



United States Department of the Interior
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT OFFICE
ASHLAND RESOURCE AREA
3040 Biddle Road
Medford, Oregon 97504



DECISION RECORD
for the
SOUTH FORK LITTLE BUTTE
FOREST MANAGEMENT PROJECT
(DOI-BLM-OR-M060-2015-0001-EA)

INTRODUCTION

This document describes my decision, and reasons for my decision, regarding the selection of a course of action to be implemented for the South Fork Little Butte Forest Management Project. The Medford District Bureau of Land Management (BLM), Ashland Resource Area, has completed the environmental analysis of the South Fork Little Butte Forest Management proposal, which is documented in the *South Fork Little Butte Forest Management Project Environmental Assessment* (DOI-BLM-OR-M060-2015-0001-EA) (EA). The South Fork Little Butte Forest Management Project EA was issued for a 30-day public review on July 3, 2015.

BACKGROUND

The South Fork Little Butte Forest Management Project EA documented the analysis of BLM's proposal to implement forest management on 2,488 acres of BLM-administered land within the South Fork Little Butte Watershed. Project activities analyzed under the EA include commercial timber harvest, non-commercial treatments for understory thinning and/or fuels reduction, and road management (road maintenance, road renovation, temporary and permanent road construction, and road decommissioning). The South Fork Little Butte Forest Management Project is located on lands administered by the Medford District BLM lands in the Lower and Middle South Fork Little Butte Creek sub-watersheds of the Little Butte fifth-field watershed. The Public Land Survey System (PLSS) description of the South Fork Little Butte Project is T. 37 S., R. 02 E., Sections 5, 11, 14, 15, 17, 20-23, 25, 27, 33, and 35; T. 37 S., R. 03 E., Sections 17-20 and 29-32; T. 38 S., R. 02 E., Sections 1, 3, and 11; and T. 38 S., R. 03 E., Sections 5, 6, 11, 17, 19-23, 27, and 29; Willamette Meridian, in Jackson County, Oregon.

THE DECISION

It is my decision to authorize the implementation Alternative 2 as described in the South Fork Little Butte Forest Management Project EA (pp. 2-7 to 2-18 and Appendix A-1 to A-6) except for commercial harvest Units 27-2, 27-4, 29-1, 17-7, and 17-8 and non-commercial treatment Units 21-8, 27-2, and 33-17. A separate decision on these units may be forthcoming following completion of fall fungi surveys.

In summary, this Decision authorizes the following actions:

The implementation of timber harvest on approximately 1,600¹ acres on Matrix Land Use Allocation using a variety of silvicultural prescriptions and harvest methods (ground-based, cable, and helicopter) as described in the EA (2-16 to 2-30 and Appendix A-1 to A-6).

The implementation of non-commercial treatments for thinning understories and/or fuels reduction (EA, p. 2-29) on 1,362² acres; 695 acres within commercial units¹ and 667 acres of non-commercial only.

Approximately 3.04 miles of temporary road construction and 0.8 mile of permanent road construction to facilitate access to timber harvest units. The temporary roads will be decommissioned after use (EA p. 2-15 to 2-16).

The use of fourteen (14) existing helicopter landings, use and construction of twelve (12) new helicopter landings; helicopter landings on BLM administered lands that are not rocked or part of an existing quarry will be decommissioned and decompacted and coarse wood, boulders, and slash placed to effectively prevent vehicular use of these areas following completion of timber harvest activities (EA p. 2-34).

The implementation of eleven (11) designated skid trails (70 to 540 feet in length) outside of existing units and as described in the EA (p. 2-8, Maps 2-1 to 2-5) will facilitate access to harvest units.

About 122.28 miles of existing roads will be used as haul routes and maintained, improved, or renovated as described in the EA (p. 2-14 and Appendix A-6 to A-10) to meet BLM standards.

About 4.05 miles of existing roads will be fully decommissioned and 7.27 miles will be placed in long-term closure status as described in the EA.

All Project Design Features (PDFs) and Best Management Practices (BMPs) as described in the EA (p. 2-30 through 2-44) are incorporated into this decision.

¹ Commercial Units 27-2 (46 acres), 27-4 (14 acres), 29-1 (8 acres), 17-7 (4 acres) and 17-8 (4 acres) are not authorized by this Decision and are pending fungi survey results; once surveys are completed a separate Decision Record may be issued to authorize treatments in these units.

² Non-commercial treatments in Units 21-8 (110 acres), 27-2 (46 acres), and 33-17 (35 acres) are not authorized by this Decision and are pending fungi survey results; once surveys are completed a separate Decision Record may be issued to authorize treatments in these units.

DECISION RATIONALE

My decision to authorize the implementation of Alternative 2 as described in the South Fork Little Butte Forest Management Project EA, and above, is based on consideration and evaluation of how well the purpose and need (EA, p. 1-3 to 1-6) are met, evaluation of decision factors, consideration of the environmental consequences of implementing or not implementing the South Fork Little Butte Forest Management Project (as analyzed in the EA and documented in the FONSI), and review and consideration of public comments received in response to the Environmental Assessment.

RESPONSE TO PURPOSE AND NEED AND DECISION FACTORS

Matrix lands within the South Fork Little Butte Forest Management Project Area are to provide for sustainable timber production in compliance with Oregon and California Railroad and Coos Bay Wagon Road Grant Lands Act of 1937 (O&C Act)(RMP p. 17) (EA pp. 1-3 to 1-4). My Decision to authorize Alternative 2 will contribute to the sustainable supply of timber from O&C/Matrix lands through the management of forest stands as described in the EA.

1. Ensure sustainable forest production, and the renewable resources they provide, by managing forests to improve conifer forest vigor and growth (EA p. 1-3)

The Medford District Resource Management Plan includes Timber Resource Objectives to provide for a sustainable supply of timber and other forest products (EA, p. 1-3) (RMP, p. 72) and adopted a set of silvicultural treatments for managing conifer forest stands on Matrix land (EA, p. 1-3) (RMP Appendix E, pp. 179-196). Silvicultural prescriptions included in the South Fork Little Butte Forest Management Project are designed to meet RMP direction for sustainable forest production and timber resources. Project Design Features (PDFs) are also included of the design of the South Fork Little Butte Forest Management Project (EA, p. 2-30 to 2-44) to provide for multiple resource objectives outlined in the Medford District RMP. Alternative 2 was selected as it best meets the 1995 RMP direction for Matrix lands by managing over 2,400 acres for sustainable forest production in comparison to Alternative 3 which would treat only 1,579 acres. Alternative 1 would not meet the Purpose and Need to manage forests consistent with BLM's RMP for Matrix land use allocation.

2. Provide products from Matrix allocations in accordance with the direction in Medford Districts 1995 Resource Management Plan.

The South Fork Little Butte Forest Management Project is located on BLM-administered matrix lands allocated to produce a sustainable supply of timber. Timber products produced from this area are to be sold in support of the District's Allowable Sale Quantity declared in the RMP (RMP p. 73). My decision to authorize Alternative 2 and the implementation of forest management on 1,600 acres of matrix land consistent with the Medford District RMP Timber Resource Objectives (RMP, p. 17 and 72-73), will contribute an estimated 9.5 to 11.5 million board feet (MMBF) toward the District's assigned 2015 Allowable Sale Quantity (ASQ) of 46 MMBF.

Alternative 3 would have contributed to sustainable forest management and the District ASQ but to a lesser degree. Alternative 3 would have implemented about 960 acres of forest management producing about 6.5 to 7.5 MMBF towards the District's assigned 2015 ASQ of 46 MMBF; about 2-4 MMBF less than anticipated under Alternative 2. Alternative 1 would not have contributed to the Medford District ASQ.

3. Protect and conserve federally listed northern spotted owls according to Endangered Species Act (ESA), recovery plans, BLM's 1995 RMP, and Bureau special statue species policy.

Alternative 2 was selected as it provided the best option for addressing the need to manage forests to improve conifer vigor and resiliency to drought and fire and provide for sustainable timber production, while managing for the recovery and survival of the northern spotted owl through conservation of high priority sites and high quality habitat.

The Medford District RMP requires the BLM to manage forests to provide for both the recovery and survival of listed species. The 2011 U.S. Fish and Wildlife's Revised Recovery Plan for the Northern Spotted Owl includes recovery actions to guide activities that would help to further the recovery of the northern spotted owl. BLM worked with the US Fish and Wildlife Service to incorporate Recovery Actions consistent with BLM laws, policies, and regulations.

BLM's interdisciplinary (ID) Team incorporated Recovery Action (RA) 32 into the design of the project and to the extent practical, RA 10. RA 32 calls for maintaining high quality habitat stands 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. BLM has identified and deferred forest management in stands classified as RA 32 in the planning area (EA, p. 2-4). Recovery Action 10 recommends conserving high priority sites and high quality habitat to provide demographic support to the spotted owl population. Using known spotted owl sites, spotted owl survey results (including reproductive success), and spotted owl radio telemetry location data, BLMs biologists identified high priority sites warranting a more conservative approach to forest management within NSO home ranges. The ID Team further refined the project from its original configuration using the Relative Habitat Suitability Model and concepts of the RA 10 strategy to further reduce the potential for effects to spotted owls by avoiding the downgrading or removal of habitat within these high priority home ranges (EA p. 2-4). Within home ranges of owl sites identified as low priority (poor reproductive success, insufficient habitat to support reproduction and survival, owls not located in previous telemetry studies) forest management focused on forest restoration strategies that would promote long-term benefits to the spotted owl. Additionally, there was no treatment of nesting habitat (Mckelvey 1 habitat rating) within the home ranges of high priority sites or critical habitat.

While Alternative 1 and 3 would have met the need to provide for the conservation of northern spotted owl habitat for the short-term, the long-term need to manage forests to improve forest vigor and growth and resiliency to natural disturbance such as fire, insects and disease would have been met on fewer acres under Alternative 3 in comparison to Alternative 2. Alternative 3 would only have treated about 1,579 acres, where Alternative 2 will treat over 2,400 acres. Alternative 1 was not selected because it would not improve forest vigor and growth and resiliency to natural disturbance such as fire, insects and disease. In fire prone ecosystems of southwest Oregon, it is important to understand that forest stands are dynamic and subject to constant change from natural disturbance. What may be high quality habitat today could over time deteriorate in quality as a result of drought, insects and disease, or wildfire. Managing forests in a manner that can provide for long-term landscape resiliency to disturbance by increasing forest vigor and growth and maintaining fire resilient species composition in forest stands, can help to provide high quality habitat for the northern spotted owl at the landscape-scale over time.

4. Maintain a transportation system within the Project Area that serves resource management needs in an environmentally sound manner.

This decision meets RMP guidance to maintain a transportation system that serves the needs of users in an environmentally sound manner, and reduce minor collector and local road densities where high road densities exist.

