

# **Environmental Assessment**

## **Seneca Right-of-Way Road Construction Project**

EA Number OR118-06-007

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Bureau of Land Management  
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Glendale Resource Area  
Douglas County, Oregon

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### **Abstract:**

The Glendale Resource Area, Medford District, Bureau of Land Management (BLM) is determining the effects of constructing three spurs totaling 941 feet of road across BLM land in response to Seneca Jones Timber Company's request to access their private property pursuant to 43 CFR 2812. The proposed location of these spur roads are on BLM land within the Late Successional Reserve land use allocation and in the Upper Cow and Middle Cow Creek fifth-field (HUC 5) watersheds. The Project Area is located in portions of Township (T) 32S, Range (R) 3W, Section 6, and (T) 32S, Range (R) 4W, Section 9.

This environmental assessment discloses the predicted environmental effects of two alternatives: Alternative 1 (No Action) and Alternative 2 (Proposed Action).

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## FINDING OF NO SIGNIFICANT IMPACT

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Based upon review of the EA (Environmental Assessment Number OR118-06-007) and supporting project record, I have determined that Alternative 2 (Proposed Action) is not a major federal action and would not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significance in context or intensity as defined in 40 CFR 1508.27. Therefore, an environmental impact statement is not needed. This finding is based on the following discussion:

**Context.** The Proposed Action is a site-specific action directly involving approximately one acre of BLM (Bureau of Land Management) administered land that by itself does not have international, national, region-wide, or state-wide importance. The Proposed Action is located within the late successional reserve (LSR) and matrix land use allocation, and within the 6<sup>th</sup> field Hydrologic Unit Code (HUC 6) boundaries of the Whitehorse Creek, Upper Cow Creek/Galesville, and Dismal Creek sub-watershed.

The discussion of the significance criteria that follows applies to the intended action and is within the context of local importance. Chapter 3 of the EA details the effects of the Proposed Action. None of the effects identified, including direct, indirect and cumulative effects, are considered to be significant and do not exceed those effects described in the *Medford District Resource Management Plan/Final Environmental Impact Statement* (June 1995).

**Intensity.** The following discussion is organized around the Ten Significance Criteria described in 40 CFR (Code of Federal Regulations) 1508.27.

**1. Impacts may be both beneficial and adverse.** The predicted environmental effects of the Proposed Action, most noteworthy, include:

a/ Soil disturbance would result on a total of 1.3 acres across all three HUC 6 sub-watersheds (approximately 0.8 acres within the 15,115 acre Upper Cow Creek-Galesville HUC 6 sub-watershed; approximately 0.2 acres within the 21,225 acre Dismal Creek HUC 6 sub-watershed; and approximately 0.2 acres within the 21,935 acre Cow Creek-Whitehorse Creek HUC 6 sub-watershed). There would be a total of 0.8 acres of compaction and productivity loss as a result of 0.8 acres of permanent road construction (approximately 0.6 acres within the Upper Cow Creek-Galesville HUC 6 sub-watershed; approximately 0.1 acres within the Dismal Creek HUC 6 sub-watershed; and approximately 0.1 acres within the Cow Creek-Whitehorse Creek HUC 6 sub-watershed).

Given the scope and location of the three proposed spur roads, this action is anticipated to have a negligible impact to soil productivity on federal lands at the watershed scale. This action would be consistent with soil productivity, compaction, and erosion standards set forth in the Medford District RMP. Additionally, it would not be expected that this project would measurably contribute to an increase in flows or runoff timing, as the ridge

top location of the proposed spurs would not intercept subsurface flow, and any water intercepted or routed by the short spurs would be expected to infiltrate back into the soil prior to reaching any streams.

b) See effects to ESA threatened and endangered species in criteria # 9 below.

None of the environmental effects disclosed above or discussed in detail in Chapter 3 and Appendix 2 of the EA are considered significant.

**2. The degree to which the selected alternative will affect public health or safety.**

Public health and safety would not be affected. The Proposed Action is comparable to other right-of-way (ROW) road construction projects which have occurred within the Glendale Resource Area with no unusual health or safety concerns.

The Glendale Resource Area introduced this project through the quarterly BLM Medford Messenger publication. A brief description of proposed projects, such as Seneca Right-of-Way Road Construction Project, a legal location and general vicinity map are provided along with a comment sheet for public responses. The project was included in these quarterly publications beginning in winter, 2006. Although inquiries were made about the project, no site specific comments were provided.

**3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farm lands, wetlands, wild and scenic rivers, or ecologically critical areas.**

There are no cultural resources, park lands, prime farm lands, wetlands, wild and scenic rivers or wildernesses located within the Project Area. There are no developed recreation sites that would be affected by the Proposed Action. The area is open to dispersed recreation use, as it most of the Glendale Resource Area. The Proposed Action would have a neutral effect on dispersed recreation within the resource area. While there might be increased logging truck traffic during the operational months, this type of activity is typical for the area because of harvesting on private and other government owned lands within the state of Oregon. Cultural surveys were completed for the Seneca Right-of-Way Road Construction Project Area and no sites were found. If cultural resources are located during the implementation of an action, the project would be redesigned to protect the values present.

**4. The degree to which the effects on the quality of the human environment are likely to be highly controversial.**

The effects of the Proposed Action on the quality of the human environment are adequately understood by the interdisciplinary team to provide analysis for the decision. A complete disclosure of the predicted effects is contained in Chapter 3 of the EA.

**5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.**

The Proposed Action is not unique or unusual. The BLM has experience authorizing similar actions in similar areas in accordance with 43 CFR 2812 and have found effects to be reasonably predictable. The environmental effects to the human environment are fully analyzed in Chapter 3 of the

EA. The Glendale Resource Area introduced this project through the quarterly BLM Medford Messenger publication. A brief description of proposed projects, such as Seneca Right-of-Way Road Construction Project, a legal location and general vicinity map are provided along with a comment sheet for public responses. The project was included in these quarterly publications beginning in winter, 2006. Although inquiries were made about the project, no site specific comments were provided. There are no predicted effects on the human environment which are considered to be highly uncertain or involve unique or unknown risks.

**6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.**

The Proposed Action does not set a precedent for future actions that might have significant effects nor does it represent a decision in principle about future consideration. Any future projects would be evaluated through the NEPA (National Environmental Policy Act) process and would stand on their own as to environmental effects.

**7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.**

The interdisciplinary team evaluated the Proposed Action in context of past, present and reasonably foreseeable actions. Significant cumulative effects outside those already disclosed in the *Medford District Resource Management Plan/Final Environmental Impact Statement* are not predicted. A complete disclosure of the effects of the Proposed Action is contained in Chapter 3 of the EA and Appendix 2.

**8. The degree to which the action may adversely affect districts, sites, highways, structures, or other objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.**

Cultural surveys were completed for the Seneca Right-of-Way Road Construction Project Area and no sites were found. The Proposed Action would not adversely affect districts, sites, highways, structures, or other objects listed in or eligible for listing in the National Register of Historic Places, nor would the Proposed Action cause loss or destruction of significant scientific, cultural, or historical resources.

**9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.**

The Proposed Action would not affect Endangered Species Act (ESA) listed Southern Oregon Northern California (SONC) Coho salmon (threatened). SONC Coho and Coho critical habitat (CCH) are not located within the watersheds with proposed Right-of-Way activities, which occur in the Umpqua River Basin.

The project activities would remove ½ acre of suitable spotted owl habitat. The Biological Assessment (USDI 2006, p. BA-49) states that it has anticipated the removal or downgrade of up to 4,442 acres of suitable habitat in the USFWS Cow Upper Section 7 watershed over the next three years. The Seneca Right-of-Way Road Construction Project was not included in this analysis. The BLM has completed consultation with the U.S. Fish and Wildlife Service on this project as an action “Not Likely to Adversely

Affect (NLAA)” the Northern spotted owl. The actions would be implemented in accordance with the USFWS Letter of Concurrence (Log #1-15-06-I-0213).

The Proposed Action is unlikely to impact fishers (Federal Candidate species) because they have not been found in the Glendale Resource Area for successive years by peer-reviewed survey methods. Approximately ½ acre of late-successional habitat would be removed resulting in a narrow canopy break and slight reduction in stand habitat effectiveness as potential fisher foraging and dispersal habitat, but would not be expected to deter the use of the stand.

**10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.** The Proposed Action does not violate any known federal, state, or local law or requirement imposed for the protection of the environment. Furthermore, the Proposed Action is consistent with applicable land management plans, policies, and programs (EA, Chapter 1.5).

# Chapter 1.0 Project Scope

## 1.1 Introduction

This EA will analyze the impacts of proposed forest management activities on the human environment in the Seneca Right-of-Way Road Construction Project Planning Area. The EA will provide the decision-maker, the Glendale Field Manager, with current information to aid in the decision making process. It will also determine if there are significant impacts not already analyzed in the Environmental Impact Statement for the Medford District's Resource Management Plan and whether a supplement to that Environmental Impact Statement is needed or if a Finding of No Additional Significant Impact is appropriate.

Chapter 1 of the Environmental Assessment (EA) for the proposed Seneca Right-of-Way Road Construction Project provides a context for what will be analyzed in the EA, describes the kinds of action being considered, defines the Planning and Project Areas, describes what the Proposed Action needs to accomplish, and identifies the criteria that will be used for choosing the alternative that will best meet the purpose and need for this proposal.

## 1.2 Purpose and Need for the Proposal

This environmental assessment analyzes the environmental effects associated with Seneca Jones Timber Company's request to amend Reciprocal Right-of-Way R/M-656 Agreement, pursuant to 43 CFR 2812, to authorize the construction and use of three spurs totaling 941 feet of road across BLM land to access their property for the purpose of timber harvest.

The purpose of this project is to meet the needs identified in the Medford District Resource Management Plan Record of Decision (RMP ROD) to "Consider as valid uses access to nonfederal lands through late-successional reserves and existing rights-of-way agreements", and "For all new rights-of-way proposals, design mitigation measures to reduce adverse effects on late-successional reserves. Consider alternate routes that avoid late-successional reserves. If rights-of-way must be routed through a reserve, design and locate them to have the least impact on late-successional habitat." (p.35), and "To plan road systems that meet resource objectives and minimize detrimental impacts on water and soil resources." (RMP ROD p.157) and, within the Northwest Forest Plan Record of Decision "Access to nonfederal lands through Late-Successional Reserves will be considered...New access proposals may require mitigation measures to reduce adverse effects on Late-Successional Reserves. In these cases, alternate routes that avoid late-successional habitat should be considered. If roads must be routed through a reserve, they will be designated and located to have the least impact on late-successional habitat." (NFP ROD p.C-19).

### 1.3 Project Location

The Planning Area is located east of the community of Azalea (Map 1). Project Area is defined by the area of consideration for road construction to facilitate Seneca Jones Timber Company's access to approximately 120 acres of their parcel in T32S-R3W-Section 6 and 80 acres in T32S-R4W Section 10, where timber harvesting activities would occur by Seneca Jones Timber Company. The legal description of the Planning Area is T32S-R3W Section 6 and T32S-R4W Section 10; Douglas County, Willamette Meridian. The Planning Area is located within the Late Successional Reserve (LSR) and matrix land use allocation amongst a checkerboard pattern of public and private ownerships and is within the 47,416 acre Upper Cow Creek and 113,023 acre Middle Cow Creek HUC 5 watersheds. The Project Area is defined by the area of ground disturbing activities associated with the Proposed Action, which is approximately 1.3 acres.

### 1.4 Plan Conformance

This Proposed Action conforms to the:

- the *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);
- the *Final-Medford District Proposed Resource Management Plan/Environmental Impact Statement and Record of Decision* (EIS, 1994 and RMP/ROD, 1995); the *Final Supplemental Environmental Impact Statement: Management of Port-Orford-Cedar in Southwest Oregon* (FSEIS, 2004 and ROD, 2004);
- the *Final Supplemental Environmental Impact Statement and Record of Decision and Standards and Guidelines for Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (FSEIS, 2000 and ROD, 2001) including any amendments or modifications in effect as of March 21, 2004;
- the *Final Supplemental Environmental Impact Statement Clarification of Language in the 1994 Record of Decision for the Northwest Forest Plan National Forests and Bureau of Land Management Districts Within the Range of the Northern Spotted Owl and Proposal to Amend Wording About the Aquatic Conservation Strategy* (FSEIS, 2003 and ROD, 2004); and
- *Medford District Integrated Weed Management Plan Environmental Assessment* (1998) and tiered to the *Northwest Area Noxious Weed Control Program* (EIS, 1985).

