# Decision Record
# for the
# Trail Creek Forest Management Project
# DOI-BLM-OR-M050-2013-0004-EA

## Introduction

The Medford District Bureau of Land Management, Butte Falls Resource Area (BLM) has completed the analysis in the *Trail Creek Forest Management Project Environmental Assessment* (DOI-BLM-OR-M050-2013-004-EA) (EA) for proposed forest management activities on approximately 1,530 acres of matrix lands and 63 acres of riparian reserves and hazardous fuel reduction on 2,638 acres. The BLM analyzed three alternative ways of meeting the project's identified Purpose and Need (EA, p. 1–10). A no action alternative was also included.

The Trail Creek Forest Management Project is located on BLM-administered lands primarily in the Trail Creek fifth field watershed with small portions just outside the Trail Creek watershed in the Elk Creek (South Umpqua subbasin) and Shady Cove-Rogue River fifth field watersheds.

The Project Area is located on BLM-administered lands in

- Township 32 South, Range 1 West, Sections 19, 21, 22, 27–34;
- Township 33 South, Range 1 West, Sections 3, 7, 9, 10, 15, 17–19, 21, 22, 27–34;
- Township 34 South, Range 1 West, Section 5;
- Township 33 South, Range 2 West, Sections 1, 3, 9, 15, 23, 25; and
- Township 34 South, Range 2 West, Section 1;
  Willamette Meridian; Jackson County, Oregon.

## Public Involvement

The Butte Falls Resource Area began outreach for this project on February 1, 2013 by mailing postcards to 246 individuals, businesses, organizations, tribes, and government agencies. The purpose of the postcard was to introduce adjacent landowners and interested parties to the Trail Creek project and project Web site and to determine interest in the project. Based on responses to the postcard, the BLM sent 48 scoping flyers on March 29, 2013 to parties that expressed an interest in receiving more information on the project. The postcard and scoping flyer were also posted on the Trail Creek project Web site. The BLM received a total of five comment letters in response to the scoping flyer.

Based on those comment letters and input from the project interdisciplinary team of resource specialists, the BLM identified five issues to include for analysis in the EA: Forest Condition, Fragile Soils, Sediment from Roads, Northern Spotted Owl Habitat, and Economics (EA, p. 9). Issues raised during scoping that were not analyzed in detail in the EA were addressed in Appendix A, Issues Considered but Eliminated from Detailed Analysis (EA, p. 108–113).

The BLM hosted two public field tours for this project. The first tour occurred May 22, 2013 and included BLM staff and representatives from the Upper Rogue Watershed Association, Klamath-Siskiyou Wildlands Center, American Forest Resource Council, Boise Cascade, Southern Oregon Forest Restoration Collaborative, and U.S. Fish and Wildlife Service. The second tour, on June 6, 2013, included BLM staff and four members of the public.

A 30-day public comment period for the EA was held from February 3, 2014 to March 4, 2014. The BLM notified the public through a letter mailed February 3, 2014 to 37 individuals, organizations, tribes, and government agencies and a legal notice of EA availability published in the *Medford Mail Tribune* newspaper on February 2, 2014. The EA was also posted on the Medford District's NEPA Analysis Web site and the Trail Creek project Web site. The BLM received seven letters containing comments on the EA.

EA comments generally fell into nine topic areas: (1) areas deferred from management; (2) road construction (temporary and permanent) and road density; (3) northern spotted owl habitat; (4) Berry Creek lands with wilderness characteristics; (5) cumulative effects; (6) harvest in riparian reserves; (7) fragile soils, Timber Production Capability Classification (TPCC) stands, unstable areas, and landslides; (8) coho salmon, and (9) carbon storage and emissions.

## Plan Consistency

Projects proposed and analyzed in the EA conform to the following:

- Final-Medford District Proposed Resource Management Plan/Environmental Impact Statement (PRMP/EIS, 1994) and Medford District Record of Decision and Resource Management Plan (RMP/ROD, 1995)
- Final Supplemental Environmental Impact Statement and Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (Northwest Forest Plan FSEIS, 1994 and ROD, 1994)
- Final SEIS for Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (2000), and the ROD and Standards and Guidelines for Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (2001)
- Medford District Integrated Weed Management Plan Environmental Assessment (1998) and tiered to the Northwest Area Noxious Weed Control Program (EIS, 1985)

## Consultation and Coordination

The federally threatened northern spotted owl is the only wildlife species in the Project Area listed as Threatened and Endangered (T&E) under the Endangered Species Act (ESA). The BLM consulted with the U.S. Fish and Wildlife Service on the potential effects of this project on the northern spotted owl pursuant to Section 7(a)(2) of the ESA. The Medford District BLM prepared a Biological Assessment for proposed timber harvest projects that included the Trail Creek Forest Management Project and submitted it to the U.S. Fish and Wildlife Service on August 16, 2013. The BLM received a Biological Opinion from the Service on December 2, 2013 (FWS Reference Number 01EOFW00-2013-F-0195). The Opinion concluded that implementation of the actions proposed in Alternative 3 would not jeopardize the continued existence of the northern spotted owl and would not destroy or adversely modify designated northern spotted owl critical habitat (EA, p. 104).

The Trail Creek Forest Management Project is within the range of two T&E plants: federally endangered large flowered wooly meadowfoam (*Limnanthes flocossa* ssp. *grandiflora*) and federally endangered Gentner's fritillary (*Fritillaria gentneri*). The Project Area also contains suitable habitat for the Gentner's fritillary. The BLM conducted surveys for these T&E plants and no plants were discovered within proposed project boundaries. Therefore, the proposed actions would have no effect on T&E plant species (EA, p. 104).

The Trail Creek Forest Management Project Area contains one T&E fish species, the federally threatened Southern Oregon/Northern California coho salmon. The project fish biologist determined the actions proposed in this project would have no effect on coho salmon, coho critical habitat, or essential fish habitat; therefore, consultation was not required (EA, p.104).

The BLM mailed scoping flyers to tribes with a connection to lands in southern Oregon. Flyers were mailed to the Cow Creek Band of Umpqua Tribe of Indians, Confederated Tribes of the Grand Ronde Community of Oregon, and Confederated Tribes of the Siletz Indians of Oregon. These tribes also received the Trail Creek Forest Management Project EA availability notification letter.

## Decision

My decision is to implement the actions proposed and analyzed in the Trail Creek Forest Management Project EA under Alternative 3, with the exception of 35 acres that will be deferred from harvest at this time. The deferred acres lie within the Berry Creek Unit of lands with wilderness characteristics and were to be helicopter yarded. However, the cost associated with helicopter yarding and the low volume per acre of timber to be harvested made these acres uneconomical to harvest for now.

My decision will implement actions in locations described below and will include all required project design features, as described in the EA (p. 24–37), and the following additional and modified project design features.

The following project design feature was ***added*** to the project to protect resources:

- No ground-based mechanized equipment is allowed within the riparian reserve during riparian thinning; logs felled within riparian reserves will be cable winched to adjacent

matrix land or existing roads. Trees felled for safety or operational reasons would be left in place.