With the selection of Alternative 2, the construction of 3.04 miles of temporary roads which will be decommissioned after use, 0.8 miles of permanent roads, and maintenance of slightly more than 122 miles of road will facilitate access to harvest operations and other land management actions. Project Design Features incorporating Best Management Practices, including seasonal restrictions would ensure that road management will occur in an environmentally sound manner and will result in no instances of chronic erosion or excessive soil displacement (EA, Chapter 3 and FONSI pp. 1-11). The decommissioning 4.05 miles of permanent roads and placing an additional 7.27 miles of road into long-term closure status would reduce sediment production and the open road density as well as reducing potential impacts to water quality and aquatic habitat and disturbance to wildlife.

Alternative 3 would have provided for the management of existing roads, and road decommissioning. However, Alternative 3 was not selected as it would not have constructed any new roads (temporary or permanent) leaving over 200 acres of forest stands economically and/or operationally inaccessible to forest management treatments (EA p. 3-156 to 3-157). This alternative would not have met the needs for resource management and sustainable timber production on Matrix land allocation.

Alternative 1 was not selected as it would not have met the purpose and need to maintain a transportation system that serves resource management needs.

RESPONSE TO OTHER INFORMATION

This section addresses my rationale for selecting Alternative 2 in regard to other key issues addressed throughout project development and analysis that are not otherwise addressed above under response to Purpose and Need and Decision Factors. This is not intended to address all concerns identified throughout project development and public involvement, but those issues that strongly influenced project design and this decision. Other concerns that were identified and considered are addressed in the EA (pp. 1-11 to 1-13).

Water Quality and Hydrology

Comments were received concerning impacts to water quality from increased sedimentation. While there is potential for sedimentation to streams from activities associated with timber harvest (road and landing construction, harvesting, and timber haul) and road decommissioning (including culvert removal), the design of the project and the implementation of required Project Design Features (Best Management Practices) and Riparian Reserves are expected to substantially reduce the potential for sediment to enter streams. While there may be a short-term impulse of sediment and turbidity from culvert removals (associated with road decommissioning), the implementation of PDFs and BMPs would greatly reduce the magnitude of effects to minor, less than one cubic yard per culvert removal (EA, p. 92). These short-term increases, however, would result in long-term benefits of reducing chronic sediment inputs and road densities in a Tier 1 Key Watershed (EA, p. 3-72).

BLM is recognized by Oregon Department of Environmental Quality (DEQ) as the Designated Management Agency for implementing the Clean Water Act on BLM lands (EA p. 3-68). In

2008, the DEQ completed the Rogue Basin Total Maximum Daily Load (TMDL), which was approved by the U.S. Environmental Protection Agency. Approved BLM actions are those compliant with the 1995 Medford District Resource Management Plan, provided Best Management Practices and Project Design Features are followed to avoid exceedance of TMDLs (EA, p. 3-68). Best Management Practices and Project Design Features are required and will be followed as part of the implementation of the selected alternative (Alternative 2). A detailed description of required Project Design Features is included in the EA (EA, p. 2-30 to 2-44), and as described throughout the EA in association with resource analysis. Based on analysis documented in the EA and the FONSI (pp. 1 to 11), I find the South Fork Little Butte Project to be compliant with the Rogue Basin Total Maximum Daily Load (TMDL) and North and South Forks Little Butte Creek Key Watershed Water Quality Restoration Plan (EA p. 3-71).

Fish (also see consultation) and Aquatic Habitat

Aquatic habitats and the species they support will be maintained as a result of project design and required Project Design Features (EA p. 2-30 to 2-44) which will ensure water quality within project area streams and other water features are maintained. While there may be small inputs of sediment at channel crossings from log haul, any increases are expected to be minor (< than 3 cups of sediment per crossing per year, EA, p. 3-96) and not detectable above background levels (EA p. 3-97). There will be short-term one time sediment inputs from road decommissioning and culvert removal; however, these one-time contributions of sediment would not meaningfully impact fish or aquatic organisms at more than the immediate site level scale. Over time road decommissioning would yield a benefit as a net reduction in hydrological connectivity between roads and the aquatic system, reduced chronic sediment into the aquatic habitat, and reduced road densities in a Tier 1 Key Watershed (EA, p. 3-93). There will be no effect to sediment levels from upland work including timber harvest and non-commercial activities due to the filtering action of Riparian Reserves (EA p. 3-97). Since no riparian vegetation would be removed, this project would have no effect on stream temperatures.

Soils

Concerns were raised by some that the South Fork Little Butte Forest Management Project is operating on fragile soils as identified by the Medford District RMP and could lead to soil instability. BLM's soil scientist worked closely with BLM's road engineer and timber planner to avoid locating roads, both permanent (0.8 mile) and temporary (3.04 miles), on fragile soils to the extent possible. Roads were located along upland ridges, flat ridge tops, on gentle slopes, and to avoid areas of instability (EA, pp. 3-44 to 3-49, 3-72). Proposed project units were also reviewed to determine stability, especially in soils classified as fragile (EA, p. 3-39) and areas of instability were avoided. Project Design Features will be required to meet RMP guidance, they include: dry weather road construction and seasonal use restrictions, waterbarring, seeding and mulching, closing new permanent roads, and decommissioning/decompacting all temporary roads following completion of operation, requiring ground based equipment to operate from designated skid trails, using existing skid trails when possible, and not operating mechanized harvesters off of designated skid trails unless soils are dry (15 percent soil moistures or less). With the implementation of the project as designed, soil disturbance from all harvest and road management activities would not result in accelerating slope instability (EA, p. 3-51 and 3-56) or significant amounts of soil leaving the site and erosion rates would return to near-normal within approximately five years (EA, p. 3-56).

Another concern regarding soils was for the potential for compaction and loss of soil productivity. The implementation of Alternative 2 requires the application of Best Management Practices (BMPs) as described in the Medford District Resource Management Plan (USDI 1995, p.166) such as the use of designated skid trails and the use of existing skid trails within stands to limit horizontal soil compaction to less than 12% of the harvest area. Temporary road and helicopter landing construction requires the appropriate use of waterbars and other actions that minimize potential soil impacts while in use, followed by decommissioning and decompacting soils (except for Helicopter landings in quarries or that are surfaced with rock) according to standard BMPs and site-specific PDFs.

Laws & Policy

This decision is also in conformance with the direction given for the management of public lands in the Medford District by the Oregon and California Lands Act of 1937 (O&C Act), Federal Land Policy and Management Act of 1976 (FLPMA), the National Environmental Policy Act of 1969 (NEPA), the Endangered Species Act (ESA) of 1973, the Clean Water Act of 1987, Safe Drinking Water Act of 1974 (as amended 1986 and 1996), Clean Air Act of 1990, the National Historic Preservation Act of 1966 as amended, the Archaeological Resources Protection Act of 1979, and the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (EA pp. 1-8) (FONSI pp. 1-11).

Furthermore, based on the environmental analysis documented in the South Fork Little Butte Forest Management Project Environmental Assessment, a Finding of No Significant Impact (FONSI) was completed for this project. There will be no significant impacts resulting from the implementation of this decision (FONSI pp. 1-11).

PUBLIC INVOLVEMENT

Scoping began for this project beginning in spring of 2014 when the South Fork Little Butte Forest Management Project appeared in Medford's Messenger (BLM's quarterly newspaper) under the Ashland Resource Area's Schedule of Proposed Actions. A scoping letter briefly describing the Proposed Action and inviting comments was mailed to adjacent landowners, interested individuals, organizations, and other agencies on April 4, 2014. During the public scoping process the BLM received four written comment letters regarding the proposed project and numerous (30 to 35) interest response forms. The BLM interdisciplinary team of resource specialists reviewed public input received, and identified relevant issues to be addressed during the environmental analysis.

The South Fork Little Butte Forest Management Project EA was issued for a 30-day comment period on July 3, 2015 and made available for public review on the BLM's Medford District website. Notification of the availability of the EA for public comment was made through publication of a legal notice in the Medford Mail Tribune newspaper. The EA, or notice of availability, was also sent to those who responded to the scoping letter or requested to be kept informed about the project. The EA public review period ended on August 3, 2015. Written comments received in response to the EA were reviewed and substantive comments have been addressed in Appendix A of this Decision Record, *Response to Comments*.

MONITORING

Implementation monitoring is accomplished through the BLM's contract administration process. Project Design Features included in the project description are carried forward into contracts as required contract specifications. BLM contract administrators and inspectors monitor the daily operations of contractors to

ensure that contract specifications are implemented as designed. If work is not being implemented according to contract specifications, contractors are ordered to correct any deficiencies. Timber sale contract work could be shut down if infractions of the contract are severe. The contract violations would need to be corrected before the contractor would be able to continue work. If contract violations are blatant, restitution could be required.

To ensure consistency with silvicultural prescriptions designed to treat and maintain northern spotted owl roosting, foraging, and dispersal habitat, BLM's silviculturist and wildlife biologists have used a combination of post-marking reconnaissance, stand data from stand exams, marking tallies, and canopy cover plots (using moosehorn instruments) to validate canopy cover requirements for maintaining spotted owl habitat. Post-treatment monitoring will occur using a combination of reconnaissance and measurements to assess canopy cover and other habitat characteristics (such as moosehorn surveys, tree tallies, or post-harvest stand exams).

CONSULTATION AND COORDINATION

Formal consultation was initiated with U.S. Fish and Wildlife (USFWS) Service on January 9, 2015 (Medford BLM South Fork Little Butte Biological Assessment). The USFWS released a Biological Opinion (BO) (Reference Number 01EOFW00-2015-F-0090). The USFWS has determined that South Fork Little Butte Forest Management Project activities are not likely to jeopardize the spotted owl and the Service does not anticipate the project will adversely modify critical habitat at the subunit or range wide scale (EA p. 3-116 and USDI FWS 2015, pp. 46-49).

The gray wolf is a federally listed species in Oregon west of Highways 395 and 78. The South Fork Little Butte Project Area is located near the known wolf activity area of OR-7 (radio-collared male wolf), his mate, and off-spring (EA p. 3-109). On January 13, 2015 ODFW identified additional wolf activity in the Keno area. Both of these areas of known wolf activity fall outside of the South Fork Little Butte wildlife analysis area. Communication will occur with U.S. Fish and Wildlife Service and Oregon Department of Wildlife (ODFW) prior to spring each year throughout the duration of the project to determine if wolf activity areas have expanded into the project area. If warranted, forest management activities would be prohibited within 1.0 mile radius of active gray wolf dens and rendezvous sites from April 15th to August 31.

Southern Oregon/Northern California Coasts (SONCC) coho salmon are known to occur in the South Fork Little Butte Creek and its larger tributaries, including lower portions of Lost Creek, Soda Creek, and Dead Indian Creek. BLM's Fisheries Biologist determined that Alternative 2 would be a "*May Affect/Not Likely to Adversely Affect*" SONCC coho salmon, coho critical habitat and essential fish habitat in the South Fork Little Butte Creek Analysis Area catchments. Informal consultation with National Marine Fisheries Service was completed in March of 2015. It was determined that the magnitude of effects to aquatic habitats were of insufficient magnitude and of a nature to not meaningfully impact aquatic habitats in fish bearing channels (EA, p. 3-82).