The Glendale Resource Area is aware of the August 1, 2005, U.S. District Court order in Northwest Ecosystem Alliance et al. v. Rey et al. which found portions of the *Final Supplemental Environmental Impact Statement to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines* (January, 2004) (EIS) inadequate. The Glendale Resource Area is also aware of the recent January 9, 2006, Court order which:

- set aside the 2004 Record of Decision *To Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines in Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern spotted Owl* (March, 2004) (2004 ROD) and
- reinstate the 2001 *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines* (January, 2001) (2001 ROD), including any amendments or modifications in effect as of March 21, 2004.

The order further directs "Defendants shall not authorize, allow, or permit to continue any logging or other ground-disturbing activities...unless such activities are in compliance with the provisions of the 2001 ROD (as amended or modified as of March 21, 2004)".

The litigation over the amendment that eliminated the Survey & Manage mitigation measure from the Northwest Forest Plan does not affect the Seneca Right-of-Way Road Construction Project. This is because all required biological surveys for Survey & Manage species were completed before the completion of the Seneca Right-of-Way Road Construction Project EA and meets the 2001 protocol (2001 ROD as amended or modified as of March 21, 2004). Therefore, this project complies with the Northwest Forest Plan prior to that amendment.

The Glendale Resource Area is also aware of ongoing litigation Pacific Coast Federation of Fishermen's Associations et al. v. National Marine Fisheries Service et al. (W.D. Wash.) related to the 2004 supplemental environmental impact statement and record of decision for the Aquatic Conversation Strategy. The Magistrate Judge issued findings and recommendations to the Court on March 29, 2006. The District Court has not yet adopted them. The Court has not found this amendment to be "illegal," nor did the Magistrate recommend such a finding. The District Court has yet to adopt the findings and recommendations and rule.

Parts of the *Upper Cow Creek Watershed Analysis*, *Middle Cow Creek Watershed Analysis*, and *Galesville/South Umpqua Late Successional Reserve Assessment* are incorporated by reference; the watershed analyses and LSR assessment provides background for the project planning but are neither National Environmental Policy Act (NEPA) documents nor decision documents.

## **1.5 Permits and Approvals Required**

In advance of amending Reciprocal Right-of-Way R/M-656 Agreement (Alternative 2) Seneca Jones would be required to pay the BLM the full stumpage value of the estimated volume of merchantable timber to be cut in the construction of the spur roads (43 CFR 2812.5-1).

## **1.6 Public Scoping**

The Glendale Resource Area accepts public comment of proposed forest management activities through the quarterly BLM Medford Messenger publication. A brief description of proposed projects, such as Seneca Jones Right-of-Way Road Construction Project, a legal location and general vicinity map are provided along with a comment sheet for public responses. This project was included in these quarterly publications beginning in winter of 2006. No comments were received.

## **1.7 Decisions to be Made**

The Glendale Field Manager is the official responsible for deciding whether a supplemental Environmental Impact Statement (EIS) should be prepared based on whether the Proposed Action would result in significant impacts to the human environment not already analyzed in the Environmental Impact Statements prepared for the Medford District Resource Management Plan and its amendments. If there are any such additional impacts that are significant, project proposals could be modified to mitigate the impacts so a SEIS would not be necessary. If it is determined that there is no need to prepare a SEIS, a Finding of No Significant Impacts (FONSI) would be prepared. An additional decision to be made is whether to amend the Reciprocal Right-of-Way R/M-656 Agreement as proposed, not at all, or to some other extent.

# **Chapter 2.0 Alternatives**

## **2.1 Introduction**

This chapter compares Alternative 1 (No Action Alternative) with the action alternative, Alternative 2 (Proposed Action) as specified in 40 CFR (Code of Federal Regulations) § 1502.14. Descriptions summarize potential actions and outputs. Project Design Features were identified to ensure project compliance with higher level NEPA documents, laws and BLM guidelines. Since there were no unresolved conflicts concerning alternative uses of available resources identified by the interdisciplinary team, there was no procedural requirement to develop additional action alternatives (**Appendix 1**). As such, the alternatives that will be analyzed in detail in this EA include the No Action Alternative and the Proposed Action Alternative.

## **2.2 Alternative 1: No Action**

Under this alternative, the management actions described under the action alternative on federal land would not take place at this time. However, the harvesting on private land of approximately 120 acres of timber in T32-R3W Section 6 and 80 acres in T32S-R4W Section 10 would occur, utilizing any combination of ground based downhill/tractor logging and helicopter logging, and include reconstruction on approximately ½ mile of

private road within the Snow Creek riparian area, including log deck and helicopter landing areas.

## **2.3 Alternative 2: Proposed Action**

Pursuant to 43 CFR 2812 the proposed Federal action is to amend Reciprocal Right-of-Way R/M-656 Agreement to authorize Seneca Jones Timber Company to construct and use three spur roads (941 feet total) located on BLM land in T32-R3W Section 6 (Snow Creek Project) and T32S-R4W Section 9 (Whitehorse Heaven) to access private property for the purpose of timber harvest.

### **Snow Creek Construction Project**

The Snow Creek Project includes the construction and use of two natural surface roads (774 feet total) in T32-R3W-Section 6 off of BLM road 32-3-6.0 for Seneca Jones Timber Company to access their land in Section 6. The new roads would be identified as road 32-3-6.1, and road 32-3-6.2. The clearing width would be approximately 40-60 feet and the useable road widths would be approximately 16 feet. Road curve radius would be between 50 and 100 feet, adding 3 to 5 feet road width. Ditch-outs and culverts would be installed as needed, with cross drain culverts spaced 300 to 600 feet on average, depending on road grade and degree of side slope. The 32-3-6.0 road would be re-bermed (closed) after hauling is complete. The two road spurs would be restricted to dry season use, through hauling restrictions and off season blocking, to prevent wet season use and reduce potential for erosion. The roads would be constructed with an excavator and fill material would be deposited on existing road bed and out-sloped for drainage, and hauled (approximately 3,100 cubic yards) to designated waste areas at the end and beginning of road 32-3-6.0 which is located on matrix land. All soil disturbance associated with road drainage improvement would be within the existing road right-of-way, with moderate to small excavations and fills. Merchantable trees removed for road construction would be sold pursuant to 43 CFR 2812.5-1.

### **Whitehorse Construction Project**

The construction of 167 feet of rock road for the Whitehorse Project in T32S-R4W-Section 9 off BLM road 32-4-9.4 for Seneca to access their land in Section 10, and the new road would be identified as road 32-3-9.5. The clearing width would be approximately 40-60 feet and the useable road widths would be approximately 16 feet. To minimize sedimentation, road drainage for road 32-4-9.4 would consist of ditch-outs at the end of the newly constructed road. The road would be rocked with a minimum of 10" of crushed rock to allow wet season use. All soil disturbance associated with road drainage improvement would be within the existing road Right-of-Way, with moderate to small excavations and fills.

## **2.4 Project Design Features for Road Work**

Project design features (PDF) are specific measures included in the design of the Proposed Action to minimize adverse impacts on the human environment. Many project

design features for projects in the Medford District are specified in the RMP and may not be repeated in this EA. These include Best Management Practices (BMP) as described in Appendix D of the RMP.

#### **2.4.1 Cultural Resources**

- If cultural resources are found during project implementation; the project may be redesigned to protect the cultural resource values present, or evaluation and mitigation procedures would be implemented based on recommendations from the resource area archaeologist and concurrence by the Glendale Field Manager and State Historic Preservation Office.

#### **2.4.2 Water Quality and Soil Productivity**

- The work period for road construction and associated activities (e.g., drainage improvement, hauling of excavated material) would be from May 15 to October 15 (dry season) of the same year to ensure that soil-disturbing activities are completed before the rainy season.
- Road construction would consist of out-sloping where feasible, adding water dips to minimize rilling.
- Splash guards installed below cross drains when necessary to reduce down-cutting and side slope erosion on Snow Creek road construction.
- Soil contaminated by excessive leakage of diesel, oil, hydraulic fluid and other hazardous materials as a result of equipment failure or human error would be removed from the site and disposed of in an approved site.
- Exposed soils, created during construction activities along either side of the constructed roadbed, would be mulched and seeded by October 15<sup>th</sup> to reduce the amount of material that would be prone to erosion.
- Work would be temporarily suspended if monitoring indicates that precipitation has saturated soils in the work area to the extent that there is potential for road damage or the potential for excessive stream sedimentation.

#### **2.4.3 Invasive Species/Noxious Weeds**

- Heavy equipment would be washed prior to entering federal lands, removing soil plant parts to prevent the spread of noxious weeds into the Project Area.
- Seed newly created openings with native or otherwise BLM approved grass/forb mix.

## Chapter 3.0 Affected Environment and Environmental Consequences

### 3.1 Introduction

In accordance with law, regulation, executive order, policy and direction, an interdisciplinary team reviewed the elements of the human environment to determine if they would be affected by the alternatives described in Chapter 2.0. Those elements of the human environment that were determined to be affected define the scope of environmental concern (**see Environmental Elements in Appendix 2 for full list of elements considered**). The Affected Environment portion of this chapter describes the current conditions and how they came to be. The relevant resources that could be potentially impacted are: affects to soils and water quality, and Northern spotted owl, as the result of management activity.

The Environmental Effects portion of this chapter provides the analytical basis for the comparisons of the alternatives (40 CFR § 1502.16) and the reasonably foreseeable environmental consequences to the human environment that each alternative would have on the relevant resources. Impacts can be beneficial, neutral or detrimental. This analysis considers the direct impacts (effects caused by the action and occurring at the same place and time), indirect impacts (effects caused by the action but occurring later in time and farther removed in distance but are reasonably foreseeable) and cumulative impacts (effects caused by the action when added to other past, present and reasonably foreseeable future actions). The temporal and spatial scales used in this analysis may vary depending on the resource being affected.

As the Council on Environmental Quality (CEQ), in guidance issued on June 24, 2005, points out, the “environmental analysis required under NEPA is forward-looking,” and review of past actions is required only “to the extent that this review informs agency decision-making regarding the Proposed Action.” Use of information on the effects on past action may be useful in two ways according to the CEQ guidance. One is for consideration of the Proposed Action’s cumulative effects, and secondly as a basis for identifying the Proposed Action’s direct and indirect effects.

The CEQ stated in this guidance that “[g]enerally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions.” This is because a description of the current state of the environment inherently includes the effects of past actions. The CEQ guidance specifies that the “CEQ regulations do not require the consideration of the individual effects of all past actions to determine the present effects of past actions.” Our information on the current environmental condition is more comprehensive and more accurate for establishing a useful starting point for a cumulative effects analysis, than attempting to establish such a starting point by adding up the

described effects of individual past actions to some environmental baseline condition in the past that, unlike current conditions, can no longer be verified by direct examination.

The second area in which the CEQ guidance states that information on past actions may be useful is in “illuminating or predicting the direct and indirect effects of a Proposed Action.” The usefulness of such information is limited by the fact that it is anecdotal only, and extrapolation of data from such singular experiences is not generally accepted as a reliable predictor of effects.

Scoping for this project did not identify any need to exhaustively list individual past actions or analyze, compare, or describe the environmental effects of individual past actions in order to complete an analysis which would be useful for illuminating or predicting the effects of the Proposed Action

When encountering a gap in information, the question implicit in the Council on Environmental Quality regulations on incomplete and unavailable information was posed: Is this information “essential to a reasoned choice among the alternatives?” (40 CFR §1502.22[a]). While additional information would often add precision to estimates or better specify a relationship, the basic data and central relationships are sufficiently well established that any new information would not likely reverse or nullify understood relationships. Although new information would be welcome, no missing information was determined as essential for the decision maker to make a reasoned choice among the alternatives.

## **3.2 Soils / Water**

### **3.2.1 Affected Environment**

#### **Snow Creek Project**

**BLM land- Spurs #1 & #2:** The Snow Creek Project spurs 1 & 2 are proposed within two HUC 6 drainages, the 15,115 acre Upper Cow Creek- Galesville drainage and the 21,225 acre Dismal Creek drainage. These HUC 6 drainages are located within the larger 47,435 acre Upper Cow Creek HUC 5 watershed. The soils associated with both Snow Creek spurs are mapped as an Acker-Norling complex, which is fairly deep, well drained, and typically has moderately slow permeability. The Douglas County Soils Survey (NRCS, 1994) identifies steepness of slope, hazard of erosion and compaction, and the depth to rock as the “major management limitations” on this soil complex. Soils in this complex can be prone to rapid runoff that can lead to erosion especially where flows are concentrated as a result of slower permeability and moderately steep slopes. As a result the NRCS (1994) recommends ensuring proper design of road drainage systems and careful placement of culverts to reduce the erosion potential. Slopes are generally less than 50% in the area of the proposed construction of these spurs. There are no stream crossings or headwalls in the area of the proposed road construction.