In addition, the following project design features from the EA have been ***modified*** to provide clear and consistent direction:

- Rip temporary routes and associated landings (new construction or reconstruction) and predesignated skid trails to a depth of 18" or bedrock (whichever is shallower), apply native grass seed and weed-free mulch, water bar, and block the same season of use. If hauling is not completed in the same year the route is constructed, the route will be storm proofed and blocked by October 15 or when soil moisture exceeds 25% (EA, p. 25).
- Apply native seed and mulch and place woody debris or other appropriate barriers (e.g., rocks, logs, and slash) on the first 100 feet of skid trails leading off system roads in all ground-based yarding units upon completion of yarding to block and discourage unauthorized vehicle use (EA p. 26).
- Maintain a maximum clearing width of 15 feet for skyline-cable corridors located outside riparian reserves (EA, p. 26).
- In order to restrict the amount of compacted soil to less than 12% in a timber harvest unit, skid trails must be spaced 150 feet on average and equipment used would be restricted to the skid trails locations approved by the Authorized Officer. Equipment may be used off of these designated skid trails only under the following conditions:
    - Mechanized equipment capable of creating and walking on slash (such as a cut-to-length system) may work off designated skid trails for 1 or 2 passes on at least 8″ of slash during dry soil conditions (less than 25% soil moisture content). Equipment must be 8 psi or less. Limit skid trails to a minimum of 50-foot spacing off designated skid trails. All other use of ground-based equipment will be restricted to designated skid trails.
    - Mechanized equipment (feller-buncher systems) may work off designated skid trails during the dry season (soil moisture content less than 20%) for 1 or 2 passes only (one round-trip). Equipment must be 8 psi or less. Limit skid trails to a minimum of 50-foot off designated skid trails. All other use of ground-based equipment will be restricted to designated skid trails (EA, p. 26).

These project design features were developed using resource protection measures identified by the Interdisciplinary Team and the Best Management Practices identified in the Medford District ROD/RMP (p. 151–175) and any plan amendments in effect at the time this document is published.

My decision is based on site-specific analysis; supporting project record; management recommendations in the Trail Creek Watershed Analysis; management direction in the Medford District ROD/RMP; and public comments. The Interdisciplinary Team and responsible official reviewed the written comments received in response to the EA. The review concluded the EA comments would not lead to changes in the EA document and no new information or issues were presented that had not been analyzed or addressed in the EA. The BLM responded to those comments in Attachment 1 of this Decision Record.

A Finding of No Significant Impact (FONSI) was completed for this project and I have determined this project does not constitute a major federal action that will have a significant impact on the human environment.

**My decision is to authorize the following actions:**

- **Restoration thinning** on 477 acres of matrix lands and 4 acres of riparian reserves in
  - Township 32 South, Range 1 West, sections 19, 21, 27–31, 33, 34;
  - Township 33 South, Range 1 West, sections 7, 9, 10, 31;
  - Township 33 South, Range 2 West, sections 3, 23, 25; and
  - Township 34 South, Range 2 West, section 1.
- **Riparian thinning** on 4 acres of riparian reserves in
  - Township 32 South, Range 1 West, section 19.
- **Small diameter thinning** on 185 acres and **precommercial thinning** on 263 acres of matrix lands in
  - Township 32 South, Range 1 West, sections 19, 21, 29, 31;
  - Township 33 South, Range 1 West, sections 3, 9;
  - Township 33 South, Range 2 West, sections 3, 15; and
  - Township 34 South, Range 2 West, section 1.
- **Hazardous fuel reduction** on 2,638 acres in
  - Township 32 South, Range 1 West, sections 29–32;
  - Township 33 South, Range 2 West, section 1;
  - Township 33 South, Range 1 West, sections 3, 7, 9, 17–18, 19, 21, 27–29, 31–34;
  - Township 34 South, Range 2 West, section 1; and
  - Township 34 South, Range 1 West, section 5.
- **Road renovation** on 80 miles of road.
- **Road decommissioning** on 10.3 miles of road.
- **Road closure** (gates or barricades) on 1.4 miles of road.
- **Temporary route construction and decommissioning** of 0.22 mile of routes in
  - Township 32 South, Range 1 West, section 19 and 31.
- **Temporary route renovation and decommissioning** of 0.8 mile of routes.
- **Activity slash treatment** (lop and scatter, handpile and burn, biomass removal) on 1,495 acres.
- **Public roadside firewood cutting** along 12 miles of road.
- **Water source restoration** at 14 sites.

- **Off-highway vehicle trail closure and restoration** on 5.8 miles of unauthorized trails.
- **Meadow restoration** on 282 acres.
- **Stream habitat enhancement and riparian restoration** that includes
  - Installing 10 wood and 10 rock stream structures
  - Removing 0.5 mile of road
  - Removing 0.14 mile of fence
  - Constructing 0.1 mile of fence
  - Tree planting on 3.5 acres
  - Replacing 1 culvert
- **Reclamation of the Romine Creek Quarry**

## Decision Rationale

My decision to authorize the proposed action is in compliance with the Medford District ROD/RMP and the Northwest Forest Plan (EA, p. 7). The proposed action complies with applicable laws, rules, regulations, standards, and guidelines (EA, p. 7). The BLM has completed all required T&E species, Special Status Species, Survey and Manage species, and cultural surveys and applied mitigations where appropriate.

My decision to implement Alternative 3 is based on consideration and evaluation of how well the purpose and need are met, the Decision Factors listed in the EA (p. 10), and the associated environmental consequences of implementing or not implementing the Trail Creek Forest Management Project, as analyzed in the EA and documented in the FONSI. I have read the comment letters we received during the EA public review period and I have considered them fully. I have determined that my decision outlined above best meets the purpose and need for this project, as identified in Chapter 1 of the Trail Creek Forest Management Project EA.

The EA analyzed four alternatives for the management of the BLM-administered lands in the project area: Alternative 1 (No Action), Alternative 2, Alternative 3 (Selected Alternative), and Alternative 4. A comparison of the key features of the action alternatives (Alternatives 2–4) is included in the EA in Table 2-3 (EA, p. 36–37). Because all action alternatives were designed to meet the purpose and need for the project, the degree to which each alternative best meets the purpose and need varies and provides the basis for my decision.

Alternative 1 (No Action) would not meet the purpose and need for this project because no actions would be taken at this time. Forest management and timber harvest activities would not occur. No timber volume would be made available for use, no revenue would be produced for the Federal Treasury, and no full-time jobs would be supported. Stand densities would not be reduced and would continue to increase. Roads would not be closed, decommissioned, or improved and localized road sediment would not be decreased. Hazardous fuels would not be reduced and the potential for adverse impacts on Federal and adjacent non-Federal lands should a large-scale wildfire occur would continue. There would not be the opportunity for the public to cut firewood where it is easily accessible and a demand is present. Water sources would not be

restored and would remain unusable for fire suppression. Unauthorized off-highway vehicle trails would not be closed and restored so adverse impacts would continue and could potentially increase. Meadow restoration would not slow or reverse the loss of meadow habitat from the encroachment of brush and conifers. Stream habitat enhancement and riparian restoration that would benefit aquatic plant and wildlife species would not be completed through this project. Since no quarry reclamation would occur, erosion and sedimentation would continue at the Romine Quarry due to drainage problems and a lack of vegetation.

All three action alternatives proposed the same amounts and levels of small diameter thinning, precommercial thinning, riparian thinning, hazardous fuels reduction, and off-highway vehicle trail closure and restoration. Additionally, these alternatives would restore water sources, meadows, and riparian and stream habitat; provide public firewood cutting opportunities; and reduce erosion and minimize sediment from the Romine Creek Quarry in the Project Area.

The action alternatives differ in the types of silviculture prescriptions and yarding systems proposed and the amount of temporary route construction that would be needed.

Alternative 2 would produce more timber volume, revenue for the Federal Treasury, and full-time jobs when compared to Alternatives 3 and 4. Forest management actions would reduce stand densities. Regeneration harvest would maximize conifer growth and timber yield on matrix land. Regeneration harvest would also remove northern spotted owl roosting/foraging and dispersal habitat; therefore, Alternative 2 would not fully meet the project's purpose of maintaining or enhancing stands identified as northern spotted owl habitat.

Alternatives 3 and 4 would produce less timber volume, revenue for the Federal Treasury, and full-time jobs as compared to Alternative 2. Alternatives 3 and 4 would implement ecological forestry principles through the use of restoration thinning. Restoration thinning would reduce stand densities and create structural diversity by making small openings and retaining small unthinned patches next to snags, large coarse down woody debris, deformed trees, and seeps or hardwood clumps across the Project Area. Existing stand diversity would contribute to these unthinned patches and small openings in the Project Area. Restoration thinning would maintain a minimum 40% canopy cover in northern spotted owl dispersal habitat and a minimum 60% canopy cover in northern spotted owl nesting, roosting, and foraging habitat.