The Project Area is outside the range of any Federally-listed T&E plant species. Therefore, there would be no effect on these species as a result of implementing this alternative (EA, p. 3-142).

In accordance with the Protocol for Managing Cultural Resources on Lands Administered by the BLM and the National Historic Preservation Act of 1966 (specifically, section 106), as amended, a literature review and archaeological reconnaissance was conducted for the South Fork Little Butte Forest Management Project Area. Sites within the Projects Area of Potential Effect (APE) would be protected during project implementation unless determined to be not eligible to the National Register of Historic

Places with concurrence from the State Historic Preservation Office (SHPO). Proposed management direction includes protecting and managing the integrity of all historic/prehistoric sites identified in the cultural survey. Any known cultural sites within the Area of Potential Effect have been flagged for avoidance and/or unit boundaries adjusted for the protection of resources. When combined with the Project Design Features listed in Chapter 2, no direct, indirect or cumulative impacts are expected for cultural resources within the South Fork Little Butte Forest Management Project.

Letters describing the preliminary Proposed Action initiating consultation with the local federally recognized Native American Tribes were sent April 10, 2014. Further consultation in the form of meetings, phone calls, and emails did not identify any concerns with the proposed activities.

PLAN CONFORMANCE

The South Fork Little Butte Forest Management Project is designed to be in conformance with the 1995 Medford District *Record of Decision and Resource Management Plan* (ROD/RMP). The 1995 Medford District RMP incorporated the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl and the Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl* (USDA and USDI 1994).

The South Fork Little Butte Forest Management Project contains Project Design Features that apply Best Management Practices (BMPs) in Appendix D of the 1995 Medford District RMP (as modified by IM-OR-2011-074). As designed, this project complies with Management Direction, Objectives, and Best Management Practices of the 1995 Medford District RMP.

The South Fork Little Butte Forest Management Project is consistent with the Medford District Resource Management Plan as amended by the 2001 *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (2001 ROD). This project utilizes the December 2003 Survey and Manage species list. This list incorporates species changes and removals made as a result of the 2001, 2002, and 2003 Annual Species Reviews (ASRs) with the exception of the red tree vole.

The South Fork Little Butte Forest Management Project is also consistent with BLM Manual 6840 (USDI 2008), the purpose of which is to provide policy and guidance for the conservation of BLM Special Status Species and the ecosystems upon which they depend on BLM-administered lands. BLM Special Status Species include those species listed or proposed for listing under the Endangered Species Act (ESA), as well as those designated as Bureau Sensitive by the State Director. The objectives of the BLM Special Status policy are:

- To conserve and/or recover ESA-listed species and the ecosystems on which they depend so that ESA protections are no longer needed for these species; and
- To initiate proactive conservation measures that reduce, or eliminate, threats to Bureau Sensitive species to minimize the likelihood of and need for listing of these species under the ESA (USDI 2008, Section .02).

ADMINISTRATIVE REMEDIES

This decision is a Forest Management Decision. Administrative remedies are available to persons who believe that they will be adversely affected by this decision. A protest may be filed within 15 days of the publication of a Notice of Decision or Notice of Sale in the Medford *Mail Tribune* and Grants Pass *Daily Courier* newspaper.

When timber is offered for sale, a Notice of Sale will be published in the Medford *Mail Tribune* and Grants Pass *Daily Courier*. Publication of the first notice of sale establishes the effective date of the decision for those portions of this Decision Record to be implemented through a timber sale. The protest of the timber sale must be made within 15 days of the publication of the Notice of Sale.

In accordance with the BLM Forest Management Regulations 43 CFR §5003.2 (a & c), the effective date of this decision, as it pertains to actions which are *not* part of an advertised timber sale is the date of publication of a Notice of Decision in the Medford *Mail Tribune* newspaper. Any protest must be made within 15 days of the publication of the Notice of Decision in Medford *Mail Tribune*. Any contest of this decision should state specifically which portion or element of the decision is being protested and cite the applicable regulations.

43 CFR § 5003.3 subsection (b) states: "Protests shall be filed with the authorized officer and shall contain a written statement of reasons for protesting the decision." This precludes the acceptance of electronic mail (email) or facsimile (fax) protests. Only written and signed hard copies of protests delivered to the Medford District Office will be accepted. The Medford District Office is located at 3040 Biddle Road, Medford, Oregon.

If no protest is received by the close of business (4:30 p.m.) within 15 days after publication of the Notice of Decision or Notice of Sale, the decision will become final. If a timely protest is received, the project decision will be reconsidered in light of the statement of reasons for the protest and other pertinent information available, and the Ashland Resource Area will issue a protest decision.


Jennifer Sanborn
Acting Field Manager, Ashland Resource Area
Medford District, Bureau of Land Management

8/19/2015
Date

APPENDIX A: RESPONSE TO COMMENTS FOR THE SOUTH FORK LITTLE BUTTE FOREST MANAGEMENT PROJECT DECISION RECORD

Written comments received in response to the South Fork Little Butte Forest Management Project EA were reviewed by the interdisciplinary team and responsible official and substantive comments are addressed below. Substantive comments were identified and the BLM has responded to substantive comments listed below.

Substantive Comments are those that:

- Provide new information pertaining to the Proposed Action or an alternative;
- Identify a new relevant issue or expand on an existing issue;
- Identify a different way (alternative) to meet the purpose and need;
- Identify a specific flaw in the analysis;
- Ask a specific relevant question that can be meaningfully answered or referenced;
- Identify an additional source of credible research, which if utilized, could result in different effects.

Non-substantive comments are those that:

- Primarily focus on personal values or opinions;
- simply provide or identify a preference for an alternative considered;
- Restate existing management direction, laws, or policies that were utilized in the design and analysis of the project (or provide a personal interpretation of such);
- Provide comment that is considered outside of the scope of the analysis (not consistent or in compliance with current laws and policies, is not relevant to the specific project proposal, or is outside of the Responsible Officials decision space);
- Lack sufficient specificity to support a change in the analysis or permit a meaningful response, or are composed of general or vague statements not supported by real data or research.

RESPONSE TO COMMENTS

This section contains a summary of substantive comments received and the BLM's response to comments. Some comments listed below were received from more than one commenter. To avoid duplication, comment statements with similar content were summarized into one comment statement. The comments and responses are intended to be explanatory in nature and where applicable to guide the reader towards analysis or information contained in the Environmental Assessment (EA).

ROADS

Comment 1: The South Fork Little Butte NEPA analysis needs to acknowledge that temporary roads can have similar effects when compared to permanent roads. Post project mitigation of temporary roads does not address the immediate impacts to hydrology and soil health.

Response: As stated in the EA (pp. 2-15, 3-71) temporary routes or roads would be decommissioned following use. The techniques described are intended to preclude vehicle use and maintain effective drainage while vegetative recovery occurs over time. Subsequent physical (freeze-thaw) and biological

(burrowing organisms, plant roots) facilitates revegetation and infiltration, thus minimizing adverse effects. The BLM does not disagree nor contend that there are no impacts from temporary road construction. The EA acknowledges that sediment production from road construction and use may increase in the short-term (EA p. 3-72). However, with effective implementation of PDFs, especially those designed to preclude vehicle use, any adverse effects are expected to be minimal and of short duration.

Comment 2: Commenters suggested the EA must address the effects road construction may have on multiple resources (listed below).

Response: The BLM has adequately addressed the effects that roads and road construction may have on resources potentially affected within the South Fork Little Butte Analysis Area and this analysis is woven throughout the EA. A few specific references include the effects of roads on fire risk (EA, p. 3-34) vegetation production (EA, p. 3-44, 3-50), soils (EA, p. 3-41 to 3-58), hydrologic flow and water quality (EA, p. 3-58 to 3-75), fish and aquatic habitats (EA, p. 3-75 to 3-100), wildlife and their habitats (EA, p. 3-101 to 3-131), botany and noxious weeds (EA p. 3-131 to 3-145), recreation, visual resources, and special areas (EA, p. 3-146 to 3-151), and rangeland resources (EA, p. 3-151 to 3-154), and economics (3-156 to 3-157).

Comment 3. There are ways to negate the costs of maintaining large road systems while keeping or building new roads that are critical to forest management, such as pulling culverts, waterbarring, and blocking vehicular access to a rocked road are relatively inexpensive practices and would leave the roadbed intact for future use.

Response: Temporary roads identified to be constructed and fully decommissioned after use, require minimal effort and cost for construction. Typically these roads are predominately on flat ground or ridgetops and can be constructed with the use of a dozer and have little to no cut and fill; they generally only require just the ground surface to be bladed. Engineering the design of these roads for maintaining them as permanent roads in the system would increase costs. The costs of rebuilding these types of roads if needed in the future would be very similar to the costs of reopening an existing barricaded road that has had no maintenance since the time it was closed. Fully decommissioning newly constructed temporary roads can be achieved with the use of a backhoe or other equipment with similar capabilities. The benefits of fully decommissioning these roads are similar to the beneficial effects of long-term closures; however, breaking up the compacted surface is allowing water to drain into the ground helping to restore hydrologic function, relieving run-off, and potential for erosion and sedimentation. Slash, boulders, and other debris are placed along the road's entire length as determined by availability of materials to provide ground cover and to discourage OHV use. The BLM is proposing the long-term closure of 7.27 miles of existing roads (EA p. 2-16) as suggested by this commenter to maintain infrastructure investments of existing roads.

CUMULATIVE EFFECTS

Comment 4: The agency cannot rely on Resource Management Plan Environmental Impact Statements for cumulative effects analyses. The cumulative impacts of proposed logging, "temporary" and permanent road construction, landing construction, and tractor yarding, in combination with effects of grazing, effects of past logging and road construction, and effects of OHV use in this watershed must be fully disclosed in an EIS.

Response: The South Fork Little Butte Forest Management Project EA is designed in conformance with the 1995 Medford District Resource Management Plan, which incorporated the *Record of Decision for*

Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl and the Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl (also referred to as the Northwest Forest Plan) (EA, p. 1-5; RMP, p. 18 and Appendix A). The EA also tiers to the 1994 *Medford District Proposed Resource Management Plan Environmental Impact Statement* and the 1994 *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* (EA, pp. 1-4, 1-5, 3-1). CEQ regulations do not require agencies to duplicate analysis of issues that have been analyzed in broader environmental impact statements (40 CFR 1501.7(a) (3)), rather, tiering is appropriate when it helps the agency to focus on issues ripe for decision (40 CFR 1508.28). That being said, the BLM did not rely on tiering in place of a site specific cumulative effects analysis for water resources and watershed condition.