**Private Timber Harvest:** Private Harvest will occur only in the Upper Cow Creek-Galesville HUC 6 drainage. Soils in the area of proposed timber harvest are mapped as a Kanid-Atring complex in the southern portion, and an Acker-Norling complex in the northern portion of the unit. Both complexes have metamorphic parent material. Major management limitations identified in the Douglas County Soils Survey (NRCS, 1994) for these complexes include steepness of slope, hazard of erosion, and depth to rock. As a result of these limitations NRCS (1994) recommends dry season harvest, and the use of cable yarding systems, to minimize soil disturbance. Slopes in the area of harvest are mapped at approximately 60-90% in the southern portion and 30-60% in the northern portion.

Water yield is defined as the total volume of surface runoff, measured as stream discharge that leaves a drainage area (Church and Eaton, 2001). In a review of 94 catchment experiments worldwide, where basins ranged in size between 3 - 6,200 acres, it was been shown that deforestation causes increases in annual water yields and low summer stream flows. Increases in the average total runoff within a watershed are generally found to be in proportion with the amount of forest cover removed and are generally not measurable until at least 25% of the watershed is in open space condition (Church and Eaton, 2001). Increased water yield is primarily a result of reduced evapotranspiration and interception within the watershed, and can persist for one to two decades following harvest activity depending on the rate of vegetative recovery. As forests regenerate, water yields generally decrease to pretreatment levels within two to three decades (Hicks et al. 1991). Currently, approximately 23% of the Upper Cow Creek-Galesville HUC 6 drainage is hydrologically unrecovered, and thus contributing to open space within the drainage. No timber harvest would occur within the Dismal Creek HUC 6 drainage.

The term peak flow refers to the highest stream flow that occurs during a storm event. Watersheds are generally considered to be at risk for measurable increases in peak flows as a result of timber harvest, when open space exceeds 25% within the transient snow zone (TSZ). Jones (2001) analyzed 10 small basins in Oregon and found that reductions in evapotranspiration caused by timber harvest resulted in 31%-116% increase in peak flows (Church and Eaton, 2001). Research shows that most measurable changes to peak flows would be in small tributary streams if changes in peak flows do occur (Bosch and Hewlett, 1982). This is because storm intensities over a large area are variable and in larger basins, and stream flows within tributaries are often out of phase when they enter the mainstem of a stream (Bosch and Hewlett, 1982), thus potentially lengthening the period of high flows, but not detectably increasing them. Currently, approximately 33% of the TSZ within the Upper Cow Creek-Galesville HUC 6 drainage is hydrologically unrecovered, and thus contributing to open space within the drainage. No timber harvest would occur within the Dismal Creek HUC 6 drainage.

**Current Condition of Watersheds:** The Upper Cow Creek HUC 5 watershed is located within the Klamath Mountain Province. The Klamath Mountains were formed from Mesozoic-Jurassic geologic formations which are folded and faulted, and intruded by the collision of the North American and Farallon Plates. Extensive erosion has created steep

canyons with slopes averaging 50-60 percent. The Upper Cow Creek HUC 5 watershed is mostly Galice Formation, which is composed of metavolcanic and metasedimentary rock types, intruded by the White Rock Pluton. Soils derived from metasedimentary rocks within this formation tend to be deeper and have more nutrients, whereas the metavolcanic and granitic soils tend to be shallower, with fewer nutrients and a lower water holding capacity. On many of these soils, especially the granitics, schists, serpentine, peridotite, and some sandstones, it is particularly important that some organic matter is left on site to maintain productivity. Soils in this watershed are generally well drained with moderate permeability, and are between 20-60 inches deep.

Approximately 300 acres of land within the Upper Cow Creek- Galesville HUC 6 drainage and 350 acres within the Dismal Creek HUC 6 drainage are currently non-productive for timber production on federal ground as a result of soil compaction from road building.

Currently up to 2.0% of the Upper Cow Creek-Galesville drainage and the 1.6% of the Dismal Creek drainage are estimated to be compacted as a result of existing roads. Research indicates that changes in runoff timing may occur when roads occupy as little as 3%-4% of the watershed (WPN, 1999). Road caused changes in watershed hydrology are generally a result of reduced infiltration on compacted surfaces, more rapid routing of runoff in ditchlines, and the interception of surface and subsurface flows (Ziemer, 1981).

Road densities within the Upper Cow Creek- Galesville HUC 6 drainage are currently at approximately 4.8 mi/mi<sup>2</sup>, and at approximately 4.0 mi/mi<sup>2</sup> within the Dismal Creek HUC 6 drainage. Road densities as a result of past road construction are currently above NMFS recommended levels for properly functioning watershed condition (FWS/NOAA Fisheries Table of Population and Habitat Indicators, NOAA 2004). Currently about 31% of the roads within both the Upper Cow Creek-Galesville HUC 6 drainage and the Dismal Creek HUC 6 drainage are within 170 feet of a stream (Upper Cow Creek WA, 2005). Roads in close proximity to streams, un-maintained or poorly maintained roads, and native surface roads used for winter haul, are the major ongoing sediment sources in these watersheds (Upper Cow Creek WA, 2005). Un-vegetated ditchlines, road surfaces, and cross drains can all mobilize soils. Although more haul roads on private lands are rocked now than they used to be, many rocked roads do not have a sufficient rock depth, and still result in high amounts of stream sediment when used for winter log haul. Most BLM roads in these watersheds are rocked, and when used for winter haul, are generally required to have a 10 inch lift to prevent excessive erosion. Natural surface roads on BLM lands are only used for log hauling during the dry season.

Water quality within the Upper Cow Creek-Galesville HUC 6 and the Dismal Creek HUC 6 is generally in fair to good condition, though several are water-quality limited. Cow Creek, Snow Creek, and Dismal Creek are listed for temperature on the Oregon Department Environmental Quality (ODEQ) 303(d) list. Though there is currently no standard for measuring sediment, fine sediment deposits and areas of high embeddedness indicate that stream sedimentation is an issue within these watersheds (Upper Cow Creek

WA, 2005). High temperatures, and sedimentation within these streams are thought to be associated with naturally occurring factors such as low summer flows, landslides, and mantle creep, as well as anthropocentric factors such as natural surface and winter haul roads, and areas of sparse or absent riparian cover resulting from agriculture, placer mining, and some non-federal logging operations; which under the Oregon Forest Practices Act are required to leave a 20 foot no harvest zone on fish bearing streams, and less on perennial streams that do not have fish. This in some cases can result in increased solar radiation where shade trees are removed, and a hydrologic connection between upland erosion and the stream channel.

### **Whitehorse Heaven Project**

**BLM land- Spur #3:** The Whitehorse Heaven Project spur is proposed within the 21,935 acre Cow Creek-Whitehorse Creek HUC 6 drainage, located within the 113,025 acre Middle Cow Creek HUC 5 watershed. Soils associated with this spur are mapped as an Acker-Norling complex, which is fairly deep, well drained, and typically has moderately slow permeability. The Douglas County Soils Survey (NRCS, 1994) identifies steepness of slope, hazard of erosion and compaction, and the depth to rock as the “major management limitations” on this soil complex. Soils in this complex can be prone to rapid runoff that can lead to erosion especially where flows are concentrated as a result of slower permeability and moderately steep slopes. As a result the NRCS (1994) recommends ensuring proper design of road drainage systems and careful placement of culverts to reduce the erosion potential. Slopes adjacent to this proposed ridgetop road construction are generally less than 45%. There are no stream crossings or headwalls in the area of the proposed road construction, and no trees would need to be removed during the construction of this spur.

**Private Timber Harvest:** Private Harvest will occur in the Cow Creek- Whitehorse Creek HUC 6 drainage. Soils in the area of proposed timber harvest are mapped as a Kanid-Atring complex in the western portion, an Acker-Norling complex in the southwest corner, and a Packard gravelly loam right along the creek in the eastern portion of the unit. Both the Kanid-Atring and Acker-Norling complexes have metamorphic parent material. The major management limitations identified in the Douglas County Soils Survey (NRCS, 1994) for these two complexes include steepness of slope, hazard of erosion, and depth to rock. As a result of these limitations NRCS recommends the use of cable yarding systems to minimize soil disturbance. Slopes in the area of harvest average approximately 60-90% in the western portion and 30-60% in the south-western corner. Where the Packard gravelly loam occurs along the stream, slopes are generally less than 5%. Major management limitations identified for this soil type include hazard of compaction and high amounts of rock fragments. NRCS does not list any recommendations as to how to mitigate harvest activities on this soil type.

Currently, approximately 32% of the Cow Creek-Whitehorse Creek HUC 6 drainage is hydrologically unrecovered, and thus contributing to open space within the drainage. Refer to the Snow Creek project (above) for further discussions of potential water yield increases associated with watershed openings.

Currently, approximately 27% of the TSZ within the Cow Creek-Whitehorse Creek HUC 6 drainage is hydrologically unrecovered, and thus contributing to open space within the drainage. Refer to the Snow Creek project (above) for further discussions of potential peak flow increases associated with TSZ openings.

**Current Condition of Watersheds:** As with the Upper Cow Creek HUC 5 watershed discussed above, the Middle Cow Creek HUC 5 watershed is located within the Klamath Mountain Province and is mostly Galice Formation. Please refer to the Snow Creek Project Current Condition of Watersheds (above) for more information on the geology of this watershed.

Approximately 400 acres of land within the Cow Creek-Whitehorse HUC 6 drainage are currently non-productive for timber production on federal ground as a result of soil compaction from road building.

Currently up to 1.8% of the Cow Creek-Whitehorse HUC 6 drainage is estimated to be compacted as a result of existing roads. Research indicates that changes in runoff timing may occur when road acres occupy as little as 3%-4% of the watershed (WPN, 1999).

Road densities within the Cow Creek-Whitehorse HUC 6 drainage are currently at approximately 4.8 mi/mi<sup>2</sup>. Road densities as a result of past road construction are currently above NMFS recommended levels for properly functioning watershed condition (FWS/NOAA Fisheries Table of Population and Habitat Indicators, USFS et al. 2004). Currently about 85% of the road miles within the Cow Creek-Whitehorse HUC 6 drainage are within 170 feet of a stream (Middle Cow Creek WA, 1999). Roads in close proximity to streams are the major ongoing sediment sources in this watershed (Middle Cow Creek WA, 1999). Un-vegetated ditchlines, road surfaces, and cross drains can all mobilize soils. Approximately 60% of the haul roads within the Cow Creek-Whitehorse HUC 6 drainage across all ownerships are rocked or paved. However, many rocked roads do not have a sufficient rock depth, and still result in high amounts of stream sediment when used for winter log haul. On BLM lands, rocked roads used for winter haul are generally required to have a 10 inch lift to prevent excessive erosion. Natural surface roads on BLM are only used for log hauling during the dry season.

Though aquatic habitat conditions are currently in fair to poor condition, water quality within the Cow Creek-Whitehorse HUC 6 drainage is currently thought to be improving (Middle Cow Creek WA, 1999). Whitehorse Creek is listed for temperature on the ODEQ 303(d) list. The high temperature and sedimentation within Whitehorse Creek is associated with timber harvest activities, most likely the majority of which is from current private harvesting and past un-recovered private and federal actions (RMP/EIS p. 4-18) within the riparian zone that are affecting shade and reducing large woody debris (LWD), placer mining, and the streamside road location. Natural factors including serpentine soils in some locations within this watershed, and low summer flows are also contributing to reduced water quality within this watershed.

### 3.2.2 Environmental Effects

#### Alternative 1 (No Action)

##### Snow Creek Project

**Spur Roads #1 and #2:** Construction of spur roads #1 and #2 would not occur under alternative 1. Therefore, under this alternative, soil resources on BLM lands would remain in their present condition. Since no roads would be built, there would be no change in the number of acres that would be available for timber production on BLM land in the future, and contribution to changes in watershed hydrology from BLM lands.

This alternative would keep road densities at approximately 4.8 mi/mi<sup>2</sup> within the Upper Cow Creek- Galesville HUC 6 drainage, and 4.0 mi/mi<sup>2</sup> within the Dismal Creek HUC 6 drainage, and would keep the amount of exposed soil that could be prone to erosion, and compaction, at existing levels.

