the habitat areas than prescribed elsewhere. An average of 31 of the larger conifers will be retained rather than the otherwise 16 to 25.”**
- **“...very little potential salamander habitat is within the shaded fuelbreak and the quality of the habitat varies significantly. Thus, in areas that were identified as most likely suitable, additional large trees will be retained.”** *The use of the word potential is*

incorrect. All suitable salamander habitat in the shaded fuelbreak is assumed to be occupied as per the protocol definition of “occupied.” The areas referred to as “most likely suitable” are those areas with downslope of prominent rocky outcroppings where rock has fallen away from the outcrop. These are the areas where additional large trees would be retained.

- **“Hardwood species greater than 15 ft. in height will be retained to increase conifer canopy shade.”** *The retention of hardwood species greater than 15 ft. in height would increase the total amount of canopy shade.*
- **“The residual canopy closure is expected to exceed 40% throughout the potential habitat area fuelbreak and higher in areas where additional trees are reserved.”** *Canopy closure throughout the entire shaded fuelbreak will not fall below 40%, and would be higher in areas where additional trees are reserved.*
- **“Harvesting within the fuelbreaks will be limited to June 1 through September 30, when the salamanders have retreated deep into the talus surface rock substrate.”**
- **“Potential habitat areas will be yarded by helicopter.”** *Yarding is the removal of commercial timber from the project site. The entire project area would be yarded by helicopter.*
- **“Additional coarse wood will be retained on talus.”** *This PDF will not be implemented. Although many salamander species require coarse woody debris, the SMS does not. Retention of coarse woody debris might negatively impact the population by increasing the fire hazard. No existing coarse woody debris will be removed from the site.*
- **“No burning of residual material will occur in the talus areas.”** *In this case, talus refers only to prominent rocky outcroppings. No handpiling of slash or burning of hand piles would occur in these areas. Post-harvest prescribed burning (handpiles-only) in suitable habitat would occur only when the agency biologist determines that no salamanders are active on the surface. Burning of handpiles would preferably take place mid-winter. The project biologist and lead researcher will identify no-burn sites in order to protect known animal locations.*
- **“Numerous additional mitigating measures will also be implemented.”** *These measures include the following: In areas of small diameter pole stands, more trees would be reserved to maintain the desired 40 percent canopy closure. All unmerchantable trees greater than 16 inches in diameter would be reserved. Logging slash between 2 and 8*

inches in diameter and greater than 2 feet in length would be hand piled.

ALTERNATIVES CONSIDERED BUT ELIMINATED

Apply the same prescription used for Shaded Fuelbreaks 1, 2, and 3 in the Middle Thompson Timber sale to Shaded Fuelbreak No. 4. The prescription for Shaded Fuelbreaks 1, 2, and 3 left 16 - 25 trees per acre. This alternative would not meet the objective of reducing potential impacts to the SMS population. It was eliminated from further analysis.

No Commercial Treatment. The ID Team considered an alternative that would have only treated the area with a non-commercial understory treatment. This alternative was eliminated because it would not meet the purpose and need of the proposed action.

CHAPTER 3 Affected Environment

INTRODUCTION

This chapter describes the present condition of the environment within the proposed project area that would be affected by the alternatives. This information provides a general baseline for determining the effects of the alternatives and has been organized around the relevant issues identified during the scoping process. No attempt has been made to describe every detail of every resource within the proposed project area. Enough detail has been given to determine if any of the alternatives would cause significant impacts to the human environment as defined in 40 CFR 1508.27. Surveys were completed for cultural resources, threatened and endangered plants and animals, and special status plants at the time of the original NEPA analysis. All required survey and manage protocols have been completed.

GENERAL DESCRIPTION OF THE PROPOSED PROJECT AREA

The proposed fuelbreak lies along and straddles the top and upper flank of a ridge that runs SW to NE, and climbs to the top of Tallowbox Mountain at its NE end. The northwest face of the ridge is dissected by the upper reaches of several draws which run generally west. These draws have coniferous stands on the cooler north facing aspects and draw bottoms and mostly scrub oak, grass and brush on their south facing aspects. In some parts of the proposed fuelbreak, the coniferous stands have an understory of canyon live oak. The entire ridge is rocky in general and classified as a transient snow zone in the Middle Applegate Watershed Analysis (p. 11, Map 6).