A detailed cumulative effects analysis for water resources was prepared for this project. This included an updated assessment of roads, OHV routes, and harvest on both public and private lands. In addition, the Little Butte Creek Watershed Analysis, completed in 1997 was updated to incorporate any new data characterizing physical and biological conditions that has been completed or has become available since the initial report (EA, p. 2-6). All this information was incorporated into the analysis for cumulative effects.

The indicators used to assess potential cumulative impacts on water resources are primarily canopy cover and road density. Also accounted for are existing and proposed landings. Past tractor yarding was accounted for in the cumulative effects analysis through the development of a past harvest layer. Overall the proposed treatments would not reduce canopy cover below critical thresholds (less than 30 percent) within the analysis area, including in the transient snow zone (EA, pgs. 3-72, 3-75). When considering reasonably foreseeable harvest on private industrial timberlands, there would be increases in seven drainages where values currently below the threshold of 30 percent would be exceeded. It was determined that the proposed activities would not elevate the potential for cumulative impacts beyond those that may be currently occurring (EA, pp. 3-73, 3-74).

As disclosed in the EA, the potential for the South Fork Little Butte Forest Management Project to increase sediment production to streams is the primary concern for water resources; road construction and road use is the primary mechanism for sediment to enter waterways (EA, pgs. 3-71, 3-72). Proposed new roads would be out-sloped to eliminated connectivity to streams and required Project Design Features would apply Best Management Practices to minimize the risk for increasing sedimentation from road construction and use. Required PDFs include: road and landing construction and road maintenance would not occur during the wet season (October 15th to May 15th); bare soil due to road and landing construction/renovation would be protected and stabilized prior to fall rains to reduce soil erosion and sediment potential; fill slopes on all new roads and landings would be seeded with native or approved seed; where available slash would be windrowed at the base of newly-constructed fill slopes to catch sediment; temporary routes would be decommissioned at the completion of log haul and within the same season as constructed/opened or winterized prior to fall rains; seasonal restrictions are also applied to roads based on surface type and condition to reduce the potential for sedimentation from roads (EA, pp. 2-33, 2-34). While a slight increase in risk for short-term sedimentation is anticipated, with the implementation of required Project Design Features the South Fork Little Butte Project would not contribute to significant cumulative effects in the analysis area (EA pgs. 3-74, 3-75, 3-97).

WATER QUALITY RESTORATION PLAN AND CLEAN WATER ACT

Comment 5: Streams in the project area are 303(d) listed for sediment loading and the BLM must avoid adding sediment to listed waterways per Clean Water Act and WQRP.

Response: The EA acknowledges which streams within the Analysis Area are listed as water quality impaired (303(d)) (EA, pg. 3-59) and discusses regulatory requirements and strategies (EA, pgs. 3-67, 3-68) necessary to eventually achieve conditions where de-listing may be considered. As discussed in the EA and referenced in the Water Quality Restoration Plan, the priority focus is to reduce sediment production and delivery from roads. In an effort to reduce sediment production from roads, within the past five years the BLM has decommissioned 1.8 miles of roads within Little Butte Creek (EA, pg. 3-67). For this project actions to reduce and/or improve water quality from roads include a minimum net reduction of road miles within the Analysis Area of 1.66 miles, with another 2.39 miles identified should funding become available. (EA, pp. 3-49, 3-72). In addition, new road construction, both temporary and permanent, are located on or near ridgetops where sediment delivery to stream channels is unlikely (EA, p. 3-72). Also this proposal includes road improvements and upgrades that would reduce long-term sediment delivery through the application of rock surfacing and road maintenance designed to improve drainage (EA, pg. 2-14). These actions along with the effective implementation of BMP's and PDF's, as contained in the EA and discussed (EA, pg. 3-72) are intended to ensure compliance with all applicable statutes and management direction.

INADEQUATE RANGE OF ALTERNATIVES

Comment 6: Scoping comments dated May 6, 2014 regarding the proposed South Fork Little Butte Forest Management Project on behalf of the Klamath Siskiyou Wildlands Center, Cascadia Wildlands, and Oregon Wild requested a citizens action alternative designed to meet the purpose and need while implementing findings and recommendations contained in the Little Butte Creek Watershed Assessment. Specifically an alternative that:

- commercially thins plantations and small diameter trees in overly dense stands;
- reduces white fir and Douglas-fir encroachment in pine and mixed conifer stands;
- retains remaining late-successional forests and large diameter trees;
- avoids regeneration logging; and
- avoids road construction in Tier-1 Key Watershed.

Response: In processing this request for a citizen's alternative the BLM had to consider how each sideboard listed above met BLM's stated purpose and need. The following addresses each of the requested sideboards:

Commercially thin plantations and small diameter trees and reduce white fir and Douglas-fir encroachment in mixed conifer stands: Proposed activities include both commercial and non-commercial silvicultural prescriptions to meet the needs identified in Chapter 1, including the need to maintain and promote vigorously growing conifer forests. Treatments under Alternative 2 are expected to have measurable, although insignificant, beneficial effects on vegetation conditions in the analysis area by reducing stand densities and increasing tree growth and vigor; increasing forest stand resilience to wildfire, drought, and insects and disease (EA, p. 3-19, 3-20, 3-21, 3-32); creating diversified stand structure (height, age, and size) and spatial heterogeneity; and promoting diversity of fire resilient species including pines, oaks, and cedar (EA p. 2-26 to 2-29). The area to be treated under Alternative 2 represents about 14 percent of the analysis area (BLM lands within the Lower and Middle South Fork Little Butte Creek sub-watersheds) and about 16 percent of forested lands within the analysis area.

Retain remaining late-successional forests and large diameter trees: The design of the South Fork Little Butte Project incorporated the purpose and need to manage forests to improve conifer vigor and resiliency to drought and fire and provide for sustainable timber production while protecting and conserving federally listed northern spotted owls (EA, pp. 1-3, 1-4). In the project development, the Planning Area was screened to apply RMP level reserves and special protection areas, as well as project level screens to apply recovery actions recommended in the 2011 U.S. Fish and Wildlife's *Revised Recovery Plan for the Northern Spotted Owl*; Riparian Reserve delineation; stand suitability for treatment; and economical and logistical feasibility for treatment.

The BLM's interdisciplinary team (IDT) incorporated Recovery Action (RA) 32 into the design of the project and to the extent practical, RA 10. RA 32 calls for maintaining high quality habitat stands 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. BLM has identified and deferred forest management in stands classified as RA 32 in the planning area (EA, p. 2-4). Recovery Action 10 recommends conserving high priority sites and high quality habitat to provide demographic support to the spotted owl population. Using known spotted owl sites, spotted owl survey results (including reproductive success), and spotted owl radio telemetry location data, BLMs biologists identified high priority sites warranting a more conservative approach to forest management within NSO home ranges. The IDT further refined the project from its original configuration using the Relative Habitat Suitability Model and concepts of the RA 10 strategy to further reduce the potential for effects to spotted owls by avoiding the downgrading or removal of habitat within these high priority home ranges (EA p. 2-4). Within home ranges of owl sites identified as low priority (poor reproductive success, insufficient habitat to support reproduction and survival, owls not located in previous telemetry studies) forest management focused on forest restoration strategies that would promote long-term benefits to the spotted owl. Additionally, there was no treatment of nesting habitat (McKelvey 1 habitat rating) within the home ranges of high priority sites or critical habitat.

Following the application of the screens described in the project development process (EA, pp. 2-1 through 2-5), the BLM is proposing to treat approximately seven percent of the planning area. The proposed treatments include selective thinning, density management, and a limited amount of regeneration harvest and mortality salvage. The proposed treatments focus on retention of the largest and healthiest trees within the stand, while reducing stand density and improving health and resiliency. BLM is proposing to manage forests in a manner that can provide for long-term landscape resiliency to disturbance by increasing forest vigor and growth and maintaining fire resilient species composition in forest stands, which can help to provide high quality habitat (including large trees and late-successional forests) for the northern spotted owl at the landscape-scale over time.

Avoid regeneration logging: As described in Chapter 2, Section F of the EA: Alternatives and Actions Considered but Eliminated from Detailed Analysis, the purpose and need identified for this project (EA, Chapter 1) include improving conifer forest growth and vigor, reducing impacts to forests from insects and disease, and providing timber products. In order to meet these objectives, silvicultural prescriptions, as described in the Medford District RMP (USDI 1995, Appendix E) were proposed depending on current forest conditions. Stands in the Planning Area that were identified as having declining growth rates or experiencing deterioration due to high density stands levels, insects, disease, or other factors were proposed for regeneration harvest (EA, p. 47).

Two types of regeneration harvest are proposed: Structural Retention and Insect and Disease Management (EA, p. 2-28). Regeneration harvest is proposed on 133 acres in Alternative 2 (EA, pp. 2-8) in order to create growing space for a new cohort of trees and/or increase the growth of existing understory trees while maintaining structural complexity with the retention of 16-25 trees per acres greater than 20 inches

DBH; reduce understory stem density in the current stand and control the growth rates of existing understory trees for long-term survivability; create regeneration opportunities for species that are shade intolerant and provide long-term success or survival of less prominent species (e.g., sugar pine); and reduce the long-term effects of forest disease by reducing the spread of disease to existing overstory and understory trees (Insect and Disease Management prescription only) (EA, p. 47).

By avoiding regeneration harvest, the BLM would not be able to meet forest health objectives and would therefore, not meet the purpose and need identified for this project.

Avoid road construction in Tier-1 Key Watershed: The Proposed Action includes 3.04 miles of temporary road construction and 0.80 miles of permanent road construction. Temporary roads would be fully decommissioned or obliterated following timber harvest activities following PDFs designed to restore hydrologic function (EA, pp. 2-15, 2-34). Approximately 0.74 miles (or 1.8 acres) of the new road construction (about 0.13 miles of proposed road 37-2E-5.00 (permanent) and about 0.34 miles of proposed temporary road Spur 17-1) is proposed within the Lake Creek (0706) drainage (EA, p. 3-59) which is not within a Tier 1 Key Watershed. These proposed roads are located near ridgetops and/or flat topography.

The purpose and need of the South Fork Little Butte Forest Management Project is to implement forest management to provide for long-term sustainable timber production consistent with the Medford District's 1995 RMP (EA, p. 1-3). The Medford District RMP also directs that all silvicultural systems (forest system strategies) applied to achieve forest stand objectives would be economically practical (USDI 1995, p. 180). The economic feasibility of forest management actions is affected by the ease of access from the existing transportation system. Tractor yarding is usually the least expensive logging system, followed by cable yarding.

The BLM specifically considered an alternative that would not have constructed roads (Alternative 3). Under Alternative 2, the BLM proposes to construct 20 new segments of road (EA, pp. 3-156, 3-157), to improve the economic feasibility of logging 19 units in the South Fork Little Butte Project. An estimated 0.80 miles of new roads would be permanent and an estimated 3.04 miles of new roads would be temporary. For these units, the economic effect of building the proposed roads results in reducing the logging costs by \$602,012.25 (\$669,652.21 less the cost of the road construction \$67,639.96).