**Private Harvest:** Under alternative 1, Seneca Jones Timber Company would proceed with timber harvest activities on private lands in the Snow Creek project area. Harvest activities would include downhill yarding, helicopter yarding, road renovation, and landing construction and renovation. The western boundary of this private timber harvest is along an unnamed private road beginning in the NW corner of T32S-R3W-section 5, off of the 32-3-5.0 road. This road is adjacent to Snow Creek for approximately ½ - ¾ miles, coming within approximately 50 feet of the stream in some locations. This road also has several intermittent, and at least one perennial, stream crossings. Snow Creek is water quality limited for temperature, and is a fish-bearing stream. Under the no action alternative, renovation and use of this road, including the construction/improvement of landings along this road, would be needed as Seneca's harvest activities would change from those that would occur under the Proposed Action. Because no roads would be built on BLM land, cable yarding equipment and logging trucks would not have access to the ridge above Seneca's land requiring access to their land from this road below the unit.

Since specific ground disturbance locations relative to Snow Creek, and other streams within the harvest unit is unknown, and it is not known in which portions, or to what extent, downhill yarding or helicopter yarding would be used under this alternative, the amount of erosion and subsequent sediment input to streams is uncertain. However, it can be assumed that ground under 30% would be tractor logged and all other ground would be downhill yarded or helicopter yarded. According to Sidle (1980) tractor yarding contributes 20% more disturbed ground than high-lead cable yarding, and 29% more than helicopter yarding (35% for tractor logging compared to 15%, and 6%). Thus, the amount of erosion and sediment produced as a result of these proposed private action would be relative to the method of harvesting used. Riparian Management Areas (RMA) would be applied along Snow Creek, as required under the Oregon Forest Practices Act, which would help to reduce sediment from upslope harvest activities. The use and renovation of the road along Snow Creek would be expected to result in additional measurable increases in sediment under this alternative. Timber harvest activities that remove canopy

within the primary shade zone along Snow Creek and the perennial stream within the unit would result in increases in solar exposure. As assumed in the RMP EIS (p. 4-18), stream water temperatures are directly influenced by non-BLM administered lands. Riparian Management Areas (RMA), where applied, would help to minimize the increase in solar radiation exposure and subsequent increases in stream temperature.

Harvesting of timber would increase open space within the Upper Cow Creek-Galesville HUC 6 drainage by approximately 120 acres (0.8%), increasing open space within this drainage to about 23%. Open space within the TSZ of this drainage would increase by about 10 acres (0.07% TSZ), increasing open space within the TSZ of this drainage to about 33%. Since baseline conditions are presently exceeding 25% open space at the 6<sup>th</sup> field sub-watershed scale, harvesting within the TSZ of this unit will likely result in a slight increase in the magnitude of peak flows. As stated above, increases in the average total runoff within a watershed are generally found to be in proportion with the amount of forest cover removed and are generally not measurable until at least 25% of the watershed is in open space condition (Church and Eaton, 2001). Localized increases in water yields and runoff timing could occur within Snow Creek immediately below the unit depending on harvest activities, but would not be expected to be measurable at the 5<sup>th</sup> field watershed scale.

Under the no action alternative, local road density on Seneca land would remain the same.

The effects of all harvest activities would be consistent with the Medford RMP, which assumes all private land over 60 years of age would be intensively managed. The RMP (pp. 4-12, 4-14) acknowledges and assumes that forest activities such as compaction, forest clearing, landings and machine piling leads to accelerated erosion and if great enough can be carried off-site. Further as addressed in the RMP EIS (p. 4-5, 4-16), rotational harvest in watersheds would result in continual disturbance, increasing turbidity and sediment, but as areas re-vegetate and stabilize the effects will diminish. Private logging operations would be managed under Oregon Forest Practices Act standards and guidelines.

### **Whitehorse Heaven Project**

**Spur Road #3:** Construction of spur road #3 would not occur under alternative 1. Therefore, under this alternative, soil resources on BLM lands would remain in their present condition. Since no roads would be built, there would be no change in the number of acres that would be available for timber production on BLM land in the future, and contribution to changes in watershed hydrology from BLM lands.

This alternative would keep road densities at approximately 4.8 mi/mi<sup>2</sup> within the Cow Creek- Whitehorse Creek HUC 6 drainage, and would keep the amount of exposed soil that could be prone to erosion, and compaction, at existing levels.

**Private Harvest:** Under alternative 1, Seneca Jones Timber Company would proceed with timber harvest activities on private lands in the Whitehorse Heaven project area. Because no roads would be built on BLM land, cable yarding equipment and logging trucks would not have access to the ridge above Seneca's land. As a result, harvest activities would be changed from cable yarding to helicopter logging, and the maintenance and use of Whitehorse road (32-4-4.0) would be necessary. Additionally, a helicopter landing site along this road would need to be improved and used under this alternative. Whitehorse road parallels Whitehorse Creek for approximately  $\frac{3}{4}$  of a mile along the eastern edge of the unit. Haul on this road would come within about 100 feet of Whitehorse Creek and would occur for approximately 2 miles, crossing approximately 5 intermittent streams. Whitehorse Creek is a water quality limited, anadromous fish stream. The helicopter landing would be within approximately 50 feet of Whitehorse Creek. Maintenance and use of this road and landing would likely contribute small amounts of sediment to Whitehorse Creek due to the roads close proximity and hydrologic connectivity with the creek. If this road and landing are used during wet weather, as intended, it would be expected that enough sediment could enter the stream from these activities, for aquatic habitat within the stream substrate below the project area, and along the haul route, to be measurably affected. Whitehorse Creek is a fish-bearing stream that would have a designated riparian management zone, as required under the Oregon Forest Practices Act. As such it would be expected that sediment entering the Whitehorse Creek from upslope activities would be minimized. Timber harvest activities that remove canopy within the primary shade zone along Whitehorse Creek would result in increases in solar exposure. As assumed in the RMP EIS (p. 4-18), stream water temperatures are directly influenced by non-BLM administered lands. The RMA would help to minimize this increase in solar radiation exposure and subsequent increases in stream temperature.

Harvesting of timber would increase open space within the Cow Creek-Whitehorse Creek HUC 6 drainage by approximately 80 acres (0.4%), increasing open space within this drainage to about 32%. Open space within the TSZ of this drainage would increase by about 10 acres (0.09% TSZ), increasing open space within the TSZ of this drainage to about 27%. Since baseline conditions are presently exceeding 25% at the 6<sup>th</sup> field sub-watershed scale, harvesting this unit will likely result in a slight increase in the magnitude of current peak flow events, and an increase in annual water yields within this drainage (Church and Eaton, 2001). These activities are consistent with assumptions made in the Medford RMP/EIS, which states that increases in the magnitude and frequency of peak flow events may occur with timber harvest, and the potential for water quality degradation and impairment of aquatic habitat that could result (RMP EIS, pg 4-17).

Under the no action alternative, local road density on Seneca land would remain the same.

The effects of all harvest activities would be consistent with the Medford RMP EIS, which assumes all private land over 60 years of age would be intensively managed. The RMP EIS (pp. 4-12, 4-14) acknowledges and assumes that forest activities such as compaction, forest clearing, landings and machine piling leads to accelerated erosion and

if great enough can be carried off-site. Further as addressed in the RMP EIS (p. 4-5, 4-16), rotational harvest in watersheds would result in continual disturbance, increasing turbidity and sediment but as areas revegetate and stabilize the effects will diminish. Private actions would occur under the Oregon Forest Practices Act standards and guidelines.

## **Alternative 2 (Proposed Action)**

### **Snow Creek Project**

**Spur Road #1 and Spur Road #2:** The proposed road construction and haul is located in the upper portions of the hillslope and along a ridge. There are no stream crossings or headwalls within this project area. Soils within this complex are generally stable, with moderately high nutrient and water holding capacities. Sideslopes within this project area are generally less than 50%. Full bench construction would be used in the instances where slopes exceed 60% to prevent excessive erosion, and any potential slumping issues. Excavated material from full bench construction would be endhauled to a stable, existing landing off BLM road 32-3-6.0. This is ridgetop road, located more than 300 feet from the closest intermittent stream. Slopes throughout this project area are well vegetated and would act to keep erosion primarily on site. Best Management Practices (BMP) in the RMP (USDI BLM 1995, Appendix D) and PDF's (Project Design Features, section 2.4) would be used to minimize the amount of eroded material during construction and use of these roads. Both road spurs would be restricted to dry season use, through hauling restrictions and off season blocking, to minimize potential drainage problems. These roads would be constructed using an adequate size and number of cross drains and/or water dips to prevent rilling on the road surface, and excessive side slope erosion. Splash guards would also be used below cross drain culverts to minimize water channeling and downcutting.

As a result, surface erosion would be expected to be slightly elevated above natural conditions as a result of the construction and use of 774' of road. However, because these roads would not be hydrologically connected to any stream channels and there would be no artificial downslope transport mechanisms created as a result of the construction of these road spurs, eroded material would be expected to remain primarily onsite within the vegetation. Therefore the construction and use of these road spurs would result in minimal additional sediment reaching the closest intermittent stream approximately 300 feet downslope, and no measurable sediment reaching the closest fish stream over ¼ mile downstream of the project area. The overall effects of the proposed road construction on water quality are expected to be neutral and State of Oregon water quality standards would not be exceeded.

Snow Creek, approximately ¼ mile downslope from Spur # 1 is listed for temperature on the Oregon 303d list. However, construction of this spur would not involve the manipulation or removal of any riparian vegetation and thus would not affect stream temperatures or the recruitment and development of LWD.

The Proposed Action would result in soil disturbance from road construction and the removal of trees within the clearing limits of the roads on approximately 0.8 acres, and soil compaction and productivity loss on about 0.6 acres within the Upper Cow Creek-Galesville HUC 6 drainage. Within the Dismal Creek drainage soil disturbance would occur on approximately 0.2 acres with about 0.1 acres of soil compaction and productivity loss. This would result in an additional 0.7 acres of LSR land that would be compacted and removed from the productive land base. The Upper Cow Creek-Galesville HUC 6 drainage downslope from Spur #1 in T32S-R3W-Sec6 totals approximately 15,115 acres. The Dismal Creek HUC 6 drainage below Spur #2 (at the same legal) is approximately 21,225 acres. Given the scope and location of these proposed spur roads, this action is anticipated to have a negligible impact to soil productivity in late successional reserve (LSR) lands at the watershed scale. This action would be consistent with all soil productivity, compaction, and erosion standards set forth in the Medford District RMP. Additionally, it would not be expected that this project would measurably contribute to an increase in flows or runoff timing, because, due to the ridgetop location of these proposed spurs, no subsurface flows would be intercepted, and any water intercepted or routed by these short spurs would be expected to infiltrate back into the soil prior to reaching any streams.

Road densities would remain at 4.8 mi/mi<sup>2</sup> within the Upper Cow Creek- Galesville HUC 6 drainage, with the construction of only 0.1 miles (604 feet) of road, and would remain at 4.0 mi/mi<sup>2</sup> within the Dismal Creek HUC 6 drainage, as only 0.03 miles (170 feet) of road is proposed for construction. Additionally road acres would remain below that level at which changes in runoff timing within a watershed may occur.

### **Whitehorse Heaven Project**

**Spur Road #3:** The proposed 167' road construction and haul is located along a ridge. There are no stream crossings or headwalls within this project area. Soils within this complex are generally stable, and sideslopes within this project area are generally less than 45%. This proposed ridgetop construction is located more than ¼ miles from any streams. Slopes throughout this project area are well vegetated and would act to keep erosion primarily on site. BMP's and PDF's would be used to minimize the amount of eroded material during construction and use of these roads. This spur would be rocked with a minimum of 10" of rock to allow for wet season use.

As a result surface erosion would be expected to be slightly elevated above natural conditions as a result of the construction and use of this road. However, because these roads would not be hydrologically connected to any stream channels and there would be no artificial downslope transport mechanisms created as a result of the construction of this road spur, eroded material would be expected to remain primarily onsite within the vegetation. Therefore the construction and use of this road spur would result in no measurable sediment reaching the closest fish stream over ¼ mile downstream of the project area. The overall effects of the proposed road construction on water quality are expected to be neutral and State of Oregon water quality standards would not be exceeded.

Whitehorse Creek, approximately ¼ mile downslope from Spur # 3, is listed for temperature on the Oregon 303d list. However, construction of this spur would not involve the manipulation or removal of any riparian vegetation and thus would not affect stream temperatures or the recruitment and development of LWD.