Forest stand ages range from 80 to 167 years, a result of the many historic forest fires that modified forest stand structure and species composition in this watershed. Douglas-fir is the predominant conifer species with scattered white fir in the overstory. The presence of white fir is attributed to the absence of recent fires. Canyon live oak is the predominant hardwood in the understory with smaller amounts of Pacific madrone and California black oak.

The soil series identified in the proposed project area is Caris-Offenbacher complex. These Caris and Offenbacher soils series are intricately intermingled across the landscape. Most of the time these soils have surface textures of gravelly loam, but in much of the proposed project area, stones overlay the soil surface forming talus. Not all of the talus is easily identified, as it is covered with a layer of needles, leaves, and duff. For the purposes of this project, talus is defined as:

Rock fragments of any size or shape, commonly coarse and angular, derived from and lying at the base of a cliff or steep, rock slope. The accumulated mass of such loose, broken rock formed chiefly by falling, rolling, or sliding (Jackson County Soil Survey, SCS, August 1993).

A description of the land areas and resources in the Ashland Resource Area is presented in Chapter 3 of the Final Medford District Resource Management Plan/Environmental Impact Statement (RMP 1995). Also, a detailed description of the Middle Applegate watershed is described in the Middle Applegate Watershed Analysis, completed in August 1995. This document is available at the Ashland Resource Area, Medford District BLM Office and on the Medford BLM web site at <<http://www.or.blm.gov/Medford/Planning/Medwatershed.html>>.

HIGH FIRE HAZARD AND RISK

Role of Fire and Fire History

Historically, fire played an important role as a key natural disturbance in shaping the landscape within the Applegate Adaptive Management Area (AMA). Before the advent of organized fire suppression, natural fires in the Thompson Creek drainage can be classified as a low-severity fire regime. A low-severity fire regime is characterized by frequent fires of low intensity and short in duration. They are generally small in size and relatively easy to extinguish. This type of fire regime kept the fuel (understory vegetation, woody debris, downed trees) levels light, minimizing the mortality to the overstory when fires occurred.

Fire suppression over the past 100 years has prevented the periodic removal of dead and down fuel and the understory vegetation by wildfire. The area of the proposed shaded Fuelbreak has a dense overstory with ladder fuels in portions of the stand. This creates optimal conditions for the occurrence of crown fires which could result in large stand replacement fires. The increase in fuel levels, along with the development of multi-layered, overstocked stands, has increased the probability of higher intensity stand replacement fires.



Shaded Fuelbreak No. 4 - Existing Conditions

The fire hazard analysis completed for the Middle Thompson Creek project area classified the proposed Shaded Fuelbreak No. 4 and the areas adjacent to it as a moderate to high fire hazard. The existing fuel profile in this area represents a moderate to high resistance to fire control. Fuels reduction work within and adjacent to this habitat would help increase the long-term resistance to stand replacement wildfires within the SMS habitat.

WILDLIFE

SPECIAL STATUS SPECIES

Special Status Species (SSS) include those species that are listed as threatened or endangered, are proposed for listing as threatened or endangered, or are a candidate for listing as threatened or endangered by the U.S. Fish and Wildlife Service, under the auspices of the Endangered Species Act (ESA) of 1973, as amended. Also included are those species listed by the BLM as Sensitive and Assessment species. For this supplemental document, those species identified in the *Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl (SEIS) Record of Decision (ROD)* for protection by Protection Buffers and Survey and Manage strategies will also be addressed as SSS. Range-wide inventory and monitoring is needed to better assess habitat needs and population status of many of these species; particularly those that are not presently listed under the auspices of the ESA. Special management may be necessary at the local level to ensure long-term population viability.

Special Status Species in the Proposed Project Area

Siskiyou Mountain Salamander (*Plethodon stormii*)

The Siskiyou mountain salamander (SMS) is presently known to exist in Jackson County, Oregon and northern Siskiyou County, California. In Oregon, most of the reported populations are within the upper Applegate River drainage. The SMS inhabits portions of the proposed fuelbreak site. Suitable habitat for this species is characterized by relatively moist ~~talus or~~ surface rock that is somewhat stabilized and often has a moss covering. Interstitial spaces between the rock pieces allow the salamanders to move up and down within the ~~talus patch~~ **surface rock**. In hot, dry weather the salamanders move away from the surface and go deeper into the ~~talus bed~~ **substrate** in order to conserve water. This species has no lungs; they breathe through their skin. This type of respiration requires that the skin stay moist. An intact, thick, canopy helps maintain moisture in the ~~talus~~ **surface rock and substrate**.