Alternative 3, the Selected Alternative, provides a set of actions that best meet the various purposes and needs identified for this project. It would result in an economical project that provides timber volume (albeit less than Alternative 2), revenue for the Federal Treasury, and full-time jobs while maintaining or enhancing northern spotted owl nesting, roosting, foraging, and dispersal habitat in the Project Area. Although Alternative 4 would produce the same amount of timber volume as Alternative 3, Alternative 4 would be less economical. The additional 55 acres of helicopter yarding in Alternative 4 would result in a less economical project with reduced revenue for the Federal Treasury. For the reasons listed above, I have decided Alternative 3 will best meet the purpose and need for this project.

In preparing the EA, the BLM interdisciplinary team analyzed the effects of the proposed action for the following issues: forest condition, fragile soils, sediment from roads, northern spotted owl habitat, and economics. I have determined the effects will be within those analyzed in the

*Medford District Proposed Resource Management Plan and Environmental Impact Statement* (PRMP/EIS 1994) or were otherwise insignificant. This action takes into consideration cumulative effects of past, present, and future management activities in the Project Area on nearby private and Federal lands. Discussion of those effects can be found in the EA (p. 37–102).

In making my decision, I considered the Decision Factors identified in the EA (p. 10) to

- reduce competition-related mortality and wildfire risk, and increase tree vigor and growth;
- provide for the establishment and growth of conifer species while retaining structural and habitat components, such as large trees, snags, and coarse woody debris;
- promote the development of healthy, late-successional characteristics;
- reduce erosion and subsequent sedimentation from roads;
- preserve slope stability on soils considered fragile for mass movement;
- reduce the short- and long-term costs of managing the lands in the Project Area;
- maintain or improve existing highly suitable northern spotted owl habitat within the provincial radius (1.3 miles) of known active northern spotted owl sites and all or substantially all of the older and more structurally complex, multilayered conifer forests; and
- maintain or improve the older, high quality, and occupied forest habitat as necessary to meet the northern spotted owl recovery goals.

I have chosen Alternative 3 because it most completely meets the identified purpose of and need for the project for the following reasons:

- Increasing landscape resiliency to environmental disturbances (e.g., fire, insects, disease, and climate change) by reducing stand densities on 1,495 acres, retaining old trees, favoring drought-tolerant species, and increasing structural complexity while maintaining existing highly suitable northern spotted owl habitat.
- Reducing the potential risk of wildfire that may result from the slash (branches, twigs, and bark) produced during harvest treatments. Following harvest activity, a fuels assessment within each unit will determine the fuel hazard and fire risk based on surface fuel loading, aspect, slope, access, location of each unit, and treatment needed (e.g., handpile and burn, lop and scatter, biomass removal).
- Reducing the threat of large-scale wildfires on up to 2,638 acres on BLM lands and the potential for adverse effects on federally managed resources and private property adjacent to Federal lands in the wildland-urban interface.
- Reducing potential sediment production by renovating up to 80 miles of roads, including blading the road surface, cleaning ditch lines and culvert inlets, replacing deteriorated culverts, and applying rock to depleted areas, to improve the long-term road drainage.
- Reducing potential sediment production and road density through 1.4 miles of road closures, 6.0 miles of partial decommissioning , and 4.3 miles of full decommissioning.

Partial decommissioning includes water barring, pulling of culverts (armored if necessary), seed with native grasses, mulch with weed-free mulch, and plant to reestablish vegetation. Full decommissioning includes decompacting, pulling culverts, seeding with native grasses, mulching, planting to reestablish vegetation, and closing with an earthen barrier or equivalent.

- Reducing adverse impacts created by off-highway vehicle use by closing and restoring up to 5.8 miles of unauthorized trails.
- Reducing the short-term costs of managing the lands by providing vehicular access to harvest units by reconstructing 0.8 mile and constructing 0.6 mile of temporary routes located on stable locations.
- Maintaining or improving existing highly suitable northern spotted owl habitat within the 1.3-mile provincial home range of known active northern spotted owl sites and maintaining substantially all of the older and more structurally complex, multilayered conifer forests within the Project Area by planning treatments outside these areas.
- Providing an economical timber sale and stewardship contracts that will produce revenue for the Federal government and contribute approximately 3.5 million board feet of timber toward the Butte Falls Resource Area's and Medford District's Allowable Sale Quantity.
- Providing opportunities for public collection of firewood for personal use.
- Improving 14 existing water sources to allow use for fire suppression and by wildlife.
- Restoring 282 acres of upland meadows where tree and brush species are encroaching.
- Restoring watershed processes along a section of the West Fork Trail Creek by placing wood and rock structures in the stream, removing user-built roads, removing deteriorating fencing and installing new fencing, planting cleared forest land with seedlings, and replacing an undersized culvert.
- Reducing erosion and minimizing sediment production from the Romine Creek Quarry.

I have considered how the alternatives analyzed in the EA meet the purpose and need, the associated environmental effects, and public input. Based on these considerations, I have decided Alternative 3 as analyzed in the Trail Creek Forest Management Project EA best meets the purpose and need described for this project, while minimizing the potential for adverse effects on the environment. The required implementation of project design features will provide for the protection of resources consistent with existing laws and policy and direction in the 1995 ROD/RMP.

## Administrative Remedies

The decision described in this document is a forest management decision and is subject to protest by the public. In accordance with Forest Management regulations at 43 CFR Subpart 5003—Administrative Remedies, protests of a decision, including a timber sale decision, may be filed with the Authorized Officer within 15 days of the publication date of the Notice of Decision or Notice of Sale in the *Medford Mail Tribune* newspaper, Medford, Oregon. The protest must clearly and concisely state which portion or element of the decision is being protested and the reasons why the decision is believed to be in error.

When timber is offered for sale, a Notice of Sale will be published in a newspaper of general circulation, in this case the *Medford Mail Tribune*. Publication of the *first* Notice of Sale establishes the effective date of the decision for the portions of this Decision to be implemented by the Mouse Trail Timber Sale. The protest of the Mouse Trail Timber Sale must be made within 15 days of the publication of the *first* Notice of Sale.

In accordance with BLM Forest Management Regulation 43 CFR § 5003.2 (a and c), the effective date of this decision, as it pertains to actions that are **not** part of an advertised timber sale, will be the publication date of the Notice of Decision and FONSI in the *Medford Mail Tribune*. This date applies to the following actions: small diameter thinning (185 acres), precommercial thinning (263 acres), hazardous fuel reduction (2,638 acres), public roadside firewood cutting (272 acres), water source restoration (14 sites), road decommissioning (10.3 miles), road closure (1.4 miles), off-highway vehicle trail closure and restoration (5.8 miles), meadow restoration (282 acres), stream habitat enhancement and riparian restoration, and Romine Quarry reclamation. Publication of this notice establishes the date initiating the protest period provided in accordance with 43 CFR § 5003.3.

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.

43 CFR § 5003.3 subsection (c) states: "Protests received more than 15 days after the publication of the notice of decision or the notice of sale are not timely filed and shall not be considered." Upon timely filing of a protest, the authorized officer shall reconsider the project decision to be implemented in light of the statement of reasons for the protest and other pertinent information available to him. The Authorized Officer shall, at the conclusion of the review, serve the protest decision in writing to the protesting party(ies). Upon denial of a protest, the Authorized Officer may proceed with the implementation of the decision as permitted by regulations at 5003.3(f).

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 *first* Notice of Sale, this 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 Butte Falls Resource Area will issue a protest decision.

Jennifer Sanborn 7/25/2014

Jennifer Sanborn
Acting Field Manager
Butte Falls Resource Area

Date

# Attachment 1

## BLM Response to Public Comments

The BLM received seven letters in response to the release of the Trail Creek Forest Management Project EA. Letters were received from American Forest Resource Council (AFRC), Klamath-Siskiyou Wildlands Center (KSWC), Oregon Wild, and four private citizens. The comments in the letters varied in their support of the Trail Creek Forest Management Project. The BLM's responses to those comments follows.