The Proposed Action would result in soil disturbance on approximately 0.2 acres and compaction and productivity loss on approximately 0.1 acres. This would result in approximately 0.1 acre of LSR land that would be compacted and removed from the productive land base. No trees would need to be removed during the construction of this spur. The Cow Creek- Whitehorse Creek HUC 6 drainage downslope from Spur #3 in T32S-R4W-Section 9 totals approximately 21,935 acres. Given the scope and location of this proposed spur road, this action is anticipated to have a negligible impact to soil productivity on federal lands at the 6<sup>th</sup> field sub-watershed scale or the 5<sup>th</sup> field watershed scale. This action would be consistent with all soil productivity, compaction, and erosion standards set forth in the Medford District RMP EIS. Additionally, it would not be expected that this project would measurably contribute to an increase in flows or runoff timing, as the ridgetop location of the proposed spur would not intercept subsurface flow, and any water intercepted or routed by the short spur would be expected to infiltrate back into the soil prior to reaching any streams.

Road densities would remain at 4.8 mi/mi<sup>2</sup> within the Cow Creek- Whitehorse Creek HUC 6 drainage, with the construction of only 0.03 miles (167 feet) of road is proposed for construction. Additionally road acres would remain below that level at which changes in runoff timing within a watershed may occur.

## **Cumulative Effects**

### **Snow Creek Project (Upper Cow HUC 5 watershed)**

Currently, approximately 23% of the Upper Cow Creek-Galesville HUC 6 drainage is hydrologically unrecovered, and thus contributing to open space within the drainage. The TSZ within this drainage is currently at approximately 33% open space condition. This includes this proposed ROW, and all acres that are being harvested on federal ground under the Slim Jim, Big Jim, and the Roseburg Density Management, and any new renewals or notifications that had been received by ODF for private harvest that is currently ongoing in 2006. There are currently no planned foreseeable future projects that would create additional open space on federal lands within the Upper Cow Creek-Galesville HUC 6 drainage, or the Upper Cow Creek HUC 5 watershed. Private harvest would be expected to continue to occur at current rates, the effects of which would be consistent with the assumptions of the Medford RMP EIS, which assumes all private land over 60 years of age would be intensively managed. Because the baseline conditions are already above the level at which effects are measurable for potential increases in water yield, runoff timing, and peak flows, private harvest will likely result in increased water yields within some HUC 7 basins within this drainage, and depending on the timing and location of harvest activities effects may be seen at the HUC 6 scale. However, because both the Dismal Creek HUC 6 drainage and the South Fork Cow HUC 6 drainage are

primarily federal block ownership with much less intensive management activities, it would not be expected that changes in watershed hydrology would be measurable at the HUC 5 watershed scale. The effects of private timber harvest are within those analyzed under the Medford RMP EIS which states that increases in the magnitude and frequency of peak flow events may occur with timber harvest, and the potential for water quality degradation and impairment of aquatic habitat that could result (RMP EIS, pg 4-17). All private actions proposed under this analysis are expected to be consistent with the Oregon Forest Practices Act; which is intended to reduce the impacts to water quality, aquatic habitat, and riparian species that result from private timber management actions, and to ensure compliance with Oregon Department of Environmental Quality water quality standards.

The number of acres available for future timber production on federal ground would remain the same under Alternative 1 because no roads would be built under this alternative. Under Alternative 2, approximately 0.7 acres of late successional reserve (LSR) ground would be compacted and permanently taken out of the productive land base due to road construction. This is consistent with the NFP ROD (p. C-19) that access to nonfederal lands through LSR would be considered, and when routed through LSR, designed and located to have the least impact on late-successional habitat. There are no other planned future projects that would reduce the number of acres that would be available for future timber production on federal ground within the Upper Cow Creek-Galesville or Dismal Creek HUC 6 drainages.

Currently, road densities within the Upper Cow Creek- Galesville HUC 6 drainage are at approximately 4.8 mi/mi<sup>2</sup>, and at approximately 4.0 mi/mi<sup>2</sup> within the Dismal Creek HUC 6 drainage. Road densities as a result of past road construction are currently above NMFS recommended levels for properly functioning watershed condition (FWS/NOAA Fisheries Table of Population and Habitat Indicators, USFS et al. 2004). There would be no road building associated with this project under Alternative 1. Alternative 2 would result in an increase in road miles of 0.1 (604 feet) in the Upper Cow Creek- Galesville HUC 6 drainage, and an increase of 0.03 miles (170 feet) within the Dismal Creek HUC 6 drainage. There are no other planned future projects on federal ground that would result in an increase in road density. Road densities would be expected to continue to increase within the Upper Cow Creek HUC 5 watershed on non-federal land, as needed to provide access for private harvest activities. Currently there are up to 9,000 acres of non-federal forested land that may be at, or approaching a harvestable age. Some of these acres may require road spurs or short road segments to be constructed to allow access to these acres, however many of these acres have been harvested in the past and thus currently have old roads accessing them. Any roads built by non-federal land owners would not be expected to be decommissioned after use, and many would be expected to be used for winter haul. Consistent with assumptions in the RMP EIS, timber harvest activities will result in an increase in erosion and potentially stream sedimentation, depending on their location and level of hydrologic connectivity. The degree to which this increase create cumulative effects are uncertain; however, sediment delivery to streams would be minimized due to compliance with ODF guidelines, and vegetative recovery.

Currently up to 2.0% of the Upper Cow Creek-Galesville drainage and the 1.6% of the Dismal Creek drainage are estimated to be compacted as a result of existing roads. Research indicates that changes in runoff timing may occur when roads acres occupy as little as 3%-4% of the watershed (WPN, 1999). Alternative 1 would not result in an increase in road acres on federal ground. Alternative 2 would result in an increase of approximately 0.7 acre of road. Currently, there are no other planned future projects on federal ground that would result in an increase in road acres. Under both alternatives, road construction would be expected to continue on private ground as needed for access to harvest units. Given the baseline conditions, road building could result in an increase in peak flows and runoff timing under certain conditions, due the number of acres that would be contributing to more rapid routing of runoff. These effects however are consistent with the Medford RMP EIS which assumes some increases in compaction and peak flows as a result of private harvest. However, it would not be expected that the cumulative effects from the construction of the two spurs proposed under this project would measurably contribute to an increase in flows or alter runoff timing, because, due to the ridgetop location of these proposed spurs, no subsurface flows would be intercepted, and any water intercepted or routed by these short spurs would be expected to infiltrate back into the soil prior to reaching any streams.

Construction of spur roads is not expected to directly affect stream temperatures. However, timber harvest activities that remove canopy within the primary shade zone along perennial streams would result in increases in solar exposure and stream temperature. Within the Upper Cow Creek HUC 5 watershed, Snow Creek, Cow Creek, and Dismal Creek are all water quality limited due to high temperatures. Stream shade is protected on federal ground. On private ground RMA's, where applied, help to minimize the increase in solar radiation exposure and subsequent increases in stream temperature. As a result of mixed ownership and less restrictive protection measures on private lands, it would not be expected that overall water temperatures within streams would vary based on the location of harvest activities. As assumed in the RMP EIS (p. 4-18), stream water temperatures are directly influenced by non-BLM administered lands.

### **Whitehorse Heaven Project**

Middle Cow LSR Landscape Planning Project Environmental Analysis (Middle Cow 5<sup>th</sup> field watershed) proposes commercial density management and riparian thinning on approximately 1,236 acres of LSR and Riparian Reserves, construction of 1.6 miles of temporary roads that would be decommissioned after use; gating 3.6 miles of road; and 0.84 miles of road decommissioning as funding is available;

Currently, approximately 32% of the Cow Creek-Whitehorse Creek HUC 6 drainage is hydrologically unrecovered, and thus contributing to open space within the drainage. The TSZ within this drainage is currently at approximately 27% open space condition. This includes this proposed ROW, and all acres that are being harvested on federal ground under the Middle Cow LSR Landscape Planning Project, and any new renewals or notifications that had been received by ODF for private harvest that is currently ongoing in 2006. There are currently no planned future projects that would create additional open space on federal lands within the Cow Creek- Whitehorse Creek HUC 6 drainage. Private

harvest would be expected to continue to occur at current rates, the effects of which would be consistent with the assumptions of the Medford RMP EIS, which assumes all private land over 60 years of age would be intensively managed. Because the baseline conditions are already above the point where there is increased risk of measurable effects for increases in water yield, runoff timing, and peak flows, private harvest will likely result in increased water yields within some HUC 7 basins within this drainage, and depending on the timing and location of harvest activities effects may be seen at the HUC 6 scale. The effects of private timber harvest are within those analyzed under the Medford RMP which states that increases in the magnitude and frequency of peak flow events may occur with timber harvest, and the potential for water quality degradation and impairment of aquatic habitat that could result (RMP EIS, pg 4-17). ) All private actions proposed under this analysis are expected to be consistent with the Oregon Forest Practices Act, which is intended to reduce the impacts to water quality, aquatic habitat, and riparian species that result from private timber management actions, and to ensure compliance with Oregon Department of Environmental Quality water quality standards.

The number of acres available for future timber production on federal ground would remain the same under Alternative 1 because no roads would be built under this alternative. Under Alternative 2, approximately 0.1 acres of federal ground would be compacted and permanently taken out of the productive land base due to road construction. This is consistent with the NFP ROD (p. C-19) that access to nonfederal lands through LSR would be considered, and when routed through LSR, designed and located to have the least impact on late-successional habitat. There are no other planned future projects that would reduce the number of acres that would be available for future timber production on federal ground within this watershed. The Middle Cow Creek LSR Landscape Planning Project will temporarily remove approximately 4 acres of timber in association with temporary road construction, and would be consistent with the RMP ROD for road construction within LSR's (RMP, p.34).

Currently, road densities within the Cow Creek-Whitehorse Creek HUC 6 drainage are approximately 4.8 mi/mi<sup>2</sup>. Road densities as a result of past road construction are currently above NMFS recommended levels for properly functioning watershed condition (FWS/NOAA Fisheries Table of Population and Habitat Indicators, USFS et al. 2004). There would be no road building associated with this project under Alternative 1. Alternative 2 would result in an increase in road miles of 0.03 (167 feet) in the Cow Creek-Whitehorse Creek HUC 6 drainage. There are no other planned future projects on federal ground that would result in an increase in road density. As stated above the Middle Cow LSR Planning Project will result in approximately 1.6 miles of temporary road, however since these roads will be decommissioned following use, they will not contribute to watershed road densities. Road densities would be expected to continue to increase within the Middle Cow Creek HUC 5 watershed on non-federal land, as needed to provide access for private harvest activities. Currently there are up to 46,000 acres of non-federal forested land that may be at, or approaching a harvestable age. Some of these acres may require road spurs or short road segments to be constructed to allow access to these acres, however many of these acres have been harvested in the past and thus currently have old roads accessing them. Any roads built by non-federal land owners

would not be expected to be decommissioned after use, and many would be expected to be used for winter haul. Consistent with assumptions in the RMP EIS, timber harvest activities will result in an increase in erosion and potentially stream sedimentation, depending on their location and level of hydrologic connectivity. The degree to which this increase creates cumulative effects is uncertain; however, sediment delivery to streams would be minimized due to compliance with ODF guidelines, and vegetative recovery.

Currently up to 1.8% of the Cow Creek-Whitehorse Creek drainage is estimated to be compacted as a result of existing roads. Research indicates that changes in runoff timing may occur when roads acres occupy as little as 3%-4% of the watershed (WPN, 1999). Alternative 1 would not result in an increase in road acres on federal ground. Alternative 2 would result in an increase of approximately 0.1 acres of road. Currently, there are no other planned future projects on federal ground that would result in an increase in road acres. The Middle Cow Creek LSR Landscape Planning Project will result in approximately 4 acres of temporary roads. However, these roads will be decommissioned and subsoiled prior to the wet season, immediately reducing up to 80% of the hydrologic effects associated with these roads. Under both alternatives, road construction would be expected to continue on private ground as needed for access to harvest units. Given the baseline conditions, road building could result in an increase in peak flows and runoff timing under certain conditions, due the number of acres that would be contributing to more rapid routing of runoff. These effects however are consistent with the Medford RMP which assumes some increases in compaction and peak flows as a result of private harvest. However, it would not be expected that the cumulative effects from the construction of the spur proposed under this project would measurably contribute to an increase in flows or alter runoff timing, because, due to the ridgetop location of the proposed spur, no subsurface flows would be intercepted, and any water intercepted or routed by these short spurs would be expected to infiltrate back into the soil prior to reaching any streams.