~~Suitable SMS habitat occurs in the project area where surface rock and conifer stands coexist.~~ **The survey protocol for the Siskiyou mountain salamander (Version 3.0) defines suitable habitat as “rock outcrops, forested rocky soils, rock on rock substrates,” and notes that “exposure, vegetation, slope, and aspect may vary (Clayton et al. 1999).”** Approximately 50 acres of the 93 acre project area is considered suitable habitat for this species. The suitable SMS habitat within the proposed fuelbreak is contiguous with several large blocks of occupied habitat down slope and to the west. Combined, these blocks total over 300 acres. The proposed fuelbreak intersects

only a small portion of these blocks. Following the interagency survey protocol for this species, wildlife biologists determined that all of the suitable habitat in the proposed fuelbreak is occupied habitat.

Pileated Woodpecker (*Dryocopus pileatus*)

The pileated woodpecker is a Bureau assessment species found throughout SW Oregon. Primary habitat is mature/old-growth coniferous forest in the Mixed Conifer and White Fir zones. This species is known to occur in the proposed fuelbreak and may be nesting there.

Red Tree Vole (*Arborimus longicaudus*)

The red tree vole (RTV) is listed as a Survey and Manage strategy two species in the NWFP. This tree- living “mouse” is very closely associated with Douglas-fir, the needles of which it consumes and uses to make nests in trees. No surveys were conducted in the proposed fuelbreak at the time of the original timber sale. Interim guidance and protocol did not require any surveys. In August 1999, Judge William L. Dwyer ruled that the interim guidance was not in compliance with the NWFP. The BLM subsequently conducted red tree vole surveys in Shaded Fuelbreak No. 4 in June 2000. The surveys identified 2 inactive RTV nest trees in the proposed project area. **Surveys also identified three active red tree vole nests.**

Threatened and Endangered Species

Northern Spotted Owl (*Strix occidentalis caurina*)

The northern spotted owl is listed as a threatened species under the auspices of the ESA. The conifer stands in the proposed fuelbreak are classified as suitable spotted owl habitat, which means that they are deemed suitable for spotted owl roosting, foraging, and dispersal. These stands may also be suitable for nesting, although their position high on a ridge would make them unusual choices for nest locations. There are four known spotted owl sites within 1.3 miles of the proposed fuelbreak.

CHAPTER 4 Environmental Consequences

INTRODUCTION

This chapter forms the scientific and analytic basis for comparison of alternatives. Discussions include the environmental impacts of the alternatives and any adverse environmental effects which cannot be avoided should the action alternative be implemented. It also identifies and analyzes mitigation measures designed to avoid or reduce projected impacts. The impact analysis addresses direct, indirect, and cumulative impacts on all affected resources of the human environment.

HIGH FIRE HAZARD AND RISK - Direct, Indirect and Cumulative Effects

No Action Alternative

In the development of the Middle Thompson Creek project, the area of Shaded Fuelbreak No. 4 was identified as a high priority for treatment due to the moderate to high hazard fuels and the area's location in the upper 1/3 of the slope. It is difficult to analyze the potential consequences of excluding Shaded Fuelbreak No. 4 from the planned system of shaded fuelbreaks and other fuels treatment in the Thompson Creek Watershed. Computer models simulate fire intensity under differing fuel model scenarios at a large, watershed scale, and would not be able to effectively analyze the impact of changing the fuel profiles in a small area such as Fuelbreak No. 4. However, it is important to note that effectiveness of fuel hazard reduction throughout a watershed increases as more landscape area is treated. The establishment of contiguous areas with reduced fuel hazard increases the ability of firefighters to contain and suppress a wildfire. The exclusion of Shaded Fuelbreak No. 4 would leave an additional gap in the planned system of fuelbreaks and other fuel hazard reduction strategies for this portion of the sub-watershed, decreasing the ability of firefighters to suppress and contain a wildfire.

The exclusion of fuels treatment in this area would result in no change to the moderate to high fuel hazard. With continued absence of fire, fuel hazard levels are expected to increase and the area would continue to have a high resistance to fire control in the event of a wildfire. In the event of a wildfire within this area, it would be unsafe to deploy fire suppression forces, thereby increasing the probability of catastrophic damage such as a stand replacement fire.