## Areas Reserved from Management

**Comment:** The EA makes clear that treatments under all alternatives are tiered to the Medford District ROD/RMP and the land allocations defined in it. However, based on Appendix B, it appears that factors other than the land allocations defined in the RMP are dictating management direction (AFRC, p. 2-3).

**BLM Response:** Appendix B does not change the land allocations in the Trail Creek Forest Management Project EA. Appendix B assesses the condition of forest vegetation in the West Fork Trail Creek, Upper Trail Creek, and Lower Trail Creek sixth field watersheds and provides management recommendations that apply the concepts and principles of ecological restoration. Determining restorative needs within a forest landscape begins with establishment of baseline conditions at both the historic and current temporal levels. One of the purposes of this EA is to reduce tree densities in stands less than 150 years old on matrix lands to increase landscape resiliency to environmental disturbances (EA, p. 3). Restoration thinning would reduce the density of forest stands with the objectives of increasing stand vigor, reducing mortality of desired stand components, and reducing susceptibility of insect and disease attack and spread (RMP/ROD p. 186). Applying restoration thinning to stands less than 150 years old on matrix lands would reduce tree densities to increase landscape resiliency to environmental disturbances (EA, p. 3). The analysis in Appendix B helped in determining at what level, where, and how to harvest trees on BLM-administered lands allocated to the programmed timber harvest base within the Project Area.

The Medford District RMP/ROD (p. 17) states that lands administered under the O&C Lands Act must also be managed in accordance with other environmental laws such as the Endangered Species Act (ESA) and the Clean Water Act. Some provisions of these laws take precedence over the O&C Lands Act. For instance, the ESA requires the BLM to ensure that management of O&C lands will not likely result in jeopardy to listed species or destruction or adverse modification of critical habitat. The ESA directs all Federal agencies to use their authorities to carry out programs for the conservation and recovery of listed species. Section 5(a) of the Act also directs: "the Secretary, and the Secretary of Agriculture with respect to the National Forest System, shall establish and implement a program to conserve fish, wildlife, and plants, including those that are listed as endangered species or threatened species pursuant to Section 4 of this Act" 16 U.S.C. 1534(a).

**Comment:** Page 122 of the EA identifies the "Van Pelt rating system" as the guidance that BLM will use to identify trees over or under the age of 150. There is no scientific support to apply Van Pelt to stands in southwest Oregon. Furthermore, the Van Pelt guidelines are not part of the

Medford RMP and would require adoption through the NEPA public comment process if used as a District standard (AFRC, p. 3).

**BLM Response:** As stated in the EA (p. 122), the BLM determines tree age using a variety of sources such as increment core samples, rating systems for determining the general age of trees, counting tree stump rings, or stand birthdate from the Micro*Storm data base. In addition to the Van Pelt rating system, the BLM used stand exams as another tool for collecting site-specific details (tree species, height, diameter, age, crown ratios, etc.) within the Project Area. In most instances, visual attributes (Van Pelt rating system) were used to determine if a tree is younger or older than 150 years. The visual rating system is not absolute but is generally a reliable indicator of tree age (EA, p.122).

Please note, the BLM conducted implementation monitoring on the Pilot Thompson project to determine how well timber sale markers achieved the age-based criteria in commercial harvest units. BLM staff bored 48 trees 26.1 inches DBH and larger that were designated for harvest to determine tree breast height age. Of those trees, eight were determined to be 150 years or older and were reserved from harvesting. Based on data collected, markers achieved the age-based criteria for an estimated 83% of the trees. These 8 trees represent <0.2% of the trees marked for commercial harvest in the Pilot Thompson project. An additional 14 trees less than 26.1 inches DBH were bored for age; all were less than 150 years of age. The BLM determined a certain level of error in implementing age or any other marking criteria must be allowed; a 100% compliance threshold is an expectation that is difficult to meet within reasonable project timelines and budget constraints (Pilot Thompson Implementation Monitoring Report for Age-based Marking Guidance).

**Comment:** In past "restoration treatments" the BLM has implemented the "skips & gaps" design as described in Table C-3 in a way that we feel does not consider the treated stand or the treated landscape in its proper context. When a "stand" is first identified in the field by the BLM it usually looks like a solid block. By the time the BLM is finished putting up sale boundary tags the stand usually looks like a piece of swiss cheese. These holes in the stand are due to riparian buffers, survey & manage buffers, unstable slopes, etc. Despite being tagged out of the treatment area, these areas are still part of the "stand." We would like the BLM to look at these buffers as what they really are: skips in the stand (AFRC, p. 3).

**BLM Response:** The BLM-administered lands in the Trail Creek project area are in a mixed ownership pattern with private timber company lands, private lands, state lands and US Forest Service lands. Because of this mixed ownership, the project area is already fragmented. After field verification and surveys, the unit boundaries reflect the riparian, wildlife, and plant buffers, as well as unstable slopes and seeps. These features were used to define where to place some of the skips used in the restoration thinning prescriptions. Skips "could [also] be left adjacent to snags; large coarse woody debris; deformed trees; and existing dense pockets, seeps, or hardwoods clumps (EA, p. 162).

In previously logged stands, canopy gaps are typically present so most of the structural diversity would be added by retaining unthinned patches (EA, p. 122). Root rot areas may be used to provide either gaps or skips. Gaps can be created to mitigate pathogen spread; within the gaps, unsusceptible tree species would be retained. When root rot areas are left as skips, it is

anticipated they would provide a short-term periodic pulse of large snags and coarse woody debris (EA, p. 121).

Approximately 10–15% of the stand acreage would be in a combination of skips and gaps to increase within-stand structural diversity. Approximately 5–7% of stands 6 acres and greater in size would remain untreated (skips). Stands 5 acres and less in size would have no skips or gaps (EA, p. 162).

## Road Construction and Road Density

**Comment:** Please note that while the new road construction may [be] described as either "temporary" or "permanent" but that all road construction results in long-term impacts to soil health and productivity (KSWC, p. 16).

**Response:** The BLM does not disagree nor contend that there are no impacts from temporary route construction and subsequent decommissioning. All temporary routes would be decommissioned after use by ripping, water barring, seeding, mulching, and blocking the same season of use (EA, p. 64). Ripping the road prism breaks up the existing compacted soil and allows for better water infiltration into the soil, reduces runoff, and improves vegetative recovery (EA, p. 74). The soil is not expected to return to the undisturbed state but the soil would function the same as or close to an undisturbed soil (EA, p. 61).

All temporary routes would be decommissioned after use to loosen compacted soil and improve infiltration, reduce runoff, increase soil porosity, and accelerate reestablishment of vegetation. The estimated amount of loss in soil productivity from constructing and subsequently ripping the temporary routes would be approximately 15% initially. The bulk soil density is lowered directly after mechanical decompaction; however, it may take more than 10 years for the remaining 15% of soil productivity loss on the roads and landings proposed for decommissioning to recover (Hass 2010[1]). The delay in recovery results from the removal of the organic surface layer during road and landing construction. Without this organic substrate available for the soil biota, the biological processes responsible for decomposition of organic matter and mineralization of nitrogen in the soil profile are slowed until soil organic matter levels return to near predisturbance conditions. Placing logging slash and applying grass seed or straw mulch on the decommissioned roads would help increase organic matter accumulation, improve nutrient availability, protect the soil surface from erosion, and expedite restoration of soil productivity.

The proposed temporary routes to be constructed are either extensions of existing roads or short spur routes off existing roads; they are located outside riparian reserves. Temporary routes would be constructed on stable locations, used, and decommissioned within the same operating season. The temporary routes to be reconstructed are currently on the landscape but are not in use. For example, the temporary route may be blocked and would require very little preparation, if any, to use for timber hauling. Temporary route construction and reconstruction would occur during the dry season. Because these routes are temporary, the effects would be mitigated by ripping and water barring to minimize the potential for sedimentation (EA, p. 75).