Construction of spur roads is not expected to directly affect stream temperatures. However, timber harvest activities that remove canopy within the primary shade zone along perennial streams would result in increases in solar exposure and stream temperature. Within the Middle Cow Creek HUC 5 watershed, Whitehorse Creek, Cow Creek, Windy Creek, Dad's Creek, Riffle Creek, Skull Creek, Woodford Creek, and Quines Creek are all water quality limited due to high temperatures. Stream shade is protected on federal ground. On private ground RMA's, where applied, help to minimize the increase in solar radiation exposure and subsequent increases in stream temperature. As a result of mixed ownership and less restrictive protection measures on private lands, it would not be expected that water quality within streams would vary based on the location of harvest activities. As assumed in the RMP EIS (p. 4-18), stream water temperatures are directly influenced by non-BLM administered lands.

### **3.3 Special Status Wildlife Species (Threatened, Endangered, Sensitive) and Critical Habitat**

#### **3.3.1 Affected Environment - Northern Spotted Owl and Critical Habitat**

##### **Northern Spotted Owl**

The Planning Area is located within the Middle Cow and Upper Cow Creek 5<sup>th</sup> Field Watershed. Middle Cow Creek contains a mixture of seral stages, including approximately 22,000 acres of mature and old-growth forest habitat (about 50% of the 45,510 acres in federal ownership, USDI, 1999, p.34) used by northern spotted owls. Within the Upper Cow Creek watershed, there are approximately 5,277 acres of BLM-administered stands over 80 years of age out of a total of 9,930 acres (53%) of BLM-administered land in the watershed. (USDI, 2005, p.98). Environmental Baseline acres for suitable nesting/roosting/foraging (NRF) habitat in the Umpqua River/Galesville LSR (#RO223) are listed as 33,804 acres (USDA/USDI 2006). Approximately 43% of the federal lands are late-successional stands (USDA/USDI, 2004a, p. S-2).

The Proposed Action is located in the USFWS Cow Upper Section 7 watershed which encompasses the West Fork, Middle, and Upper Cow Creek 5<sup>th</sup> field watersheds. The baseline suitable (NRF) spotted owl habitat for this Section 7 watershed is 43,242 acres (USDA/USDI 2006, App. A). The effect of harvesting on the viability of spotted owls is determined by disturbance to nesting owls and modification of owl habitat at the Section 7 watershed scale through consultation with the USFWS. The amount of anticipated adverse impacts to spotted owls will be accounted for through consultation and incidental take with the U. S. Fish and Wildlife Service. The Fish and Wildlife Service will analyze incidental take of northern spotted owls by considering the removal, downgrading, or degradation of all suitable and dispersal habitat acres.

The proposed Project Area is surveyed yearly, with the locations of adjacent spotted owls and nesting areas well documented. There are no 100 acre spotted owl activity centers effected by the Proposed Action. Activity centers were identified prior to the signing of the Northwest Forest Plan (NFP) and contain 100-acres to be managed for late-successional characteristics. An owl site is considered viable if at least 40 percent of the area within the 1.3 mile home range in suitable habitat condition. However, depending on habitat conditions, such as forage conditions, fragmentation and juxtaposition of suitable habitat, owl sites may have less than 40% suitable habitat and continue to produce young.

The Thinhorse owl site is approximately ½ mile from the project area in T32S-R3W-Section 9, but would not be affected by disturbance or removal of NRF or dispersal habitat. The Not So Bad owl site is approximately .8 miles from the proposed Snow Creek ROW amendment and is affected by the removal of NRF habitat. The proposed road project is within the home range (defined as within 1.3 miles in the Klamath Province) of the primary and alternate nest trees of the historic Not So Bad spotted owl

site (T32S R3W Section 7). This site has been surveyed yearly and has pair status. In the past nine years, this pair has successfully nested six times.

Table 1. Status of Not So Bad, Spotted Owl Site # 4512

1998	Original site	pair status	2 fledglings
1999	Alternate site	pair status	2 fledglings
2000	Original site	pair status	1 fledgling
2001	Original site	pair status	2 fledglings
2002	Original site	pair status	2 fledglings
2003	Original site	pair status	Not nesting
2004	Alternate site	pair status	Not nesting
2005	Original site	pair status	1 fledgling
2006	Alternate site	pair status	Not nesting

All of the following statements are made in reference to the primary nest site. Within the Not So Bad spotted owl home range (1.3 mile radius), approximately 60 percent (1,363 ac.) of the federal land is on BLM and 40 percent (894 ac.) is on USDA Forest Service (FS) land. Of the 2,257 federal acres, approximately 50 percent of the BLM land (681ac.) is suitable habitat, and 69 percent of FS land (615ac) is suitable habitat. Combined federal suitable habitat is approximately 1,296 acres, or 57 percent of federal habitat within 1.3 miles of the Not So Bad owl nest site. Suitable federal habitat represents approximately 38 percent of all acres within the home range. Within section 6 where the Snow Creek Proposed Action will occur, there are approximately 64 acres of suitable habitat (McKelvey Habitat 1 and 2), and 10 acres of dispersal-only habitat (Habitat 5) within the 120-acre BLM block in this section. Within 1.3 miles of the activity center it is estimated there are approximately 1,553 dispersal-capable habitat (69 percent) within 2,257 acres of federal land.

Field visits indicate the proposed road route and adjacent area is void of large trees with broken tops or cavities, deficient in large down wood, snags, and lacks vegetative layering that supports typical nesting habitat, or good quality roosting and foraging habitat. Platforms nests built by other raptor or mammal species could occur, providing temporary and inconsistent nesting structure opportunities for spotted owls. Canopy cover is approximately 60%, and contains dominant Douglas firs >30" DBH with large branches and full crowns. There is evidence of fire history within the stand. The large conifers are limby, and have significant taper form typical of growing and healthy mature trees, and have little defect or decay.

Extensive harvesting on BLM lands occurred in the Planning Area prior to the 1990 listing of the spotted owl, and the implementation of the NFP in 1994. Harvesting on private lands continues to be extensive. Most private land has been intensively harvested, much of it in the last few decades (Medford Change Detection Satellite Imagery Program data 1974-2002). Extensive private harvesting since 2002 removing habitat, and other activities, such as quarry development, road building, herbicide application (private lands), and fire, have additionally contributed to the loss of spotted owl suitable habitat.

A shift to increasing numbers of owl sites in maturing Late Successional Reserves is expected to contribute to the recovery goals and conservation needs of spotted owls, through providing multiple clusters of breeding spotted owls (USDA/USDI 2006, BA p. 29, 30). Demographic data from northern spotted owls in the Klamath Demographic Study Area collected from 1985-2003 (Anthony et. al. 2004b) indicate that populations appear to be stable in the Klamath study area as a result of high survival and number of young produced over the period of the study.

The Bureau of Land Management (BLM), Forest Service (FS), and US Fish and Wildlife Service (USFWS) have conducted a coordinated review of four recently completed reports containing information on the NSO. The reviewed reports include the following:

- *Scientific Evaluation of the Status of the Northern Spotted Owl* (Sustainable Ecosystems Institute, Courtney et al. 2004);
- *Status and Trends in Demography of Northern Spotted Owls, 1985-2003* (Anthony et al. 2004);
- *Northern Spotted Owl Five Year Review: Summary and Evaluation* (USFWS, November 2004); and
- *Northwest Forest Plan – The First Ten Years (1994-2003): Status and trend of northern spotted owl populations and habitat, PNW Station Edit Draft* (Lint, Technical Coordinator, 2005).

Although the agencies anticipated a decline of NSO populations under land and resource management plans during the past decade, the reports identified greater than expected NSO population declines in Washington and northern portions of Oregon, and more stationary populations in southern Oregon and northern California. The reports did not find a direct correlation between habitat conditions and changes in NSO populations, and they were inconclusive as to the cause of the declines. Lag effects from prior harvest of suitable habitat, competition with barred owls, and habitat loss due to wildfire were identified as current threats; West Nile virus and Sudden Oak Death were identified as potential new threats. Complex interactions are likely among the various factors. The status of the NSO population, and increased risk to NSO populations due to uncertainties surrounding barred owls and other factors, were reported as not sufficient to reclassify the species to endangered at this time.

The effects on NSO populations identified in the four reports are within those anticipated in the RMP EIS, and that the RMP goals and objectives are still achievable in light of the information from the reports (BLM, 2005).

Northern spotted owl suitable habitat includes stands suitable for nesting, roosting, and foraging. There are two categories of suitable habitat. Habitat 1 conifer stands satisfy the daily and annual needs of the owl for nesting, roosting and foraging. These stands generally have a multilayered canopy with large trees in the overstory and an understory of shade tolerant conifers and hardwoods. Canopy closure generally exceeds 70%, and average DBH is generally 21 inches or greater. Habitat 2 suitable habitat includes conifer

stands with understory vegetation or coarse woody debris which provide roosting and foraging opportunities but lack the necessary structure for consistent nesting. These stands have less diversity in the vertical structure and canopy closure generally exceeds 70% and average DBH is 11- 21 inches. The Project Area was field-reviewed to determine if it met the definition of suitable habitat. Dispersal (non-suitable) habitat includes conifer stands with trees greater than or equal to 11” dbh and canopy closure of 40-60%. The proposed Snow Creek Project Area includes many conifers greater than 11”dbh, with interspersed with trees 21”- 40”dbh, with an average canopy closure about 60% in mature and older stands.

### **Northern Spotted Owl Critical Habitat**

The Whitehorse Creek project occurs within CHU#OR-32 (T32S, R5W, Section 9). Critical Habitat for the northern spotted owl is identified in the USFWS FY06-08 Biological Assessment (p.BA-p.67) and was designated in *Federal Register 57* (USDC 2002) and includes the primary constituent elements that support nesting, roosting, foraging, and dispersal. Designated Critical Habitat also includes forest land that is currently unsuitable, but has the capability of becoming suitable habitat in the future (FR57 (10):1796-1837).

Primary constituent elements of spotted owl critical habitat *are those physical and biological attributes that are essential to species conservation. In addition, the Act stipulates that the areas containing these elements may require special management consideration or protection. Such physical and biological features, as stated in 50 CFR 4.2.4.1.2 includes, but are not limited to the following:*

- Space for individual and population growth, and for normal behavior;*
- Food, water, or other nutritional or physiological requirements;*
- Cover or shelter;*
- Sites for breeding, reproduction, rearing of offspring; and*
- Habitats that are protected from disturbance or are representatives of the historic geographical and ecological distribution of the species.*

Critical Habitat Unit OR-32 coincides with the Rogue-Umpqua Area of Concern, which provides an essential link in connecting the Western Cascades Province with the northern end of the Klamath Mountains Province as well as the southern portion of the Coast Range Province (USDA/USDI 2006, BA, App. B-18). The land ownership patterns elevate the importance of maintaining owl nesting habitat to link the Western Cascades, Coast Ranges and the Klamath Provinces (USDA/USDI 2006 BA, App. B-18). Harvesting on private land has converted stands into early and mid-seral stages, which may not serve as suitable habitat. While no target amounts of nesting, roosting and foraging habitat were identified for critical habitat, the current baseline for all CHUs in SW Oregon Administrative Units is 442,177 acres (USDA/USDI 2006 BA, Table 6, p.51). As a result of past actions removing and downgrading habitat in this CHU, an estimated 35,165 acres of this 68,873 acre CHU, or approximately 51%, are currently suitable for nesting, roosting, and foraging habitat (USDA/USDI 2006, p.51).

### **3.3.2 Environmental Effects**

#### **Alternative 1 (No Action)**

Under the No Action alternative, no roads would be constructed and no removal of suitable habitat would occur on BLM land, and no disturbance to spotted owls would occur as a result of federal action. There would be no direct or indirect effects on the spotted owl from federal action. Approximately 240 acres of habitat in the Planning Area providing primarily roosting, foraging, and dispersal on private land would be harvested by ground based and/or helicopter logging. This is consistent with the assumptions of the 2004-2008 Biological Assessment (USDA/USDI 2003) and 2006-2008 Biological Assessment (USDA/USDI 2006) that private lands are expected to be harvested, and not contribute to suitable habitat and the viability of the northern spotted owl.

#### **Alternative 2 (Proposed Action)**

This would include the construction and use, and amendment to the right-of-way agreement of three road segments. The Whitehorse construction is a permanent, rocked surface road on BLM land in T32S-R4W Section 9 (32-4-9.5 road, 167'). The Snow Creek construction is two natural surface roads in T32S-R4W Section 6 (32-3-6.1 road 604'; 32-3-6.2 road 170'). The amendments to the existing right-of-way agreement would allow Seneca Jones Timber Company legal right-of-way on the spur roads they intend to use for access to their private parcel and to use for timber hauling.