Under the no-action alternative, the benefits that fuelbreaks provide would also be lost in this area. These benefits include reducing the severity of wildfires within treated areas, providing broad zones for firefighters to conduct suppression operations with greater safety and efficiency, breaking up the continuity of hazardous fuels across the landscape, and providing anchor points to facilitate subsequent prescribed burning. The fire management objective of ensuring long-term resistance to stand replacement wildfires within the salamander habitat would not occur under this alternative.

Proposed Action

Shaded Fuelbreak No. 4 would add an additional 1.6 miles of fuel break along the eastern watershed boundary of the shaded fuelbreak system. The construction of this fuelbreak could increase the ability of firefighters to contain and suppress a wildfire in the Middle Thompson sub-watershed.

Shaded Fuelbreak No. 4 would be the initial entry for fuels management activities within this area of the Middle Thompson Creek sub-watershed. As previously stated, fuelbreaks are not stand alone measures. Increasing the number of acres treated for fuels reduction across a landscape decreases the potential of severe damage from wildfires. Shaded Fuelbreak No. 4 is envisioned as one step toward reducing fuels in the sub-watershed. Fuels downslope from the salamander habitat have been or are currently being treated. Fuels adjacent to the proposed project area on the Star Gulch side will be analyzed for treatment in a future Environmental Assessment. There are currently no plans to treat the fuels immediately adjacent to Shaded Fuelbreak No. 4 due to the presence of salamander habitat. Treatment of adjacent areas in future projects would contribute to the effectiveness of this fuelbreak and would help increase the long-term resistance to stand replacement wildfires within the SMS habitat.

The design criteria for Shaded Fuelbreak No. 4 differs from the other fuelbreaks in the Middle Thompson Creek project due to concerns about SMS and their habitat. However, there are no absolute standards for the width of a fuelbreak or fuel treatments within a fuelbreak. In cases where canopy closure exceeds 40%, as in Shaded Fuelbreak No. 4, surface fuel reduction and understory vegetation clearing should take place over wider areas beyond the boundaries of Shaded Fuel Break No. 4. Future projects would be designed to accomplish this objective.

The construction of this fuelbreak would achieve the following objectives:

- Reduce the severity of wildfires within treated areas.
- Provide broad zones where firefighters can conduct safer and more efficient suppression operations.
- Disrupt the continuity of hazardous fuels across a landscape.
- Provide anchor points to facilitate subsequent prescribed burning.

WILDLIFE - Direct, Indirect and Cumulative Effects

The following section describes the environmental consequences to wildlife of the action and no action alternatives.

No Action Alternative

This alternative would have no immediate effect on the special status species that either occur, or are suspected to occur in the proposed project area. However, fuel accumulation in the area would continue. This fuel buildup could facilitate stand replacement type wildfires. In the event of a stand replacement fire in the project area, many acres of suitable habitat for some or all of these species could be destroyed. The effectiveness of the proposed fuelbreak and the likelihood of a stand replacement event in the area are addressed in the fire/fuel sections of this document.

Proposed Action Alternative

Special Status Species in the Proposed Project Area

Siskiyou Mountain Salamander (*Plethodon stormii*)

There are approximately 50 acres of occupied SMS habitat in the proposed fuelbreak. It is anticipated that fuelbreak construction would reduce salamander numbers within the fuelbreak. The proposed research project would analyze the effects of fuelbreak construction on this species and its habitat.

The Northwest Forest Plan Record of Decision (NWFP ROD) provides specific guidance for the management of this species and occupied habitat. The ROD standards and guidelines require delineation of occupied SMS habitat to avoid disturbance of ~~talus~~ **surface rock**. They also require that occupied habitat be buffered and prohibit the removal of overstory trees within this buffer. The removal of overstory trees is prohibited because canopy closure helps determine the microclimate in and around the rock habitat. Overstory trees provide shade and slow ground level winds. Wind and sun are drying agents, and reduction of canopy closure results in microclimatic changes that are not favorable to the species.