[1] Hass, T. 2010. Personal communication. Medford District BLM Soil Scientist.

**Comment:** Please note that page 86 of the EA indicates that proposed new road construction would necessitate the removal of 11 acres of NSO NRF habitat while page 63 of the EA reveals that one of the temporary logging roads would be located on fragile soils. These are significant and avoidable project impacts (KSWC, p. 16).

**Response:** The BLM consulted with the U.S. Fish and Wildlife Service (USFWS) on the proposed Trail Creek Forest Management Project and received a Biological Opinion (BO). The USFWS determined that after reviewing the current status of the spotted owl, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, nesting, roosting, foraging habitat loss is relatively minimal in the context of the action area. Actions that will remove nesting, roosting, foraging habitat will ***adversely affect*** spotted owls because of the stand-level impacts that may include the removal of key habitat features such as large diameter and mid-story trees that provide spotted owl roosting and foraging habitat structure. USFWS also concluded the proposed action is ***not likely to jeopardize*** the continued existence of the spotted owl and is not likely to adversely modify 2012 revised critical habitat for the spotted owl. The USFWS reached these conclusions because the action area is expected to continue to fulfill its role in the survival and recovery of the spotted owl (BO, p. 71).

The EA analyzed for removal of up to 11 acres of roosting/foraging habitat for temporary route and landing construction within designated critical habitat. Based on the 500-acre analyses, the BLM determined the roosting/foraging habitat removal associated with the Trail Creek project within critical habitat is ***not likely to adversely affect*** spotted owl critical habitat under ESA because it would result in an insignificant amount of removal of a primary constituent element. At the 500-acre scale, the impacts to proposed critical habitat primary constituent elements are insignificant and undetectable and adverse impacts are unlikely to occur. Additionally, the proposed downgrade of roosting/foraging habitat within critical habitat would result in a reduction of only 0.07% of roosting/foraging habitat within CHU 10, subunit KLE-3. Substantial habitat would be retained in the subunit to maintain the intended dispersal function of the subunit KLE-3 (EA, p. 86).

Please note, although the EA analyzed for up to 11 acres of roosting/foraging habitat removal for temporary route and landing construction, after the BLM completed timber sale unit layout, 3.8 acres will actually be removed.

The temporary route construction proposed in T32S, R1W, section 30 is located in soils classified as fragile for mass movement (FP) for about 0.13 mile. The project soils scientist determined the temporary route construction would not impact slope stability because of the location on the landscape (gentle shoulder, straight slopes) and no evidence of slope instability (no active slumps or pistol butting) (EA, p. 63). See Table D-2 (EA, p. 176) for site-specific information about the proposed temporary routes.

The BLM designed the Trail Creek Forest Management project considering all these factors and included project design features that would eliminate or reduce the effects of the proposed action. Effects are within those analyzed in the Medford District FEIS and Northwest Forest Plan and do not rise to the level of significant.

**Comment:** It does not appear that the BLM fully addressed and avoided the harmful impacts detailed in these studies; Trombulack and Frissell (2000) study, Deadman's Palm EA (Ashland RA), Ortega and Capen (1999), Marsh and Beckman (2004) (KSWC, p. 16-17).

**Response:** Regarding the above mentioned journal articles, BLM staff reviewed these document studies and found they focused on the effects of high-use, open, permanent roads, and road construction. The routes associated with the Trail Creek Forest Management Project are distinct from those described in these papers in that they temporary in nature, may use existing footprints, and are low use-level roads that would have only limited short-term physical effects (EA, p. 75). The Deadman's Palm EA (p. 110) noted the amount of road decommissioning versus road construction would result in a net decrease in open roads. Therefore, the effects to wildlife from vehicle traffic would be reduced. This is also the case for the Trail Creek Forest Management Project.

**Comment:** Construction of new roads is not in the public interest. Roads have serious adverse effects on soil, water, wildlife, weeds, and carbon (Oregon Wild, p. 1).

**Response:** The EA analyzed construction of 0.6 mile of temporary routes. No new permanent roads were proposed in this project. These temporary routes would allow operators temporary access to harvest units. Temporary routes are either extensions of existing roads or short spur routes off existing roads; they are located outside riparian reserves. Temporary routes would be constructed on stable locations, used, and decommissioned (ripped, water barred, seeded with native grass, mulched, and blocked) within the same operating season (EA, p. 75).

One, 0.13-mile segment of proposed temporary route construction is located on fragile soils with mass movement potential (Fragile Mass Movement Potential-Suitable) (EA, p. 63). The BLM soil scientist field reviewed the footprint of the proposed route where there were soils categorized as fragile (EA, Table D-2, p. 176). There was no evidence of slope instability (active slumps or pistol butting of trees) and the temporary route construction is proposed on a gentle shoulder with straight slopes; therefore, this action would not affect slope stability (EA, p. 63).

These routes would not contribute to increased road density in the Project Area because these routes are temporary and the effects would be mitigated by ripping and water barring to minimize the potential for sedimentation. Temporary route construction and reconstruction would occur during the dry season. This is not expected to affect aquatic resources because they would not be connected to the stream network (EA, p. 75).

The EA analyzed for up to 11 acres of roosting/foraging habitat removal for temporary route and landing construction within designated northern spotted owl critical habitat. Based on the 500-acre analyses, the BLM has determined the roosting/foraging removal associated with the Trail Creek project within CHU 10 **may affect, not likely to adversely affect** spotted owl critical habitat under ESA because it would result in an insignificant removal of a primary constituent element. At the 500-acre scale, the impacts to proposed critical habitat primary constituent elements are insignificant and undetectable and adverse impacts are unlikely to occur. Additionally, the proposed roosting/foraging downgrade within critical habitat would only result in a reduction of 0.03% of roosting/foraging habitat within CHU 10, subunit KLE-3. Substantial habitat would be retained in the subunit to maintain the intended dispersal function of the subunit (EA, p. 88).

Proposed temporary route construction is ***likely to adversely affect*** northern spotted owl because roosting/foraging habitat would be removed. Unique features across the Project Area would be retained following the principles of ecological forestry, resulting in spatial variability and structural complexity. Unique features include patches of plant diversity, large snags and down woody debris, seeps, and springs. The retention of these features contributes to prey diversity for spotted owl foraging (EA, 89).

Through protocol surveys and review of historic information, northern spotted owl provincial home ranges have been identified across the Project Area. Seasonal restrictions would be in effect within 0.25 mile of known owl sites. Seasonal restrictions from noise disturbance near spotted owl nest sites would contribute to their ability to incubate eggs and feed their young during the critical nesting period.

Proposed harvest treatments would not remove or downgrade nesting/roosting/foraging, roosting/foraging, or dispersal habitat at the core area (500 acres) or nest patch (70 acres) scale; however, under Alternative 3, temporary route and landing construction would remove 2 acres of roosting/foraging habitat in overlapping home ranges of two owl sites.

Cumulative effects to the current spotted owl population from implementing this project would be low, as removal or downgrade of dispersal, roosting/foraging, or nesting/roosting/foraging habitat would not occur within known spotted owl home ranges. Late-successional forest, RA32 habitat, and 100-acre spotted owl activity centers would remain post-harvest, allowing for future dispersal and nesting opportunities (EA, p. 90).

Eight category B noxious weeds have been documented in the Project Area during surveys or from incidental sightings. The temporary routes could potentially introduce or spread noxious weeds during implementation, although it is not possible to quantify with any degree of confidence that amount or to distinguish it from the background risk of introduction from ongoing activities in the Project Area. However, because the BLM has an ongoing program of noxious weed treatments, implements project design features during project implementation, and conducts post-project monitoring, the risk is reduced that the proposed temporary routes would contribute additional cumulative effects to noxious weeds (EA, p. 101).