#### **Whitehorse Project**

The 170' road construction on BLM land in T32S-R4W Section 9 (road #32-4-9.5) occurs in designated spotted owl critical habitat OR-32, and within the South Umpqua/Galesville late successional reserve #RO223. No suitable (NRF) or dispersal habitat would be removed from the construction of road, and therefore would remove no primary constituent elements contributing to nesting, food, cover, shelter, and would not impact known sites for breeding, reproduction, or rearing of offspring. No owl sites occur within ¼ mile of the proposed road construction, and therefore no disturbance would occur to nesting owls.

#### **Snow Creek Project**

Approximately 774 feet of new road would be constructed on two spurs on BLM land in the South Umpqua/Galesville Late Successional Reserve #RO223 in T32S-R3W Section 6. The proposed new road construction for road spur 6.1 (604') would occur within a mature mixed conifer/hardwoods stand (Habitat 2) dominated by Douglas-fir and madrone. The construction of spur road 6.2 (170') would occur in a mixed young and mid-seral stand, and would not remove habitat contributing to the nesting, roosting, foraging, or dispersal of spotted owls, and this road segment will not be discussed further.

Approximately 18 conifers within the proposed road location of road spur 6.1 are 11 – 20 inches diameter at breast height (dbh) and approximately 13 conifers are 20 to 40 inches dbh, dispersed through the 604' ROW. The construction would permanently remove

approximately ½ acre of spotted owl suitable habitat in a narrow 40’-60’ strip. The right-of-way location has been marked by BLM personnel to minimize impacts to the Late-Successional Reserve stand by reducing road width where possible while accomplishing engineering standards.

The amount of estimated suitable federal habitat within 1.3 miles of the Not So Bad owl site is approximately 1,296 acres, and is below the 1,336 acres considered as a general guideline for the minimum for a viable site within the Klamath Province. (FY 06-08 BO p. 71, USDA/USDI 2006). Due to the small size and narrow configuration of habitat removal, the suitable stands effected by the removal of trees would not be expected to alter the known nesting selection or reduce the nesting potential of the adjacent owl site, and is not expected to result in measurable behavioral impacts to the breeding, feeding, sheltering, or dispersal of the adjacent owls. The project does not occur within a .7 mile range of owls, which is considered a heavily used core area during nesting and fledging. The stand is expected to continue to support the adjacent owl site by providing roosting, foraging, and dispersal. The canopy gap and ground space resulting from the increased road density is not expected to deter spotted owls from using the stand.

The Proposed Action is not expected to change the species viability of the spotted owl as determined by the Northwest Forest Plan. The effects of loss, degradation and disturbance of habitat due to harvesting, fire, and road construction, manifested in the spotted owl population decline rate, are not greater than was analyzed in the RMP (USDA/USDI 1994, p. 4-78) and NWFP (USDA/USDI 1994a, pp. 3&4 -211-234).

### **Cumulative Effects for the Northern Spotted Owl and Critical Habitat**

Cumulative effects result from the incremental impact of the Proposed Action, added to other past, present, and reasonably foreseeable actions regardless of land ownership. Past activities have resulted in habitat loss and modification, which has changed the distribution and abundance of many wildlife species in the USFWS Cow Upper Section 7 watershed.

Extensive harvesting on BLM occurred prior to the 1990 listing of the spotted owl as a threatened species, and the implementation of the NFP in 1994. Late-successional stands in this watershed are highly fragmented and frequently isolated from other late successional stands because of the checkerboard pattern of federal land ownership and past logging practices. Harvesting on private lands continues to be extensive. Most private land has been intensively harvested, much of it in the last few decades (Medford Change Detection Satellite Imagery Program data 1974-2002). Other activities, such as quarry development, road building, herbicide application (private lands), and fire have additionally contributed to the loss of spotted owl suitable habitat. It is expected that habitat modification and removal of habitat will continue on private as well as federal lands within and surrounding the Planning Area and within the USFWS Cow Upper Section 7 watershed.

The RMP/EIS assumed that in the future nonfederal lands would have no suitable habitat (RMP/EIS, 4-73) due to 40-60 year rotations on private lands, but are expected to provide some dispersal habitat. The cumulative effect of harvesting from private lands and the Proposed Action is less than what was anticipated in the RMP/ROD. The removal of habitat from private land would reduce primarily roosting, forage and dispersal habitat utilized by adjacent owl sites. This would increase the intensity of use and dependency by the adjacent owl sites on BLM ownership. If habitat resources are no longer adequate to support the adjacent owls, site selection may change, or the owls may remain at the current sites but become less productive.

Recent projects removing or downgrading suitable habitat in the USFWS Cow Upper Section 7 watershed include Big Jim (Upper Cow 5<sup>th</sup> field watershed) with 5 acres suitable habitat removed, and is located immediately adjacent to the LSR and Proposed Action; density management and hazardous fuels reduction on 309 BLM acres within the Galesville Valley Project; the Middle Cow LSR Landscape Planning Project Environmental Analysis (Middle Cow 5<sup>th</sup> field watershed) proposes commercial density management and riparian thinning that would downgrade suitable habitat on approximately 1,236 acres of LSR and Riparian Reserves, and degrade suitable habitat on approximately 2,501 acres of hazardous fuels reduction, construction of 1.6 miles of temporary roads that would be decommissioned after use; gating 3.6 miles of road; and 0.84 miles of road decommissioning as funding is available; Willy Slide project (West Fork Cow 5<sup>th</sup> field watershed) removing 33 acres of suitable habitat, 12 acres dispersal habitat removed, and 140 acres of dispersal habitat degraded.

Other recent projects include the Westside EA project (Middle Cow 5<sup>th</sup> field watershed) removing approximately 1,338 acres and downgrading 1,379 acres of suitable habitat, degrading 1,280 acres and removing 5 acres of dispersal habitat over the next 2 years; construction of .5 miles of permanent road, construction of 4.75 miles of temporary roads that would be decommissioned after use, and .75 miles of road decommissioning as funding is available.

Foreseeable projects within the Upper Cow Creek 5<sup>th</sup> field watershed that may remove, downgrade or degrade suitable habitat would occur in all alternatives and include: the U.S. Forest Service (USFS) Tiller Ranger District's 1,877 acre Cow Creek watershed Shaded Fuel Break Project within 3 to 5 years, and the Roseburg District BLM's Shively LSR Density Management project of 35 commercial thin acres and construction of approximately 1,100 ft of temporary roads.

The USFWS Cow Upper Section 7 watershed baseline suitable habitat including the recent and foreseeable projects is 43,242 acres (USDA/USDI 2006, Table 5 p.BA-48). The additional cumulative removal of ½ acre of suitable habitat from Seneca ROW project proposal combined with other foreseeable adjacent projects in the Cow Upper Section 7 watershed, would reduce the suitable baseline acres to approximately 43,242 acres in the Cow upper Section 7 watershed (USDA/USDI 2006).

The cumulative effects from Proposed Action, when added to the effects of recent and foreseeable activities within the Cow Upper Section 7 watershed as identified in the FY 04-08 BA/BO (USDI/USDA 2003) and FY06-08 BA/BO, would permanently remove elements supporting feeding, breeding, and cover for a historical spotted owl site within the Section 7 watershed, which is within 1.3 miles of the home range, but is not expected to change the actual breeding productivity of the adjacent owl site, or reduce the number of viable sites within the Section 7 watershed, and is not expected to change the stability of the spotted owl population trend in the Klamath Province.

## **Chapter 4.0 List of Preparers**

The following individuals participated on the interdisciplinary team or were consulted in the preparation of this EA:

<u>Name</u>	<u>Title</u>	<u>Primary Responsibility</u>
Marlin Pose	Ecosystem Planner	NEPA, Team Lead
Randy Fiske	Engineer	Transportation
Carl Symons	Right-of-Way Specialist	Right-of-Ways, Realty
Jim Blankenship	Right-of-Way Specialist	Right-of-Ways, Realty
Colleen Dulin	Hydrologist	Soils, Watershed, Riparian
Stephanie Messerle	Fish Biologist	Fisheries
Marlin Pose	Wildlife Biologist	Wildlife
Rachel Showalter	Botanist	Botany & Noxious weeds
Chris Dent	Outdoor Recreation Planner	Visual Quality, Recreation
Amy Sobiech	Archaeologist	Cultural Resources

## **Chapter 5.0 Public Involvement and Consultation**

### **5.1 Public Scoping and Notification**

#### **5.1.1 Public Scoping**

The Glendale Resource Area accepts public comment of proposed management activities through the quarterly BLM Medford Messenger publication. A brief description of proposed projects, such as Seneca Right-of-Way Road Construction Project, a legal location and general vicinity map are provided along with a comment sheet for public responses. The project was included in these quarterly publications beginning in winter, 2006.

#### **5.1.2 15-day Public Comment Period**

The Environmental Assessment will be made available for a 15-day public review period. Notification of the comment period will include: the publication of a legal notice in the Daily Courier, newspaper of Grants Pass, Oregon; and a letter to be mailed to those individuals, organizations, and agencies that have requested to be involved in the environmental planning and decision making processes for proposed timber sales. Comments received in the Glendale Resource Area Office, 2164 NE Spalding Avenue, Grants Pass, Oregon 97526 on or before the end of the 30-day comment period will be considered in making the final decision for this project.

#### **5.1.3 Administrative Remedies**

Administrative review of right-of-way decisions requiring National Environmental Policy Act (NEPA) assessment will be available under 43 CFR Part 4 to those who have a “legally cognizable interest” to which there is a substantial likelihood that the action authorized would cause injury, and who have established themselves as a “party to the case.” (See 43 CFR § 4.410). Other than the applicant/proponent for the right-of-way action, in order to be considered a “party to the case” the person claiming to be adversely affected by the decision must show that they have notified the BLM of their alleged injury through their participation in the decision-making process. (See 43 CFR § 4.410(b) and (c)). The publication of the legal notice of decision in the Daily Courier, newspaper of Grants Pass, Oregon, will establish the date initiating a 30-day appeal period.

### **5.2 Consultation**

#### **5.2.1 United States Fish and Wildlife Service**

In accordance with regulations pursuant to Section 7 of the Endangered Species Act 1973, as amended, consultation with the USFWS concerning the potential impacts of

implementing the Seneca Right-of-Way Road Construction Project upon the Northern spotted owl was initiated in August 2006 (USDI 2006) and is referred to as the Snow Creek Seneca Jones ROW Project. Consultation concluded in September 2006 when USFWS issued a Letter of Concurrence (Log #1-15-06-I-0213).

Instruction Memorandum No. 2003-142 states that initiation of Endangered Species Act consultation is limited to “proposed federal actions” that would have an effect on listed species. The proposed federal action does not include any private action on private land.

### **5.2.2 National Marine Fisheries Service (NMFS)**

Consultation with National Marine Fisheries Service is not required for the Proposed Action because there are no Endangered Species Act listed fish within the Umpqua Basin. Southern Oregon Northern California (SONC) Coho salmon or Coho critical habitat is not present within this project area, fifth-field watershed, or the Umpqua Basin.

Consultation with National Marine Fisheries Service for species listed under the Magnuson Stevens Act is not required as there would be no adverse affects to Essential Fish Habitat.

### **5.2.3 State Historical Preservation Office**

Required cultural surveys were completed for the Project Area and no cultural resources were found. The State Historical Preservation Office approved the clearance/tracking form for the Seneca Right-of-Way Road Construction Project. The form is contained with the EA case file.

### **5.2.4 Native American Tribal Consultation**

The BLM Medford Messenger publication is sent to local federally recognized Native American tribes. A meeting with the Glendale Resource Area archaeologist and Cow Creek Band of Umpqua Indians was held June 15, 2006. The tribe was provided with a description and location of proposed project activities for the Seneca Right-of-Way Road Construction Project. The tribe did not identify any areas of concern within the Project Area. No other tribes made contact with the Glendale Resource Area concerning the Seneca Right-of-Way Road Construction Project.

## ACRONYMS AND GLOSSARY

### Abbreviations:

BLM	Bureau of Land Management
BMP	Best Management Practices
DBH	Diameter at Breast Height
ESA	Endangered Species Act
HUC	Hydrologic Unit Code
NEPA	National Environmental Policy Act
PDF	Project Design Feature
RMA	Riparian Management Area
TSZ	Transient Snow Zone

**Air Quality.** Refers to standards for various classes of land as designated by the Clean Air Act, P.L. 88-206, Jan. 1978.

**Best Management Practices (BMP).** Practices determined by the resource professional to be the most effective and practicable means of preventing or reducing the amount of water pollution generated by non-point sources; used to meet water quality goals (See Appendix D in RMP (USDI BLM 1995)).