Although Alternative 2 is proposing road construction in Tier 1 Key Watersheds (0.67 miles permanent road and 2.70 miles temporary), it includes 4.05 miles (0.5 miles in Riparian Reserves) of full road decommissioning and 7.27 miles of long-term road closure. Although there would be small short-term inputs of sediment into the aquatic system associated with the decommissioning, over time it would yield a benefit as a net reduction in hydrological connectivity between roads and the aquatic system, which would reduce chronic sediment inputs to aquatic habitat, while also reducing road densities in a Tier 1 Key Watershed (EA, pp. 3-92, 3-93).

AQUATIC CONSERVATION STRATEGY OBJECTIVES

Comment 7: The South Fork Little Butte project will 1) contribute additional sediment into sediment impaired waterways, 2) remove riparian vegetation, 3) increase erosion, and 4) further fragment aquatic habitats; it is clear that the project will directly (and cumulatively) inhibit attainment of the objectives of the Aquatic Conservation Strategy (ACS) of the Northwest Forest Plan.

Response: Under BLM's 1995 RMP, the ACS requires that projects "not retard or prevent the attainment of Aquatic Conservation Strategy objectives." It does not require that improvements be made with every

project implemented. Also, “evidence . . . that a project will result in some degradation does not, standing alone, constitute ACS noncompliance.” *Bark v. BLM*, 643 F. Supp. 2d 1214, 1234-1235 (D. Or. 2009). Standards and Guidelines for Riparian Reserves envisioned that roads would be managed and developed within Riparian Reserves and provided direction for managing existing and planned roads to meet ACS objectives (RMP, p. 27-28; NWFP C-32). Standards and Guidelines “focus on meeting and not preventing attainment of Aquatic Conservation Strategy Objectives (NWFP, B-10).”

To meet ACS objectives the South Fork Little Butte Project includes Project Design Features (PDFs) designed to maintain aquatic and riparian habitat at the drainage and watershed scale, beginning with designation of Riparian Reserves around all stream channels displaying evidence of annual scour and deposition, springs, seeps, wetlands, and unstable areas which are buffered from harvest and yarding. Specific PDFs beyond Riparian Reserve designation, which are implemented to protect water quality and aquatic habitat include, but are not limited to: no commercial harvest within Riparian Reserves; no use of skid trails within Riparian Reserves except one location to access Unit 5-2a along Conde Creek Road (38-3E-17) (EA, p. 2-31); trees would be directionally felled away from Riparian Reserves and dry draws; skid trails would be water-barred according to BLM standards; main tractor skid trails would be blocked with an approved barricade and/or slash scattered to preclude OHV use where they intersect haul roads and at landings; road and landing construction and road maintenance would not occur during the wet season (generally October 15th to May 15); bare soil due to road and landing construction/renovation would be protected and stabilized prior to fall rains to reduce soil erosion and sediment potential; slash would be windrowed at the base of newly-constructed fill slopes to catch sediment; temporary roads would be decommissioned at the completion of log haul and within the same season as constructed/opened or winterized prior to fall rains; no hauling would occur on natural surfaced roads during the wet season (October 15th to May 15th); hauling during the shoulder seasons (October 15th to December 1st and April 1st to May 15th) would only occur on roads determined to have adequate surfacing (EA, Appendix A, Table 2-14) or on other roads during prolonged dry periods as approved by Authorized Users (EA, p. 2-36).

The South Fork Little Butte Forest Management Project EA details how each of the ACS objectives are met; the South Fork Little Butte Project is consistent with the Aquatic Conservation Strategy (EA, Appendix B).

Comment 8: Commenters requested that the BLM consider commercial thinning in Riparian Reserves to improve Riparian Reserve function consistent with Aquatic Conservation Strategy Objectives.

Response: The BLM does not disagree with the commenter that many acres of Riparian Reserves could likely benefit from thinning to improve tree growth and vigor and resiliency to disturbance. Many considerations go into deciding whether or not to propose thinning (either non-commercial or commercial) in Riparian Reserves. The 1995 RMP, the plan under which the South Fork Little Butte Management Project was designed, requires that silvicultural activities in Riparian Reserves benefit the condition and function of Riparian Reserves to meet the Aquatic Conservation Strategy Objective. To assess the need for riparian thinning would require additional acres to be surveyed to acquire data to support this assessment. The cost of surveys and analysis needed to inventory and analyze the conditions of reserves is one consideration that management must take into account when deciding whether or not to propose Riparian Reserve thinning. Riparian Reserve thinning was not carried forward into a detailed proposal under the South Fork Little Butte Forest Management Project primarily due to funding and time constraints. Future treatments in Riparian Reserves may be considered.

SOILS

Comment 9: The proposed action doesn't appear to meet RMP direction to avoid road construction and ground-based yarding on fragile soils.

Response: All proposed roads were field and office reviewed. The proposed roads in fragile soils were reviewed to ensure that slope stability issues would not result from road construction. The location of a proposed road on the landscape is a very important aspect of slope stability. Road construction is not planned in unstable areas. Refer to pages 3-45 through 3-48 for site specific descriptions of roads in fragile soils that are in stable locations.

Additionally, "The Medford District ROD/RMP recommends helicopter yarding to avoid or minimize new road construction on fragile soils (USDI 1995, p. 156). In the process of planning this project, the yarding systems for several harvest units were changed to helicopter yarding; as a result, road access was no longer needed and the associated road construction was dropped (EA, p. 3-52)."

Ground-based yarding is only proposed in fragile soils that are stable and would not result in soils instability from the treatments proposed. In the EA, the screening process is described: "There are soils identified as fragile for mass movement potential (FP) within proposed units. Sites where these soils occurred were reviewed on aerial imagery, hillshade imagery, soils information, slope information, and geologic information, as well as field verified for suitability for proposed actions. Indicators of slope instability such as, hummocky slopes, headwalls, sag ponds, etc. were all taken into account during review (EA, p. 3-53)."

Ground-based yarding in fragile soils is only proposed in areas where slopes are stable. "Approximately 167 acres of the proposed ground-based treatment units are in Fragile (FP) soils. These sites have been reviewed and are expected to be stable. Areas that may be unstable were removed or avoided in the planning phase of the project. It is assumed that 12 percent of the unit area would be compacted (EA, p. 3-54)."

There is road construction and ground-based yarding proposed in soils categorized as fragile. These sites have been analyzed using the methods described above to determine if the proposed actions would result in slope instability. The remaining units and roads were determined to be able to withstand the proposed treatments without effects to soil stability.

Comment 10: There is potential for this project to increase risk of sedimentation, peak flows, and soil compaction due to disturbance from ground-based yarding proposed especially with combined with past actions in the watershed.

Response: The EA considered the effects of ground-based yarding on sedimentation, peak flows and soil compaction in Chapter 3. Alternative 2 would disturb, on average, about 15 percent of the ground in the proposed harvest units. As a result of implementing designated skid trails, the units harvested with ground-based systems (1,005 acres) would result in approximately 12 percent or less of the area compacted (USDI 1995). Designating skid trails would minimize the area that would be disturbed during tractor logging operations (EA, p. 3-52).

Soil particles are not expected to be displaced beyond the units from timber harvesting activities. The decrease in soil pore space as a result of the compacted skid trails causes a slower infiltration rate that may increase overland flow. Although erosion rates would increase initially in the harvested units, soil particles would not reach local waterways under normal rainfall conditions because of the gentle

topography and Riparian Reserve buffers. Erosion rates would be expected to return to near-normal rates within 5 years as vegetative cover is re-established (EA, p. 3-52).

There would be a net increase in compacted area in the tractor harvest units, averaging about 12 percent, which would slightly decrease long-term soil productivity. Based on research and past monitoring of operational activities, it is assumed there would be a 5 percent loss of productivity on all lands that would be tractor harvested using designated skid trails. The loss is accounted for in the Medford District non-declining timber harvest calculations (USDI 1994). Soil productivity would experience a slight (less than 15 percent), short-term negative decrease, but potential long-term positive effects would be realized by thinning and prescribed fire (EA, p. 3-55).

Tractor yarding would be limited to designated skid trails, and generally slopes less than 35 percent. Eleven skid trails are proposed outside of treatment units. This is to allow access for harvest without constructing temporary roads. Designating skid trails and reusing old skid trails would reduce the area that would be compacted during logging operations. The use of a mechanical harvester would not cause any detrimental compaction because such equipment would only be used during dry soil conditions or on an eighteen-inch snow pack. Twelve new helicopter landings up to one acre in size could be constructed, including one on private land that is adjacent to a seasonal wetland. Following use, these landings would be treated by decompacting the surface, seeding, scattering slash and other debris, and closing or barricading the entrance (EA, p. 71).

Within stands where canopy cover is currently 30 percent or greater, proposed treatments would not reduce canopy cover below that level. This would not result in appreciable reductions in canopy cover at the drainage scale (7th field). The EA assessed the risk of peak flow enhancement and predicted that two drainages (0509, 0518) reflect values that may indicate altered timing and increased potential for peak flows (EA, p. 65). The EA notes that recent research indicates that effects from peak flows, although of concern, should be confined to a relatively discrete portion of the network where channel gradients are less than approximately 2.0 percent and streambeds are composed of gravel and finer material. Furthermore, data supports the interpretation that if peak flow increases do occur, they can only be detected in flows of moderate frequency and magnitude. Beyond that, they are likely not detectable (Grant, et al. 2008). What this suggests is that if increases in peak flows occur, they are unlikely to result in adverse effects to the higher gradient channels located within the Analysis Area. Also, peak flows are only detectable in smaller storm events with return periods of 6 years or less, where channel forming processes are minor in effect (EA, p. 65).

FISHERIES

Comment 11: Temporary mitigations to reduce sediment from log haul, although necessary, are not sufficient to recover coho salmon. Recovery of threatened coho salmon by statute is a high priority for BLM. The proposed action must be informed of possible recovery actions through watershed analyses and the coho recovery plan. An EIS must be prepared that discloses the effects of sediment loads from logging roads on listed Southern Oregon/Northern California Coasts (SONCC) coho salmon, critical habitat for SONCC Coho and Essential Fish Habitat.

Response: The BLM does not disagree that temporary mitigations to reduce sediment from log haul are not sufficient to recover coho salmon. Water withdrawals and shortages from drought, development of most of the low elevation stream reaches on private land (coho prefer low gradient, larger streams), diversion/dams, and mining have had a much greater impact on the Evolutionary Significant Unit (ESU). The effects of sediment on aquatic habitat are addressed in the EA (pp. 3-88 through 3-98).