The Medford District PRMP/EIS assumes an annual timber harvest of 3,000 acres of BLM-administered lands designated as matrix. On those acres, timber harvesting would decrease carbon storage levels at varying rates and for varying lengths of time dependent upon the amount of vegetation removed and how quickly regrowth occurs. Because the vast majority of BLM-administered lands are not allocated to intensive or restricted forest management it is expected that continued vegetative growth on those lands would lead to more carbon capture and storage than the amount of carbon lost from timber harvesting, vegetative respiration, or disturbance events.

The EA analyzed 1.4 miles of temporary routes (construction and reconstruction) and after field review and project layout only 0.2 mile of temporary routes would be needed. The removal of vegetation on 0.2 mile would not have a serious adverse effect on carbon because the roads are temporary and after use they would be closed, ripped, seeded and mulched allowing for vegetation to begin growing.

**Comment:** No more logging roads should be built in this densely roaded watershed (Private Citizen letter).

**Response**: The Trail Creek Forest Management Project does not propose road construction that would increase the road density in Trail Creek watershed. Instead, the project will reduce the road density through partial and full decommissioning on 10.3 miles of roads.

To facilitate the Trail Creek project, only temporary routes are proposed. Temporary routes would allow operators temporary access to harvest units. Temporary routes would be located on stable areas such as ridges. After harvest is complete, routes would be ripped, water barred, seeded with native grass, mulched, and blocked.

**Comment:** As much as possible, please plan to remove, close off old, erosive logging roads. Such roads produce many forest ills from pot grows, dumping, plant and animal poaching to invasive plant introductions (Private Citizen letter).

**Response:** Up to 5.8 miles of unauthorized off-highway vehicle trails would be closed by placing boulders, logs, and earthen barricades at strategic points to prevent off-highway vehicles from using existing and creating new unauthorized trails. Trails would be restored with various levels of ripping, pulling ruts back, pulling slash and other material onto trails, seeding, planting, and mulching. This work would be completed in the dry season to minimize erosion and subsequent sedimentation. This project would decrease the unauthorized off-highway vehicle use in the watershed.

In addition to the unauthorized off-highway vehicle trails approximately 4.3 miles of road that are surplus to BLM's needs at this time and may be needed for future access would be closed to prevent vehicular access. Road closure would be accomplished using methods such as gates, guard rails, or earth or log barricades. The roads behind the closure would be left in a maintenance-free condition. Sediment from these roads would be reduced because the amount of traffic traveling on these roads would be limited, especially during the wet season when most sedimentation occurs.

Partial and full road decommissioning is proposed on 10.3 miles of road. Decommissioning roads near streams would reduce the amount of sediment coming from roads in the long term. Partial decommissioning includes pulling culverts, water barring, seeding, mulching, and blocking the access. Full decommissioning would additionally include ripping the road surface. Ripping the road prism breaks up the existing compacted soil and allows for better water infiltration into the soil, reduces runoff, and improves vegetative recovery. This would reduce the introduction of sediments into nearby streams from these roads. While both methods would reduce the overall amount of sediment coming from roads, fully decommissioned roads would also increase infiltration allowing for quicker and more long-lasting recovery of the site. Where stream crossings and culverts are removed, sediment could enter the stream system at the site. The amount of sediment would be minimized by following the project design features and by working during the instream work period when flows are lowest (EA, p. 74).

## Restoration

**Comment:** Instead of pushing 'regeneration' logging of older stands in the Trail Creek sale, we would rather see BLM concentrate on thinning the small-diameter stands and the dense stands that are a consequence of the exclusion of fire (Private Citizen letter).

**Response:** Alternative 2 in the Trail Creek Project proposes harvest on approximately 1,530 acres of which 75 acres (0.05%) are proposed for regeneration harvest. Regeneration harvest is proposed on matrix lands in stands with declining growth rates or experiencing deterioration from high stand density levels, insects, disease, or other factors (EA, p. 11). The remaining 1,455 acres are proposed for density management, riparian thin, restoration thin, small diameter thin, or commercial thin to reduce stand densities to increase growth and landscape resiliency to environmental disturbances such as fire, insects, disease and climate change (EA, p. 11-12).

The EA also analyzed three alternatives (Alternatives 1, 3, and 4) in which no regeneration harvest is proposed.

**Comment:** Please take actions for long term health. Please decide to restore trees within the watershed. Please plan to do only selective cutting and no more clear cutting when 'harvest' is needed (Private Citizen letter).

**Response:** The BLM is proposing a variety of silviculture treatments in the Trail Creek Forest Management Project that addresses long-term forest health. Forest stands with densities that exceed historic conditions and natural carrying capacities would be harvested using restoration and small diameter thinning techniques. Restoration and small diameter thinning would be implemented to reduce tree mortality and restore stand vigor, resiliency, and stability (EA, p. 3).

Alternatives 3 and 4 would increase landscape resiliency to environmental disturbances (e.g., fire, insects, disease, and climate change) by reducing stand densities, retaining old trees, favoring drought-tolerant species, and increasing structural complexity while maintaining or enhancing northern spotted owl habitat within their designated home ranges.

## Northern Spotted Owl Habitat

**Comment:** It appears that all of the proposed logging action alternatives are likely to adversely affect Northern Spotted Owls (NSO). This is unfortunate and indicates that an inadequate range of action alternatives was developed.

We respectfully ask the BLM to please consider implementing the project such that: (1) The 24 acres of NRF habitat in Riparian Reserves is not logged; (2) The 11 acres of NRF habitat located in proposed logging road locations are not removed; (3) The proposed regeneration of 15 acres of NRF habitat serving as designated NSO critical habitat is not logged; and (4) NRF habitat is not downgraded by logging activities (KSWC, p. 11).

**BLM Response:** The EA analyzed four alternatives for the management of the BLM-administered lands in the project area—a No Action alternative and three action alternatives. All action alternatives were designed to meet the purpose and need for the project; however, the degree to which each alternative best meets the purposes and needs varies. The alternatives were not based on the ESA effect determination for the northern spotted owl but explored alternative ways to mesh the multiple purposes and needs for the project. NEPA directs the BLM to "study,

develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources . . .” (42 USC § 4332[2][E]). For some proposals, there may exist a very large or even an infinite number of possible reasonable alternatives. The BLM must analyze those alternatives necessary to permit a reasoned choice (40 CFR 1502.14).

Alternative 1, the No Action Alternative, analyzed the effects of no temporary route construction or timber harvest activities. This alternative considered no riparian thinning; no temporary route construction that would remove roosting/foraging habitat; no regeneration harvest; and no harvest activities that would downgrade nesting/roosting/foraging habitat.

**Comment:** When conducting active management in suitable owl habitat, we urge BLM to retain OPTIMAL levels of large trees, canopy cover, snags, dead wood, and understory vegetation, rather than the bare minimum levels that define suitable habitat**.** The EA needs to more clearly describe the ecological costs of large tree removal (Oregon Wild, p.1).

**BLM Response:** The EIS for the Medford District Proposed Management Plan (PMRP), to which this EA tiers, considered a range of alternatives that analyzed a mix of uses and actions that included varying levels and types of timber harvest on matrix lands. For management of matrix lands, the EIS (p. 2–20) considered the importance of ecological functions such as dispersal of organisms, carryover of some species from one stand to the next, and maintenance of ecologically valuable structural components such as down logs, snags, and large trees and described the effects of various management actions on those functions (PRMP/EIS, Chapter 4, Environmental Consequences).

The Trail Creek project reserved the highly suitable, structurally complex (RA32) owl habitat and 100-acre known northern spotted owl activity centers from harvest activities (EA, p. 83). Additionally, management activities would occur in spotted owl roosting/foraging habitat defined as having canopy cover greater than 60%, canopy structure generally single-layered, overstory trees generally greater than 16″ in diameter. Snags and down wood are not considered a requirement (EA, p. 79); although, existing large snags and down wood will remain after harvest. No actions were considered in the suitable nesting/roosting/foraging habitat. in Alternative 3 and 4

In order to provide for the multiple purposes and needs for the forest management project, the BLM investigates how best to provide economically viable timber sales on matrix lands that contribute to local, regional, and national economies; reduce the densities of overstocked stands; and meet the needs of the northern spotted owl. As a result, the BLM may consider harvest levels in northern spotted owl habitat on matrix lands that will provide the most timber and still maintain the current spotted owl habitat.