The NWFP ROD also provides for research exceptions to its species protection standards and guidelines. This species is the subject of a research study that would analyze the effects of fuelbreak construction on this species and its habitat. (See Chapter 1 of this document for more information on research exceptions.) Under this alternative, the protection measures recommended by the NWFP ROD would not be implemented. Not implementing ROD protection measures will most likely negatively effect salamanders in the proposed project area and in occupied habitat within several hundred feet. However, several project design features would be incorporated into the action alternative in order to reduce impacts to salamanders in the proposed fuelbreak. These measures would provide a greater degree of canopy closure (shading) than would generally occur in a shaded fuelbreak, and would also reduce disturbance to ~~talus~~ **surface rock**. Logging operations would also be restricted on a seasonal basis to avoid direct

impacts as much as possible. Following is a discussion of the proposed project design features.

- The project design features include the retention of all hardwoods greater than 15 feet tall. Some of these hardwoods may be inadvertently knocked down or incur crown damage as a result of timber falling and yarding operations. Overall, this measure will provide for increased canopy closure and help reduce impacts to the SMS microclimate.
- Additional conifer trees were marked for retention around patches of the best ~~talus~~ habitat. This measure was undertaken to reduce the possibility of damage from timber falling and yarding to the best habitat. This measure would also help avoid logging damage to any hardwoods that may be shading the best pieces of habitat. This measure would also provide a limited amount of conifer canopy closure retention (shading) over the best habitat patches. This shading would be in addition to the increased shading provided by other aspects of Shaded Fuelbreak No. 4.
- Avoidance of piling and burning slash on top of the better ~~talus~~ **suitable** habitat would reduce heat damage to the habitat.
- Yarding the timber by helicopter instead of by ground based or cable systems would greatly reduce the physical disturbance of the occupied habitat and would reduce the yarding damage to the crowns of residual conifer and hardwood trees as well.
- Previously constructed fuelbreaks on the Thompson Creek drainage reduced canopy closure to 20 or 30 percent. Maintaining a 40 percent canopy closure in Shaded Fuelbreak No. 4 would help reduce the impact to the SMS population in the proposed project area. However, it is expected that residual canopy closure levels below 65-70 percent would still result in reduced SMS numbers on site.
- Restricting harvest operations to the period from June 1 to Sept. 30 would help to reduce direct physical disturbance/crushing impacts to individual salamanders as they are usually deep down in the ~~talus~~ **surface rock** habitat during the hot summer months.

The project design features of the action alternative increase the likelihood of retaining SMSs on site after the construction of Shaded Fuelbreak No. 4. The proposed research project will help evaluate the effectiveness of these measures. In the event that the proposed project completely extirpates this species from the proposed fuelbreak, the effects on the SMS population range-wide would be minimal. Since the NWFP standards and guidelines for this species were written, surveys for the species have approximately tripled the number of known sites, and doubled the

known geographic range (Dave Clayton, personal communication⁴).

Research has shown that microclimatic variables such as wind speed, temperature and relative humidity are affected by edges. For example, in the summer, the portions of forest stands next to open habitats are usually warmer, breezier, and dryer than the interior portions of those stands. Generally, the more distinct the edge between two habitats, the deeper the edge effect on microclimate penetrates into the adjacent forest stand. Microclimatic and habitat effects would extend some distance (possibly several hundred feet) into the occupied habitat immediately west of the proposed fuelbreak. In this case, there will be a fairly distinct edge as canopy closure will be reduced from approximately 84 percent to approximately 40 percent. The impact to occupied SMS habitat adjacent to the proposed fuelbreak would be studied under the proposed study.

The proposed fuelbreak may serve to protect the large blocks of occupied habitat from wildfire under some wildfire situations. See the fuels/fire section of this document for a discussion of the wildfire threat to the large habitat blocks under this alternative.

Pileated Woodpecker (*Dryocopus pileatus*)

Potential nest sites and foraging habitat (large snags) would be reduced on approximately 35-45 acres.

Red Tree Vole (*Arborimus longicaudus*)

Approximately 35-45 acres of suitable habitat would be degraded or lost. The two inactive RTV nests and three active nests will be protected in accordance with guidance provided by the BLM Oregon State Office (OSO). the appropriate protection buffers, as per the latest RTV Management Recommendations. Approximately 4.5 acres were eliminated from the proposed project area.