The BLM consulted with the National Marine Fisheries Service (NMFS) on Alternative 2. The BLM Fisheries Biologist determined that Alternative 2 would be a “*May affect/Not Likely to Adversely Affect*” SONCC Coho salmon, CCH, and EFH in the South Fork Little Butte Creek Analysis Area catchments. This determination was made upon anticipated affects to aquatic habitat that can indirectly affect fish, and are described in this EA and the Biological Assessment (BA) prepared for NMFS for the South Fork Little Butte Creek Project. Informal consultation on this project was completed in March of 2015. Effects to aquatic habitat were determined to be of insufficient magnitude and of a nature to not meaningfully impact aquatic habitats in fish bearing channels (EA, p. 3-82).

NORTHERN SPOTTED OWLS

Comment 12: What are the effects of the SFLB project on canopy cover and structural conditions important to northern spotted owls and their prey? BLM must ensure that northern spotted owl habitat treat and maintain prescriptions are met.

Response: As stated in the EA (p. 3-117), “A Treat and Maintain of NRF or dispersal habitat means an action or activity would occur within NRF or dispersal habitat but would not change the habitat classification post-treatment. The NRF stand would retain an average of 60 percent canopy cover post-treatment, large trees, multi-storied canopy, standing and down dead wood, diverse understory adequate to support prey, and may have some mistletoe or other decay. Dispersal habitat would continue to provide at least 40 percent canopy, flying space, and trees 11 inches diameter at breast height (DBH) or greater, on average. The habitat classification of the stand following treatment would be the same as the pre-treatment habitat classification.”

Proposed treatments are designed to retain all components of NRF habitat, not canopy closure alone. Many stands proposed for understory treatment are currently too dense to allow NSOs to fly through them. These overly dense stands in many cases prevent the penetration of light to the forest floor thus preventing growth of grasses and forbs and thus creating an area of little forage value to NSO prey species. Increased light penetration helps to encourage herbaceous forage species as well as new conifer seedlings. This provides more food for NSO prey species and, in turn, more prey for NSOs to feed upon.

To ensure consistency with silvicultural prescriptions designed to treat and maintain northern spotted owl roosting, foraging, and dispersal habitat, BLM’s silviculturist and wildlife biologists have used a combination of post-marking reconnaissance, stand data from stand exams, marking tallies, and canopy cover plots (using moosehorn instruments) to validate canopy cover requirements for maintaining spotted owl habitat in the South Fork Little Butte Forest Management Project. Post-treatment monitoring will occur using a combination of reconnaissance and measurements to assess canopy cover and other habitat characteristics (such as moosehorn surveys, tree tallies, or post-harvest stand exams) according to the Medford District’s quality control strategy.

DEER AND ELK

Comment 13: The South Fork Little Butte EA does not quantify the effects to Big Game Winter Range or Elk Management Areas from road construction or forest management; specifically will 70 percent canopy cover (optimal thermal cover) be retained:

Response: Approximately 70 percent of BLM-administered lands in the Wildlife Analysis Area are currently providing thermal cover (mid-seral and mature forest with a high degree of canopy cover). Forest management of 281 acres could reduce thermal cover in to 69 percent of BLM-administered lands

within the Wildlife Analysis Area. This amount exceeds the minimal thermal cover retention of 20 percent provided by the 1995 RMP (USDI 1995, p.45) (EA p. 3-127). No actions are proposed within any Elk Management Area.

PACIFIC FISHER

Comment 14: The BLM should determine if whether or not Pacific fisher occupies the affected areas and analyze and disclose the effects to areas used by fisher and how many fisher home ranges could potentially be affected.

Response: Per BLM Manual 6840 (Section .06), Bureau Sensitive Species will be managed consistent with species and habitat management objectives in land use and implementation plans to promote their conservation and to minimize the likelihood and need for listing under the ESA. BLM is not required to conduct surveys or determine occupancy for all Sensitive Species, even those proposed for listing. BLM is using the best available science, which shows that NSO and Fisher habitats are “moderately correlated on federal lands (Zielinski et al, 2006).” Using northern spotted owl habitat as a surrogate for fisher habitat has been accepted by the courts as a reasonable practice (*KS Wild v. US BLM*, Case No. 06-3076-PA, Order and Judgment 9/10/2007). BLM’s wildlife biologist used northern spotted owl habitat as a surrogate to conducted analysis of the existing (EA, p. 3-110) potential effects to fisher habitat from the Proposed Action (EA, p. 3-123).

Project Design Features are included in the South Fork Little Butte Management Project to minimize impacts to a variety of wildlife species including fishers, they include: retention of key structural elements such as mature and decadent trees (including mistletoe-infected trees), snags, CWD, and large hardwoods for denning. Areas included in reserves such as Riparian Reserves, Recovery Action 32 habitat, 100-acre northern spotted owl cores, northern spotted owl Nest Patches, great gray owl core areas, and other designated reserves would continue to provide undisturbed habitat for fishers. Adjoining the Wildlife Analysis Area to the east is a large Late Successional Reserve (LSR) that is located on USFS-administered land, which would also continue to provide habitat for fishers. Because of the retention of these habitat features in the Wildlife Analysis Area, effects to fishers from implementation of this project are expected to be minor, and would not trend this species towards further listing (EA, p. 3-123).

NEOTROPICAL MIGRATORY BIRDS

Comment 15: The EA for this project needs to analyze and disclose the potential impacts of conifer thinning operations and brush removal on neotropical bird population trends.

Response: The EA does address the impacts of the proposed activities to Neotropical bird population trends. The BLM has interim guidance for meeting federal responsibilities under the Migratory Bird Treaty Act (USDI 2008b) and Executive Order (EO) 13186. Both the Act and the EO promote the conservation of migratory bird populations. The interim guidance was transmitted through Instruction Memorandum No. 2008-050. The Instruction Memorandum relies on two lists prepared by the US Fish and Wildlife Service in determining which species are to receive special attention in land management activities; the lists are *Bird Species of Conservation Concern* (BCC) found in various Bird Conservation Regions (Project Area is in BCR 5) and *Game Birds Below Desired Condition* (GBBDC). There are five BCC or GBBDC species likely to occur within the Planning Area (EA, p. 3-114).

Some migratory bird individuals other than USFWS species of concern may be disturbed or displaced during project activities, however, undisturbed areas within and adjacent to the Wildlife Analysis Area

would provide adequate amount of habitat for displaced individuals. Overall populations and species composition in the Wildlife Analysis Area and region would be unaffected due to the limited scale of habitat modification and/or reproduction loss (EA, p. 3-126).

The five USFWS species of concern (band-tailed pigeon, mourning dove, olive-sided flycatcher, rufous hummingbird and purple finch) known or suspected to occur in the Wildlife Analysis Area prefer open to semi-open forests, stand edges, woodlands, brush, and agriculture land to nest and forage. Indirect effects from habitat changes that would occur as a result of implementing Alternative 2 would be beneficial to these species while the forest matures into a mid- to late-successional seral stage. With implementation of proposed actions, direct effects to these bird species are expected to be minimal, and would not have the potential to add a cumulative effect (EA, p. 3-126).

BUREAU SENSITIVE BAT SPECIES

Comment 16: The EA does not discuss not include quantifiable analysis concerning the management or effects to Bureau Sensitive bat species.

Response: Per BLM Manual 6840 (Section .06), Bureau Sensitive Species will be managed consistent with species and habitat management objectives in land use and implementation plans to promote their conservation and to minimize the likelihood and need for listing under the ESA. BLM is not required to conduct surveys or determine occupancy for all Sensitive Species.

The three Bureau Sensitive bat species (Townsend's big-eared, Pallid, and Fringed Myotis) utilize mines, caves, manmade structures, snags and rock outcroppings for roosting and hibernacula sites. No surveys have been conducted for these species. Even though the Proposed Action may potentially adversely disrupt local bat populations, and may cause the loss of habitat in some cases, this project is not expected to affect long-term population viability of any bat species in the Wildlife Analysis Area. Project design PDFs requiring the retention of snags, decadent wildlife trees, buffering of mines, and avoidance of Riparian Reserves, 100-acre spotted owl cores (KSOACs), NSO Nest Patches, and other reserves, would continue to provide undisturbed habitat for these sensitive bat species. With implementation of this project, effects to bats are expected to be minimal. The proposed actions would not cause bat species occurring in the Wildlife Analysis Area to trend towards further listing. As such, no potential for cumulative effects are anticipated to these species (EA, p. 3-125).

GREAT GRAY OWLS

Comment 17: Without known great gray owl nesting locations, how does the BLM know if it's not logging a source population for the species?

Response: Alternative 2 proposes treatment in approximately 559 acres of suitable GGO nesting habitat. Most NSO NRF habitat within the Wildlife Analysis Area (approximately 9,163 acres) also has the potential to serve as nesting habitat for GGOs as NRF habitat in this area tends to occur near natural openings or has a mosaic of small natural openings throughout. Selective thinning, group selection, density management, understory reduction, and mortality salvage treatments are proposed for some of these stands. The reduction of canopy cover and removal of a proportion of live and dead or dying trees from these treatments would not impact owl nesting opportunities, as the majority of broken-topped snags in the Wildlife Analysis Area would remain in place, post-harvest (EA, p. 3-124).

Protocol surveys have been completed for the SFLB project. Locations meeting the Known Site criteria established by the 2004 survey protocol will be protected by a ¼ mile equivalent buffer (approximately

120-acres). Meadows and natural openings with which GGOs are associated have also received no-harvest buffer of 300 feet. These no-harvest areas combined with Riparian Reserves and other protected areas provide a large amount of GGO nesting and foraging habitat in which no actions would take place.

This population is an important one and shows every sign of being robust and healthy. Logging of the design proposed under this project is in fact beneficial to GGOs through the opening up of stands which creates more flying space for these large birds and allows more light to penetrate to the forest floor encouraging the growth of grasses and forbs and the subsequent enhancement of prey populations.

SNAGS, CWD, AND LARGE TREES

Comment 18: What are the effects of the project on snag and large tree retention and snag and CWD recruitment over time.

Response: The design of the South Fork Little Butte Project, as analyzed in the EA, incorporates Project Design Features meant to retain the larger, dominant and co-dominant green trees on the landscape to ensure the future recruitment of snags and down wood, and to protect existing snags and on-the-ground large woody debris (EA, p. 2-26 to 2-29 and 2-39). Implementation of the proposed action alternative would meet both the objectives of the project and ensure a future supply of large trees, CWD and snags under this project. Snags needing to be felled for safety would be left on site to meet CWD requirements.

Instead of making assumptions and relying on a model to determine an average amount of CWM and snags on the landscape, measurements of coarse woody material were actually taken in a variety of plant association groups within forest stands in the South Fork Little Butte Project Area as a baseline. CWM and snag concentrations were measured in the Douglas-fir, white fir, and ponderosa pine plant association groups. These stand inventory results were disclosed in the EA, wherein the average amounts for both snags and CWM are disclosed across a variety of plant association groups (EA, pp. 3-14, 3-15, 3-16).