## Berry Creek Lands with Wilderness Characteristics (LWC)

**Comment:** The 35 acres proposed for logging in the Berry Creek LWWC are not essential to achieve the purpose and need of the project or the projected sale volume for the District. Authorizing these stands for logging may necessitate completion of and EIS rather than an EA for this project and will ensure needless social and scientific controversy (KSWC, p. 8).

**BLM Response:** The BLM dropped the harvest units in the Berry Creek LWC unit from the proposed action for economic reasons and those units will not be harvested at this time.

Although the units were dropped, the EA analyzed the potential effects of proposed actions on lands with wilderness characteristics (EA, p. 102). The proposed harvest of 35 acres within the Berry Creek LWC is adjacent to a similar harvest conducted in 2006. Recent field inspection of these units showed that impacts from the 2006 harvest are visible only from the immediate area, and were most evident in the first 5 years after treatment. It was anticipated that the impacts to LWC from this project would be similar (EA, p. 237). Additionally, a boundary road of the Berry Creek LWC will be blocked with a gate to prevent vehicle access into the area. The BLM will use the current Resource Management Plans for Western Oregon planning process to determine how to manage lands with wilderness characteristics as part of the BLM's multiple-use mandate.

## Cumulative Effects

**Comment:** Page 42 of the EA indicates that proposed construction of the Pacific Connector Pipeline makes the establishment of a 95′ wide clearcut and significant new road construction a foreseeable cumulative impact to the Trail Creek Timber Sale. The combined and cumulative impacts of these projects likely will result in significant damage to forest 11 habitat, connectivity, soils and hydrology. The foreseeable cumulative impacts of these two projects necessitate documentation in an EIS rather than an EA (KSWC, p 10-11).

**BLM Response:** The proposed pipeline right-of-way would cross through 10.6 miles of the Trail Creek Forest Management Project Area with 4 miles on BLM lands (EA, p. 42–43). The EA discloses the acres and width of the corridor for the underground pipeline on BLM, Forest Service, and private land as well as the 330 feet of road construction on Forest Service and private land. No temporary or permanent roads are proposed on BLM-administered land for the Pacific Connector Gas Pipeline.

The effects of the Trail Creek Forest Management Project do not trigger the need to complete an EIS since they are within the anticipated effects for the Medford District RMP. The Pacific Connector Gas Pipeline project will be analyzed under an EIS. As stated in the EA (p. 43), "Because the plan [for the pipeline] has not been finalized and additional NEPA analysis is required, the eventual effects of the project are largely unknown at this time, as is the anticipated mitigation plan that will result from the aforementioned changes in policy and regulations. Therefore, it would be speculative to attempt to anticipate the potential cumulative effects of the Trail Creek Forest Management Project when combined with the effects of the PCGP project at this time. The cumulative effects of the Trail Creek Forest Management Project will be addressed in the forthcoming PCGP project EIS."

## Riparian Reserves

**Comment:** C-32 of the Forest Plan is clear that logging in RRs is prohibited unless "needed" to attain the ACS objectives. Such logging is likely not "needed" in the Trail Creek Watershed and will involve the felling of wildlife snags for OSHA purposes, the reduction of mature forest canopy and the felling of non-target conifers to facilitate yarding (KSWC, p. 2).

Logging in riparian reserves is prohibited, unless it is "needed" for ecological reasons. BLM must provide any compelling rationale before logging in riparian reserves (Oregon Wild, p. 2).

**BLM Response:** The Northwest Forest Plan (p. C-32) recommends in the Standard and Guidelines for timber management in riparian reserves to "apply silvicultural practices for Riparian Reserves to control stocking, reestablish and manage stands, and acquire desired vegetation characteristics needed to attain Aquatic Conservation Strategy objectives."

The BLM, using an interdisciplinary process, identified stands in selected riparian reserves that were **o**verstocked, even-aged, second growth stands in need of thinning to enhance and accelerate the production of healthy trees in the riparian area. The EA (p. 6–7) identified a need for reducing stocking levels in riparian stands identified as having high stand relative densities that has caused reduced growth rates in individual trees from competition for available resources including water, light, and nutrients. The trees would be thinned from below to remove the suppressed component of the stand, followed by thinning the main canopy to reduce density and to remove trees infected by disease or insects or otherwise declining (based on crown ratio and form) (EA, p. 14).

As stated in the EA (p. 197), "The Trail Creek project would restore species composition and structural diversity of plant communities in treated riparian reserves because this project would encourage healthy riparian forests by reducing stand densities to levels the sites have the resources to support."

**Comment**: How does the BLM justify the proposal (EA page 28) to allow for felling of trees in the Riparian Reserve shade zone in order to facilitate logging activities? (KSWC, p. 18).

Please note that the "short term" ACS analysis contained on page 193 of the EA indicates that project "PDFs include no-cut buffers on all streams, lakes, wetlands, ponds, springs, and meadows . . . ." This is not entirely accurate given that the BLM is proposing to remove shade trees adjacent to streams in order to facilitate cable yarding activities in Riparian Reserves (KSWC, p. 20).

**BLM Response:** The BLM is not proposing the removal of shade trees within the no-cut buffers of the riparian reserves; although, some riparian vegetation may be cut. During skyline-cable yarding, it may be necessary for the cable to travel through the no-cut buffer and attach to a tree on the other side of the stream. Typically, this cable is about 30 feet above the ground and travels over or through the top of the riparian vegetation (e.g., willows, vine maple). Before trees are felled for the skyline-cable corridors, the BLM reviews the proposed location and, if possible, can relocate the corridor to avoid cutting trees. There is a low probability that trees will be felled within the no-cut buffer to accommodate skyline-cable yarding during riparian reserve thinning.

The BLM analyzed 63 acres for thinning within riparian reserves but after field analysis and layout of the riparian reserves a total of 3.7 acres are proposed for thinning. Of the 3.7 acres, 1.3 acres are proposed for skyline-cable yarding. The remaining 2.4 acres will be yarded by helicopter (1.4 acres) or bull-lining (1.0 acre) to existing roads. For those acres yarded by helicopter or cable it is not necessary to go into the no-cut buffer in the riparian reserves. For all harvest systems those trees identified for safety would be felled and left in place.

**Comment:** So why is the BLM targeting 100 year-old Riparian Reserve stands for logging (KSWC, p. 18)?

**BLM Response:** The BLM is not targeting 100-year-old riparian reserves for logging. As stated in the EA (p.52), "Riparian thinning would target stands generally 100 years old and less that have little or no structural complexity (second growth, even-aged type stands)." Riparian reserves proposed for thinning were identified, using an interdisciplinary process, as stands that could benefit from density reduction. These stands are currently overstocked with reduced growth rates in individual trees resulting from competition for available resources. Riparian thinning would "restore species composition and structural diversity of plant communities in treated riparian reserves because this project would encourage healthy riparian forests by reducing stand densities to levels the sites have the resources to support" (EA, p. 197).

**Comment:** Information contained in a National Marine Fisheries Service memorandum dated July 23, 2010 indicates that the proposed riparian reserve thinning would not achieve aquatic conservation objectives. All stream channels must receive a minimum 150 foot no cut buffer (KSWC, p. 18).