Threatened and Endangered Species

Northern Spotted Owl (*Strix occidentalis caurina*)

Approximately 35-45 acres of suitable spotted owl habitat would be lost or degraded immediately and would exist in an unsuitable condition for the foreseeable future. This habitat occurs within the provincial home range radius (1.3 miles) of four known spotted owl sites. The loss of this suitable habitat within the provincial home range radius constitutes Incidental Take of these owl sites. Incidental Take and the loss of suitable spotted owl habitat as a result of this proposed project requires consultation with the U.S. Fish and Wildlife Service (USFWS). This consultation occurred as part of the Medford District programmatic consultation for fiscal year 1997 projects. A Biological Opinion addressing this consultation was issued by the USFWS on

⁴Dave Clayton has ten years of experience as wildlife biologist for the Applegate Ranger District and is on the Northwest Forest Plan's taxonomic team for amphibians.

Oct. 18 1996. The USFWS concluded that the projects covered in the consultation were not likely to jeopardize the survival of the spotted owl as a species. The stands affected by the project may still function as dispersal habitat for this species after treatment, depending on the post-treatment canopy closure.

CHAPTER 5:
List of Agencies and Persons Consulted

SUMMARY OF PUBLIC INVOLVEMENT

During the scoping period, a letter explaining the project and requesting issue identification was mailed to the Middle Thompson Creek Watershed Analysis mailing list and other interested parties. Upon completion of the EA, a legal notification was placed in the Medford Mail Tribune offering a 30-day public review and comment period. A public meeting will be held on July 12 from 5:30 to 7:30 at the Medford District Building located at 3040 Biddle Road. For additional information, please contact Bill Yocum or Lorie List at 541-618-2384.

DISTRIBUTION LIST AND AVAILABILITY ON THE INTERNET

The SEA was distributed to individuals on our updated mailing list from the scoping process. It was also sent to the following agencies and organizations.

Applegate River Watershed Council
Association of O&C Counties
Audubon Society
Boise Cascade Corporation
Department of State Forestry
Headwaters
Jackson County Commissioners
Klamath Siskiyou Wildlands Center
Oregon Natural Resources Council
Oregon Department of Fish and Wildlife
Pacific Rivers Council
Rogue Group of Sierra Club
Southern Oregon Timber Industry Association
Southern Oregon University
USFS - Star Ranger District

TRIBES

Cow Creek Band of Umpqua Indians
Confederated Tribes of Grand Ronde
Confederated Tribes of Siletz
Klamath Tribe
Quartz Valley Indian Reservation (Shasta Tribe)
Shasta Nation
Confederated Bands [Shasta]
Shasta Upper Klamath Indians
Confederated Tribes of the Rogue-Table Rock and Associated Tribes

GLOSSARY

Acronyms

EA - Environmental Assessment
ESA - Endangered Species Act
NEPA - National Environmental Policy Act
NWFP ROD - Northwest Forest Plan Record of Decision
PDF - Project Design Feature
RMP - Resource Management Plan
RTV - Red tree vole
SEA - Supplemental Environmental Assessment
SMS - Siskiyou mountain salamander

Aerial Fuels - All live and dead vegetation located in the forest canopy or above the surface fuels. Aerial fuels include tree branches and crowns, snags, moss and high brush.

Fire Risk - Fire risk is defined as the chance of various ignition sources causing a fire, threatening valuable resources, property and life.

Fire Hazard - Fire hazard is the assessment of vegetation by the kind, arrangement, volume, condition, and location that forms a special threat of ignition, spread, and difficulty of control.

Ladder Fuels - Vegetation which provides vertical continuity between the forest floor and forest canopy. Fire is able to carry from surface fuels by convection into the crowns with relative ease.

Occupied habitat - Habitat that has been determined to be occupied by the species in question. This is usually a subset of the suitable habitat present in an analysis area.

Suitable habitat - Habitat that has been identified as being capable of supporting the species in question⁵. This determination is based on qualities of the habitat such as vegetation, aspect, soil characteristics, etc. and is within the known or suspected range of the species in question. Suitable habitat may or may not be occupied or used by the species in question.

Surface Fuels - All materials lying on, or immediately above the ground, including needles or leaves, duff, grass, small dead wood, downed logs, stumps, large limbs, low brush and small trees.

⁵ Suitable habitat is defined by the Survey Protocol for the Siskiyou mountain salamander Version 3.0 (Clayton et. al., 1999).

APPENDIX A: Regional Ecosystem Office Letter

APPENDIX B: Siskiyou Mountain Salamander Study Plan