In the South Fork Little Butte Project, CWM amounts fall well within the ranges discussed in White's (2001) publication for respective plant association groups. The BLM is in compliance with the 1995 RMP for the retention of CWM. The CWM guidelines stated in the BLM Information Bulletin No. OR-97-064 are being used, as well as the numerically specific requirements in the RMP for managing CWM. To comply with both the Medford District RMP (USDI 1995, p.73), and with Section C-40 of the Northwest Forest Plan for CWM retention requirements for regeneration or final harvest treatments, trees will be designated and reserved where this management action/direction cannot be met with existing coarse woody debris. To meet the RMP guidelines, a minimum of 120 linear feet of logs per acre greater than or equal to 16 inches diameter and 16 feet long will remain following harvest (Information Bulletin OR-97-064 and Instruction Memorandum OR-95-028). In addition, the silvicultural prescription and PDFs on pages 2-26 and 2-39 in the EA ensure the recruitment of future CWM.

We are also in compliance with the 1995 RMP for the retention of snags, in that all general forest management areas will "Retain snags within forest condition restoration treatments units at levels sufficient to support species of cavity nesting birds at 40 percent of potential population levels". The BLM wildlife staff approved a minimum amount of snags per acre based on this requirement in the 1995 RMP on areas no larger than 40 acres. In addition, the silvicultural prescription and PDFs on pages 2-26 and 2-39 in the EA ensure the recruitment of future snags.

In addition, unmapped Late-Successional Reserves were established by Standards and Guidelines of the Northwest Forest Plan (incorporated into the 1995 Medford District RMP) call for protecting the best 100 acres of northern spotted owl habitat in the closest proximity of all northern spotted owl nest sites or

activity centers, known to exist as of January 1, 1994, on Federal lands within matrix or AMA land allocations. These 100-acre areas are termed *Known Spotted Owl Activity Centers*. The intent was to preserve the intensely used portion of the breeding season home range. The RMP also requires a ¼ mile buffer around known great gray owl nest sites. Both northern spotted owl and great gray owl 100-acre buffers are also described as unmapped Late-Successional Reserves (RMP, p. 32 and NWFP, p. C-3, and C-21). These areas were also identified as important refugia habitat and centers for dispersal for species other than the northern spotted owl, such as plants, fungi, lichens, small vertebrates, and arthropods, and are to be maintained even if they become unoccupied (NWFP, p. C-11).

These 100-acre Late-Successional Reserves combined with Riparian Reserves, green tree retention requirements, and retention of snags and coarse woody material, provide for the long-term needs of organisms across the landscape.

NOXIOUS WEEDS

Comment 19: Limit weeds such as blackberries, thistles, and scotch broom that impair scenic values and impede recreation.

Response: The purpose of the South Fork Little Butte Project is to conduct forest management. As described in the EA (p. 1-135), the BLM will continue to survey for, avoid introducing and spreading, and contain or reduce noxious weed infestations to meet RMP direction and BLM policy (EA, p. 3-135). The South Fork Little Butte Forest Management Project has outlined lists of species addressed, including those listed by the commenter (EA, p. 3-137 to 3-139) as well as Project Design Features to reduce the chance for spreading and to reduce or eliminate existing infestations. Project Design Features include: washing mechanical equipment before entering the project area, continued treatments of existing noxious weed infestations, and continued monitoring of the project area (EA, p. 2-41).

DWARF MISTLETOE

Comment 20: BLM should address that mistletoe provides significant benefits to forest ecosystems managed by the BLM.

Response: The ecological benefits and use of mistletoe by wildlife are discussed in the EA (p. 3-22, 3-101, 3-109, 3-112). Mistletoe is common throughout the Analysis Area (EA, p. 3-13). The limited removal of select trees with mistletoe will not significantly change the availability of mistletoe structures for use by wildlife species in these areas. As discussed in the EA “The proposed forest management project does not attempt to eradicate dwarf mistletoe from the landscape; rather it attempts to minimize it in specific areas so that the objectives of Matrix lands as defined by the Medford District Resource Management Plan can be attained. Management efforts are focused towards minimizing the impacts of Douglas-fir dwarf mistletoe by maximizing tree species diversity. Forest stands with mixed species composition create barriers that help to reduce the spread of Douglas-fir dwarf mistletoe thus reducing its impacts on forest stands (EA, p. 3-23).

Comment 21: The EA ignores the importance of mistletoe on to spotted owls and their prey base.

Response: The EA does recognize and discuss the ecological benefits of Douglas-fir dwarf mistletoe and role it plays in formation of nesting habitat and platforms for northern spotted owls (also refer to the response to Comment 20 above). Project Design Features (EA, p. 2-39) incorporated into the silvicultural

prescriptions call for leaving trees with characteristics important to wildlife species, including large trees with broken tops, hollow trees, trees with platform structures formed from vegetation (including mistletoe, EA, p. 3-123), woody, or nests constructed by various species, trees with loose bark and other deformities. The EA also discusses that nesting and roosting habitat often has a “high incidence of large live trees with various deformities (e.g., large cavities, broken tops, mistletoe infections, and other evidence of decadence) (EA, p. 3-108).” Treat and maintain prescriptions would likely retain some mistletoe and other decay (EA, p. 3-102) where it currently exists.

The Recovery Action (RA) 32 inventory also recognizes mistletoe as a characteristic of RA 32 stands “*high-quality spotted owl habitat stands 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*” (EA p. 2-4). Recovery Action 32 was incorporated into the project design by inventorying for and removing RA-32 stands from treatment under the proposed action (EA p. 2-4).

Comment 22. Logging may increase mistletoe in the remnant stand, rather than decrease it. Many mistletoe seeds that infect host trees do not readily produce aerial shoots; these are known as "latent infections" (Knutson and Tinnin 1980). After thinning, 90 percent of all latent infections will appear within five years (Shea 1964).

Response: This statement is generally true, although the post-harvest canopy cover will influence the level of latent infection development. Specific to the South Fork Little Butte Project, management efforts are focused toward minimizing the impacts of Douglas-fir dwarf mistletoe by maximizing tree species diversity and by reducing canopy layering. Stands composed of mixed species of all size classes provide barriers that inhibit the horizontal and vertical spread of Douglas-fir dwarf mistletoe. Ponderosa pine, sugar pine, incense cedar, white fir, and hardwoods are not susceptible to Douglas-fir dwarf mistletoe. These tree species provide a physical barrier that inhibit the spread of Douglas-fir dwarf mistletoe. Suppressed and intermediate size class Douglas-fir trees are targeted for removal, reducing the canopy height structure and reducing the potential for the vertical spread of Douglas-fir dwarf mistletoe. The intent of the South Fork Little Butte Project is to implement “activities that favor trees and are deleterious to dwarf mistletoe (Knutson and Tinnin 1980).”

GREENHOUSE GAS, CARBON, AND CLIMATE CHANGE

Comment 23: What are the effects of greenhouse gas (GHG) emissions from this project versus the benefits of carbon storage considering action and no-action alternatives?

Response: The purpose of preparing an Environmental Assessment is to determine whether there is potential for significant effects on the human environment and either prepare a Finding of No Significant Impact (FONSI), or make a determination that an Environmental Impact Statement may be warranted. The Medford District BLM has conducted analysis to determine the effects of individual forest management projects on carbon storage and carbon dioxide emissions. These individual BLM proposed actions showed changes in greenhouse gas levels far too small to provide much meaningful information. The Medford BLM has determined no further analysis of greenhouse gas emissions and carbon storage are warranted at the individual project level to make a determination of potential for significant effects. Recent EAs on the Medford District include Howard Forest Management Project, Cottonwood Forest Management Project, and Heppsie Forest Management Project. All projects had comparable treatments. In those documents, carbon storage and carbon emissions of the proposed actions were calculated to determine the net contributions of greenhouse gases resulting from potential treatments. Carbon emissions (carbon dioxide) were calculated from timber harvest activities (including fuel consumption)

and post-harvest fuel treatments. These EAs found proposed actions would reduce carbon stores temporarily but it would result in net increases over time. For the Heppsie project “[within 10 years after harvest the carbon emission level (3.7 tonnes/acre) for the 20 year analysis period would be offset by carbon storage in tree growth. Total live tree carbon would equal pre-treatment levels after about 75 years of tree growth” and “[t]he total carbon dioxide emitted during the 20 year analysis periods is considered negligible in the context of total U.S. carbon dioxide emissions of 6 billion metric tons (Heppsie EA, p. 3-158).”

SILVICULTURE

Comment 24: Mortality salvage may increase rather than reduce mortality from disease.

Response: The purpose of Mortality Salvage prescriptions is not to reduce mortality from disease. Rather it is to meet RMP direction for timber production (EA, p. 1-3) by capturing mortality from dying trees in support of the District Allowable Sale Quantity. Mortality Salvage is proposed in stands or portions of stands where dead and dying trees are found. Dying trees are defined as a standing tree that has been severely damaged by forces such as fire, wind, ice, insects, or disease, such that in the judgment of an experienced forest professional or someone technically trained for the work, the tree is likely to die within a few years. Mortality Salvage involves removing dead and dying trees singly or in groups for sawlogs, specialty products, or fuelwood (EA, p. 2-29).

Comment 25: The Medford District RMP and Northwest Forest Plan require that lands south of Grants Pass must leave a minimum of 16 to 25 trees per acre:

Response: Pages 2-28 through 2-29 South Fork Little Butte EA describes the prescription for Disease Management units in the South Fork Little Butte Management Project as the following: “Those stands exhibiting a diseased condition would be harvested, leaving a residual overstory of 6-8 overstory trees per acre (TPA) greater than 20-inches DBH, or the largest available diameters averaged across the stand.”

Regarding structural composition on lands in the Southern General Forest Management Area (SFGMA), page 193 of the 1995 Medford RMP says, “For structural retention systems, retain on the average 16-25 (emphasis added) large green trees per acre in harvest units. Large conifers reserved would proportionally represent the total range of tree size classes greater than 20 inches in diameter and would represent all conifer species present.” Page 192 of the 1995 RMP states that, in most cases, the general prescription for SFGMA lands would be one of structural retention. However, it also states, “Modified even-aged and shelterwood retention systems would be utilized dependent upon factors such as site quality, presence of disease, and visuals.” Per page 188, maintaining site productivity and wildlife habitat values requires the retention “on the average 6-8 large green trees per acre in harvest units.”

The prescription for Disease Management units within the South Fork Little Butte Management Project meet the retention requirements of SFGMA lands as defined in the 1995 Medford RMP.

FIRE HAZARD AND RISK

Comment 26: The proposed action will increase fire hazard for short- and long-term; these effects should be documented in an EIS.