**BLM Response:** The memorandum concerning thinning in Riparian Reserves did not originate from published or peer reviewed scientific literature. In the memorandum, National Marine Fisheries Service (NMFS) includes recommendations for the makeup of an interagency science team to address these issues. The NMFS "position paper" is part of an ongoing interagency deliberative process to reach resolution of these issues.[2]

Your understanding is that the "proposed thinning prescriptions are similar to those analyzed by NMFS biologists." However, the NMFS paper states that the Siuslaw National Forest project would remove 73% of the trees in the stand, far more than the proposal in Trail Creek Forest Management project. NMFS states at the end of the abstract, "Some of the delay in forest structure development caused by thinning might also be reduced by removing far fewer trees." Removing 73% of the trees in the stand, as was proposed in the Siuslaw National Forest project, would result in a canopy cover far less than the minimum 50% canopy cover in riparian reserves that would remain in the proposed Trail Creek Forest Management project.

Additionally, NMFS statement's represent their opinions and interpretations concerning the effects of thinning in riparian reserves only as it relates to producing "large trees" and "instream wood" specific to salmonid fishes and their habitat; neither of which are affected in any way by the Trail Creek Forest Management project. The Trail Creek Forest Management project incorporates no-cut buffers (EA, p. 14) to protect stream channel structure and water quality.

## Fragile Soils, TPCC Stands, Unstable Lands, and Landslides

**Comment:** The project area contains numerous areas with fragile soils, previously damaged and compacted soils, TPCC limited stands, reprod failure, unstable lands and lands prone to landsliding and mass wasting. The impacts of project actions on these soils must be fully disclosed and analyzed and may necessitate completion of and EIS rather than an EA for this project (KSWC, p. 12).

[2] The NMFS memorandum and attachments are deliberative documents and, to the best of our knowledge, have not been released through FOIA or any other official channels. Further, the NMFS memorandum is not a scientific paper.

**BLM Response:** Fragile soils (unstable areas) were analyzed in Chapter 3.0 Affected Environment/Environmental Consequences pages 53–64. The EA disclosed that the Trail Creek Project Area contains soils identified in the Medford District's timber production capability classification (TPCC) as fragile for slope gradient (FG) and fragile for mass movement potential (FP). The project soil scientist mapped the unstable areas in the Project Area and included a map in the EA (p. 59). No projects were proposed on FG soils, so they were not discussed further (EA, p. 56) and timber harvest or small diameter thinning activities were not considered on nonsuitable fragile (FP) soils.

Forest management activities proposed on FP soils classified as suitable require additional restrictions in project design. The actions in proposed timber harvest that could negatively affect fragile (FP) soils are (1) yarding systems, (2) harvest unit access, (3) vegetation removal, and (4) slope instability. The project soil scientist documented the effects on fragile (FP) soils from these actions in the EA on pages 63 and 64. The analysis shows the actions would not have significant effects that would trigger the need to prepare an EIS.

**Comment:** It is essential that this project implement the requirements of the RMP to avoid ground-based yarding on TPCC fragile soils. Hence we were surprised to see (EA page 63) that the BLM is proposing 166 acres of tractor yarding and 0.13 miles of new logging road construction on designated Fragile Mass Movement Potential (FP) soils (KSWC, p. 12).

**BLM Response:** Of the 559 acres of ground-based yarding in Alternatives 2 and 3, 166 acres would be located in fragile soils. Recent and active deep-seated slumps would be buffered out to prevent further movement.

Slopes where evidence of past slumping was found may still be stable enough for management actions. The project soil scientist conducted a field review of previously tractor yarded areas located on fragile pyroclastic soil, as well as surrounding soils (see Appendix D, Soils, for a site-specific review of tractor units in fragile [FP] soils). There was no sign of instability on these soils that resulted from past tractor yarding. The skid trails were in place and vegetative indicators of instability, such as jack-strawed or pistol-butted trees, were not present. In most of the unit, the ground was a gentle gradient and not hummocky. As a result, the soils were determined to be stable. Unstable locations in the Project Area were not considered for timber harvest. Therefore, ground-based yarding proposed in Alternatives 2, 3, and 4 would not result in mass movement (EA, p. 63).

Temporary route construction in T32S, R1W, section 30 is located in fragile soils (FP) for about 0.13 mile. Due to location on the landscape (gentle shoulder, straight slopes) and no evidence of slope instability (no active slumps or pistol butting), temporary route construction would not impact slope stability. The remaining routes are not located on fragile soils (FP) so there would be no effect on slope stability. Refer to Appendix D, Soil, for site-specific information about the proposed temporary routes (EA, p. 176).

### Water Quantity

**Comment:** The tree/timber cutting activities will worsen the already very poor quantity and quality of the summertime base stream flows (Private Citizen letter, p. 2).

**BLM Response**: The Trail Creek watershed, at 55 square miles, is a relatively small, fifth field watershed. The Elk Creek watershed to the east is 133 square miles and the Evans Creek watershed to the west is 224 square miles. The Trail Creek watershed is a low elevation, rain-dominated watershed. As a result, there is not substantial water stored in snowpack to augment streamflows during summer months. Although snow can accumulate in the watershed at higher elevations, it does not remain long into the spring and summer months to provide streamflow. Precipitation mainly occurs during the winter months from November to March and streamflow patterns reflect this distribution of precipitation. The small size of the watershed, lack of snowpack, low elevation, and timing of rainfall result in peak streamflows occurring during the winter with summer to fall experiencing low streamflows.

The majority of studies in rain-dominated watersheds have found that timber harvest can increase peak flows and annual yield, not reduce streamflows. For example, a study on Caspar Creek in northern California that looked at summer low flows after harvest found that streamflow increased both annually and in low flows during the summer (Keppeler and Ziemer 1990[3]). Partial harvest such as thinnings, like those proposed in the Trail Creek project, may improve water use by the remaining trees and vegetation so streamflows would not substantially be affected after harvest.

## Coho Salmon

**Comment:** The only one who has apparently made the determination (that the Trail Creek Forest Management's commercial tree/timber cuttings will have no effect on the Southern Oregon/Northern California listed (as threatened) coho salmon, on their critical habitat, or on their essential habitat) is an employee of the BLM's Butte Falls Resource Area itself. Therefore I hereby formally request the Butte Falls Resource Area to actually do the required consultation with the National Marine Fisheries Service on this matter (Private Citizen letter, p. 3).

**BLM Response:** An agency may reach a No Effect conclusion under the Endangered Species Act if the proposed action and its interrelated and interdependent actions will not directly or indirectly affect listed species or destroy or adversely modify designated critical habitat (Endangered Species Consultation Handbook, p. xvi).

Your comment is a disagreement with the No Effect conclusion reached by the BLM fish biologist. Your disagreement does not offer any new information (not already considered by the BLM) or evidence that supports your contention. The BLM fish biologist determined the actions proposed in this project would have ***no effect*** on coho salmon, coho critical habitat, or essential fish habitat; therefore, consultation is not required (EA p. 112). The EA (p. 97) concluded direct inputs of sediment from timber hauling would be of insufficient magnitude to meaningfully affect fish or fish habitat and would not be detectable above background levels. Timber harvest and activity slash treatments would have no effect on sediment levels due to the filtering action of riparian reserve buffers, and implementation of project design features and BMPs.

[3] Keppeler, E.T. and R.R. Ziemer. 1990. Logging effects on streamflow: water yields and summer flows at Caspar Creek in northwestern California. Water Resources Research 26(7):1669–1679.

## Carbon

**Comment:** The EA should also discuss the effect of logging on carbon storage (Oregon Wild, p. 2).

**BLM Response:** Other recent EAs on the Medford District (e.g., Evans Creek Forest Management Project, Cottonwood Forest Management Project, Howard Forest Management Project), with comparable treatments, have analyzed the effects to carbon and the effects were found to be similar. 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.

The Medford District PRMP/EIS assumes an annual timber harvest of 3,000 acres of BLM-administered lands designated as matrix. On those acres, timber harvesting would decrease carbon storage levels at varying rates and for varying lengths of time dependent upon the amount of vegetation removed and how quickly regrowth occurs. Because the vast majority of BLM-administered lands are not allocated to intensive or restricted forest management it is expected that continued vegetative growth on those lands would lead to more carbon capture and storage than the amount of carbon lost from timber harvesting, vegetative respiration, or disturbance events.