Response: While fuel levels would increase immediately following forest management activities (EA, p. 3-30 to 3-31), this increase in fuel loading would not create a significant increase in the risk of large-scale wildfires for the short-term, this is because:

- Flame lengths in a slash model would be about 4 feet, which would still allow for direct attack (EA, p. 3-31).
- slash piling is required soon after yarding is completed (within 4-6 weeks and often sooner) on a unit by unit basis, which breaks up the continuity of the fuel bed and its ability to carry fire;
- slash is green when first cut and gradually becomes more susceptible to burning; green fuels can dampen fire behavior;
- handpiles usually need to cure for 4-6 months before they will burn (EA, p. 2-30);
- Pile burning to complete the post-harvest fuels treatment would be completed within 6 months to one year following completion of harvest activities (EA, p. 2-30).
- Following treatment of activity fuels, fire hazard would be lower than pre-harvest conditions due to the reduction in ladder and canopy fuels (EA, p. 3-31).
- The 133 acres of regeneration harvest and group select patches within 109 acres would be less fire prone and more fire-resilient in the short-term (about 10 years because prescriptions call for leaving the larger healthier trees and treating post-harvest slash (surface fuels). Over the long-term (10-20 years), these stands would begin to increase in flammability and decrease in fire resiliency as young trees begin to establish and grow beneath the overstory and in group select openings (EA, p. 3-32). However, these acres represent <1% of the fire analysis area. Overall, fire resiliency of the Analysis Area as a whole is improved due to the overall reduction in fire hazard within treatment units especially when combined with previous fuels reduction treatments, about 1,395 acres (EA, p. 3-26), that have occurred on BLM-administered lands within the Analysis Area.

Comment 27: Management Implications of the Odion Paper should be addressed. The central conclusion of the paper is that long absence of fire predicts low-severity fire effects in the Klamath mixed evergreen forests. This conclusion is followed by management implications:

1. “The fuel build-up model formulated for southwestern ponderosa pine forests does not apply to Klamath mixed-evergreen forests, and fuel treatments intended to prevent crown fires based on this model are misdirected.”
2. Fuel treatments designed to impose a low severity fire regime may be ecologically detrimental.
3. Fuel treatments may be ecologically beneficial in tree plantations where past logging has left unnatural fuel profiles.”
4. Naturally ignited wildland fires may be beneficial to a variety of conservation objectives of the Klamath forests. Home ignitability mitigation in the wildland-urban interface may increase options for back-country wildland fire use.

Response: BLM’s fire and fuels specialist did review the paper *Patterns of fire severity and forest conditions in the western Klamath Mountains, California*,¹ as well as other literature concerning wildfire in northern California in the EA (p. 3-32). The authors of the article studied the 1987 wildfires of the Klamath-Siskiyou region in northern California to test modern human impacts on the fire regime by analyzing fire extent and severity relative to vegetation structure, past fire occurrence, roaded versus unroaded areas, and timber management activities. Their study was based on satellite imagery to

¹ Odion, D.C., E.J. Frost, J.R. Strittholt, H. Jiang, D.A. DellaSala and M.A. Moritz. 2004. *Patterns of fire severity and forest conditions in the western Klamath Mountains, California*. Conservation Biology 18(4): 927-936”.

determine pre-fire vegetation conditions (closed canopy forest, open forest, and non-forest), and they used GIS to acquire information on fire history, locations of tree plantations, timber types, fire severity, roaded versus unroaded areas, and timber types.

Management Implication #1 and to address the central conclusion of the paper (that long absence of fire predicts low severity fire effects): “The fuel build-up model formulated for southwestern ponderosa pine forests does not apply to Klamath mixed-evergreen forests, and fuel treatments intended to prevent crown fires based on this model are misdirected.”

It should also be noted that this study used no local or site specific weather data. Inversion layers present during the 1987 fires may have had a distinctive effect on the way these landscapes burned, yet was not accounted for (EA, p. 3-32). The authors of *Patterns of fire severity and forest conditions in the western Klamath Mountains* also suggested that even though they found time since fire as an important predictor of lower fire severity, “further research in mixed-severity fire regimes is needed to answer questions about stand-age dependency and the role of fuel, weather, and topography (Odion et al., 2004).”

Weatherspoon and Skinner (1995)² also studied the 1987 fire area and reported lower fire severity in uncut forests, and reported this finding was likely attributable to the absence of activity fuels and closed canopy conditions, which reduces wind speeds and fuels drying. They admitted these findings to be less than conclusive due to the lack of information on local weather conditions. They did find that partial cut stands with some fuels treatments suffered less than partial cut stands with no treatment and emphasized the need for effective fuels treatments (EA, p. 3-32).

Management Implication #2 Fuel treatments designed to impose a low severity fire regime may be ecologically detrimental.

The proposed South Fork Little Butte Forest Management Project is not designed to impose low severity fire regime. The role of historic low, high, and mixed-severity wildfire, and other natural and human disturbances, in forming the landscape vegetation patterns of the project planning area are recognized in the EA (EA, p. 3-6 to 3-13 and 3-24 to 3-29). The landscape vegetation patterns found in the planning area today are the result of soil types, wildfire, fire use by Native Americans, wind events, timber harvesting, forest pathogens, insects, agriculture, and residential developments.

The South Fork Little Butte Forest Management Project is designed to maintain and promote vigorously growing conifer forests, provide timber resources in accord with sustained yield principles, while managing for the recovery and survival of the northern spotted owl through conservation of high priority sites and high quality habitat on BLM-Administered Matrix lands (EA p. 1-4). The “fuel build up model” was therefore not used in the development of the purpose and need or design of the South Fork Little Butte Forest Management Project. Silvicultural prescriptions are designed to meet this objective while improving the resiliency of forest stands to disturbances including insects, disease, and wildfire. The post-harvest treatment of activity fuels is planned so that the implementation of the South Fork Little Butte Timber Sale does not result in an increased fuel hazard in accord with BLM’s RMP (RMP, p. 89).

² Weatherspoon, C.P. and C.N. Skinner. 1995. *An assessment of factors associated with damage to tree crowns from the 1987 wildfires in northern California.* Forest Science 41:430-451.

BLM's fire and fuels specialist also addressed the effects of open canopy conditions on microclimates and fire behavior (EA, p. 3-32 to 3-33). Post-harvest treatment of activity fuels and the green up of vegetation on the forest floor from increased light will help to maintain fireline intensities at manageable levels (EA, p. 3-32 to 3-33). Fuels reduction is a beneficial outcome of this forest management project following the completion of harvest and slash treatments (EA, p. 3-28) and noncommercial understory thinning.

Management Implication #3: "Fuel treatments may be ecologically beneficial in tree plantations where past logging has left unnatural fuel profiles."

The benefits of young stand thinning for forest stand improvements and fuels reduction are well known and supported by the BLM. The BLM does have an ongoing timber stand improvement program across the Medford district, which involves pre-commercial thinning of non-commercial sized tree plantations. BLM is also planning a small commercial sale in pine plantations in the South Fork Little Butte Planning Area. The purpose of the project is to thin over-stocked small diameter pine plantations and transition the plantation from predominant pine composition back to a species composition typical of mixed conifer forest. The pine plantation thin is being developed under the Integration Vegetation Management EA, and is discussed as a reasonably foreseeable project in the Planning Area (EA, p. 3-5). While the South Fork Little Butte Forest Management Project does not include plantation management in its proposed action, it does include pre-commercial thinning of natural young tree ingrowth and fuels reduction in about 741 acres of units to be harvested and an additional 812 acres of non-commercial thinning outside of commercial timber stands (EA, p. 2-8 and 2-29). The BLM does not disagree with the ecological benefits of young stand thinning.

Management Implication #4 "Naturally ignited wildland fires may be beneficial to a variety of conservation objectives of the Klamath forests. Home ignitability mitigation in the wildland-urban interface may increase options for back-country wildland fire use."

The South Fork Little Butte Forest Management Project is not located in the back-country. The project is located in the Wildland Urban Interface (EA, p. 3-30). While you have not specifically requested it, consideration of wildland fire use would be out of the scope of consideration for this project as it would not meet the identified purpose and need. The purpose and need for the South Fork Little Butte Forest Management Project is discussed above under management implication #2 and in the EA (EA, p. 1-3 to 1-6).

The EA discloses that fire suppression activities would be ongoing because there are no policies in place that would allow fires to burn naturally in the project area (EA, p. 3-25), especially considering residential and recreation areas in the Wildland Urban Interface. Allowing high intensity wildfires to burn would not be appropriate for this area and would not meet direction of BLM's RMP guidance or the agency's wildland fire management policy for this area (RMP, p. 89).

Comment 28. One commenter was concerned that the Fire and Fuels section stated "there is little peer-reviewed research to support thinning alone as a treatment to reduce unwanted fire behavior" then in the next paragraph referenced peer reviewed literature (Pollet and Omi 2002) that concludes "[t]reatments that result in forests with a lower density and larger trees show lower potential for crown fire initiation and propagation and for less severe fire effects."

Response: The Statement "there is little peer-reviewed research to support thinning alone as a treatment to reduce unwanted fire behavior" only suggests that thinning without treatment of harvest slash is not as

effective in altering fire behavior as treating surface (including harvest slash), ladder, and crown fuels simultaneously. Omi and Martinson 2002 have suggested that despite the temporary increase in ground fuels, a reduction in crown fuels can outweigh increases in surface fire hazard (EA, p. 3-30). However, as BLM has pointed out there is not an abundance of peer reviewed literature to support thinning alone. As suggested in the EA, the best approach to reducing fire hazard is forest thinning followed by treatment of activity fuels (EA, p. 3-31).

Comment 29. One commenter suggested that Weatherspoon and Skinner conclusions regarding the 1987 fires were over simplified.

Response: The EA reports Weatherspoon and Skinner (1995) found that uncut or unlogged forests had burned at lower fire severity than thinned or logged stands (EA, p. 3-32). They also suggested some of their findings to be less than conclusive due to the lack of local weather information from the time of the fire, reporting that reconstruction of highly variable weather conditions was not possible due to smoky inversions and shortages of people during the first few days of the fire when much of the area burned (EA, p. 3-32). Their findings do go on to emphasize the importance of effective fuels treatments after management actions (EA, p. 3-32).

MONUMENT EXPANSION

Comment 30: It was suggested by one commenter that the southern units of the South Fork Little Butte Project Area are located in an area recommended by scientists for inclusion into and expansion of the Cascade-Siskiyou National Monument (CSNM). They also suggest the preferred Alternative B of BLM's Western Oregon Plan Revision assigns much of the South Fork Little Butte area to Late-Successional Reserve Status.

Response: While there is a recommendation to expand the boundaries of the CSNM from a group of supporters for monument expansion and a Draft Resource Management Plan/Environmental Impact Statement for BLM Western Oregon, the South Fork Little Butte Forest Management Project Area is currently located on lands allocated by the 1995 Medford District RMP as Matrix lands with the primary objective of providing for long-term sustainable timber production. The BLM is obligated to managing the project area consistent with its current land use plan.