**Berm.** A constructed earthen roadblock.

**Canopy.** The more or less continuous cover of branches and foliage formed collectively by adjacent trees and other woody species in a forest stand.

**Coarse Woody Debris.** Portion of trees that have fallen or been cut and left in the woods. Usually refers to pieces at least 20 inches in diameter.

**Compaction** (relative to this EIS). Refers to soil becoming consolidated by the effects of surface pressure often from heavy machinery or vehicle and pedestrian traffic.

**Cover.** Vegetation used by wildlife for protection from predators, or to mitigate weather conditions, or to reproduce. May also refer to the protection of the soil and the shading provided to herbs and forbs by vegetation.

**Cultural Resources.** The physical remains of human activity (artifacts, ruins, burial mounds, petroglyphs, etc.) having scientific, prehistoric or social values.

**Cumulative Effect.** The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can also result from individually minor, but collectively significant actions taking place over a period of time.

**Diameter at Breast Height (dbh).** The diameter of a tree 4.5 feet above the ground on the uphill side of the tree.

**Ditch-out.** Road surface drainage provided by creating small cross section ditches in the road prism directing surface water flow away from the road.

**Edge.** Where different plant communities meet, or where variations in successional stage or vegetation conditions within the plant community come together.

**Effects (or Impacts).** Environmental consequences as a result of a Proposed Action. Effects provide the scientific and analytical basis for comparison of alternatives. Effects might be either direct (caused by the action and occur at the same time and place) or indirect (occurring later in time or at a different location, but are reasonably foreseeable or cumulative results of the action).

Effects and impacts as used in this EA are synonymous. Effects include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic quality, historic, cultural, economic, social, or healthy effects, whether direct, indirect, or cumulative. Effects might also include those resulting from actions that might have both beneficial and detrimental effects, even if on the balance it appears that the effects would be beneficial.

**Endangered Species.** Any species defined through the Endangered Species Act of 1973 as amended, as being in danger of extinction throughout all or a significant portion of its range and published in the Federal Register.

**Environmental Assessment (EA).** A statement of the environmental effects of a Proposed Action and alternatives to it. It is required for major federal actions under Section 102 of NEPA and is released to the public and other agencies for comment and review. It is a formal document that must follow the requirements of NEPA, CEQ guidelines, and directives of the agency responsible for the project proposal.

**Erosion.** Detachment or movement of soil or rock fragments by water, wind, ice, or gravity. Accelerated erosion is more rapid than normal, natural, or geologic erosion, primarily resulting from the activities of people, animals, or natural catastrophes.

**Floodplain.** The lowland and relatively flat area adjoining inland and coastal waters, including, at a minimum, areas that are subject to a one percent or greater chance of flooding in any given year.

**Forage.** All browse and non-woody plants that are available to livestock or game animals and used for grazing or harvested for feeding.

**Forest canopy** is defined as the stratum containing the crowns of the tallest vegetation present in the stand, usually above 20 feet in height (NWCG, 1994).

**Forest Health.** The ability of forest ecosystems to remain productive, resilient, and stable over time and to withstand the effects of periodic natural or human caused stresses such as drought, insect attack, disease, climatic change, flood, resource management practices and resource demands.

**Habitat Type.** (Vegetative). An aggregation of all land areas potentially capable of producing similar plant communities at climax.

**Hardwoods.** A conventional term for broadleaf trees and their wood products.

**Impacts.** A spatial or temporal change in the environment caused by human activity. See effects.

**Indirect Effects.** Secondary effects which occur in locations other than the initial action or significantly later in time.

**Intermittent Stream.** Any nonpermanent flowing drainage feature having a definable channel and evidence of scour or deposition. This includes what are sometimes referred to as ephemeral streams if they meet these two criteria.

**Mitigation.** Mitigation includes (1) avoiding the impact altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (3) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (5) compensating for the impact by replacing or providing substitute resources or environments.

**National Environmental Policy Act of 1969 (NEPA).** This law requires the preparation of environmental impact statements for every major Federal Action which causes a significant effect on the quality of the human environment.

**No-Action Alternative.** The No-Action Alternative is required by regulations implementing the National Environmental Policy Act (NEPA) (40 CFR 1502.14). The No-Action Alternative provides a baseline for estimating the effects of other alternatives. When a proposed activity is being evaluated, the No-Action Alternative discusses conditions under which current management direction would continue unchanged.

**Non-attainment.** Failure of a geographical area to attain or maintain compliance with ambient air quality standards.

**Noxious Weeds.** Rapidly spreading plants that can cause a variety of major ecological or economic impacts to both agriculture and wildland.

**Overstory.** That portion of trees which form the uppermost layer in a forest stand which consists of more than one distinct layer (canopy).

**Perennial Streams.** Streams that flow continuously throughout the year.

**Prescription.** Management practices selected and scheduled for application on a designated area to attain specific goals and objectives.

**Reconstruction.** replacing, rebuilding, or restoring an improvement facility or treatment (i.e., fence, spring development, cattleguard, road, trail, building, parking lot, etc.) to its original or modified condition.

**Resource Management Plan (RMP).** A land use plan prepared by the BLM under current regulations in accordance with the Federal Land Policy and Management Act. (See USDI, BLM 1995).

**Rilling.** Rilling- the formation of small channels in a road, as a result of water runoff.

**Riparian Reserves.** Designated riparian areas found outside Late-Successional reserves.

**Riparian Zone/Habitat.** Those terrestrial areas where the vegetation complex and microclimate conditions are products of the combined presence and influence of perennial and/or intermittent water, associated high water tables and soils which exhibit some wetness characteristics. Normally used to refer to the zone within which plants grow rooted in the water table of these rivers, streams, lakes, ponds, reservoirs, springs, marshes, seeps, bogs and wet meadows.

**Road Maintenance.** The work required to keep a facility (road) in such a condition that it may be continuously utilized at its original or designed capacity and efficiency, and for its intended purposes.

**Snag.** A standing dead tree usually without merchantable value for timber products, but having characteristics of benefit to cavity nesting wildlife species.

**Soil Compaction.** An increase in bulk density (weight per unit volume) and a decrease in soil porosity resulting from applied loads, vibration, or pressure.

**Stand.** A community of trees or other vegetation uniform in composition, physiognomy, spatial arrangement, or condition to be distinguishable from adjacent communities.

**Threatened Species.** Any species of plant or animal which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range, and which has been designated in the Federal Register as such. In addition, some states have declared certain species in their jurisdiction as threatened or endangered.

**Transient Snow Zone.** The transient snow zone is generally considered lands above 2,500 feet in elevation.

**Understory.** Vegetation (trees or shrubs) growing under the canopy formed by taller trees.

**Water Quality.** The chemical, physical and biological characteristics of water.

**Watershed.** Entire area that contributes water to a drainage system or stream.

**Wildfire.** Any wildfire not designated and managed as a prescribed fire with an approved prescription.

**Yarding.** The act or process of moving logs to a landing.

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## APPENDIX 1 - ALTERNATIVE DEVELOPMENT SUMMARY

Environmental Assessment Number OR-118-06-006

Pursuant to Section 102 (2) (E) of NEPA (National Environmental Policy Act of 1969, as amended), Federal agencies shall “Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” The CEQ (Council on Environmental Quality) regulations for implementing the procedural provisions of NEPA states, alternatives should be “reasonable” and “provide a clear basis for choice” (40 CFR 1502.14).

In light of the direction contained in both NEPA and the CEQ Regulations, the following questions were used to 1/ identify the alternatives to be analyzed in detail in this environmental assessment that are in addition to the “Proposed Action” and “No Action” alternatives, and 2/ document the rationale for eliminating alternatives from detailed study.

- 1. Are there any unresolved conflicts concerning alternative uses of available resources? If yes, document and go to Question #2. If no, document rationale and stop evaluation.**

The Northwest Forest Plan ROD states “Access to nonfederal lands through Late-Successional Reserves will be considered...New access proposals may require mitigation measures to reduce adverse effects on Late-Successional Reserves. In these cases, alternate routes that avoid late-successional habitat should be considered. If roads must be routed through a reserve, they will be designed and located to have the least impact on late-successional habitat.” (NFP ROD p.C-19)

The Medford Resource Management Plan Record of Decision states, “Consider as valid uses access to nonfederal lands through late-successional reserves and existing rights-of-way agreements”, and “For all new rights-of-way proposals, design mitigation measures to reduce adverse effects on late-successional reserves. Consider alternate routes that avoid late-successional reserves. If rights-of-way must be routed through a reserve, design and locate them to have the least impact on late-successional habitat.” (RMP ROD p.35)

The Galesville/ South Umpqua Late Successional Reserve Assessment states “Access to non-Federal lands, existing right-of-way agreements, contracted rights, easements and temporary use permits in the Late-Successional Reserve are recognized as valid uses. New road construction is generally not recommended unless potential benefits outweigh the impacts. New road construction should be designed and located to avoid late-successional habitat if possible and minimize adverse impacts. Where possible, new road construction should be limited to temporary roads which can be rehabilitated following use.” (p. 88)

In light of the management direction (NFP and RMP) and guidance (LSR Assessment) outlined above the following concerns have been identified:

**a)** *consider an alternative that does not involve road construction in Late Successional Reserves (LSRs.)*

**b)** *consider an alternative with less road construction and avoidance of late successional habitat*

**2. What alternatives should be considered that would lessen or eliminate the “unresolved conflicts concerning alternative uses of available resources”?**

*List alternatives and go to Question #3. If no alternative is identified other than the “no action” alternative, document and stop evaluation.*

**a)** *consider an alternative that does not involve road construction in Late Successional Reserves (LSRs.)*

1/ An alternative was developed that entailed the construction of a 550’ spur road across BLM matrix land use allocation in T32-R3W-6 in order to avoid constructing 774 feet of spur roads within the LSR (Snow Creek Project). The road grade would be in excess of 30%, which exceeds BLM standards. Additional full bench construction and ground disturbance on private land, and road construction on steep terrain above at least three drainage headwalls and construction of a landing site would be required. No other access points from BLM matrix land use allocation were topographically feasible.

2/ The No Action Alternative entails the harvesting on private land of approximately 120 acres of timber in T32-R3W Section 6 and 80 acres in T32S-R4W Section 10 utilizing any combination of ground based downhill/tractor logging and/or helicopter logging, and include reconstruction on approximately ½ mile of private road within the Snow Creek riparian area (fish-bearing stream), including log deck and helicopter landing areas. This alternative would increase logging costs by 184%-211% per thousand board feet over the costs associated with the Proposed Action.

**b)** *consider an alternative with less road construction and avoidance of late successional habitat*

1/ An alternative was developed that entailed the construction of only one road 170’ in length through the BLM LSR land use allocation in T32-R3W-6 in order to avoid constructing 604 feet of spur road through suitable owl habitat within the LSR (Snow Creek Project). This alternative doubles the full bench road construction on private land in very steep terrain and near at least three drainage headwalls. This alternative would involve the end-hauling of 5,600 cubic yards of material: nearly double that of the Proposed

Action. Conventional cable yarding would occur, but due to the additional full bench road construction costs would increase approximately 160% per thousand board feet over the costs associated with the Proposed Action. Merchantable but smaller diameter trees would still be removed on BLM land.

2/ No additional action alternative was developed for the Whitehorse Heaven Project as it is a ridgetop road that avoids late successional habitat.

- 3. Of those alternatives identified in Question #2, are there reasonable alternatives for wholly or partially satisfying the need for the Proposed Action? If so, briefly describe alternatives and go to question #4. If no, document rationale and stop evaluation.**

Alternative a1 is not reasonable as the road construction grade would exceed BLM standards and the road segment on private land would be constructed near at least 3 headwalls increasing the risk of mass soil movement and sediment transmitted to water courses and degrading water quality. This alternative would not meet the resource objective of providing access with road and landing locations to minimize soil erosion and water quality degradation. This would not locate road construction on most stable locations (ridges, natural benches, flatter transitional slopes near ridges and valley bottoms), and would not avoid construction near headwalls, midslope locations, or slopes in excess of 70%, and would not locate roads to minimize heights of cutbanks (RMP ROD p. 157,158).

Alternative a2 is the No Action Alternative that will be analyzed in the EA and serves as the baseline for comparison of effects of the action alternative(s).

Alternative b1 doubles the full bench road construction on private land in very steep terrain, and the road segment on private land would be constructed near at least three headwalls increasing the risk of mass soil movement and sediment transmitted to water courses and degrading water quality. This alternative would not meet the resource objective of providing access with road and landing locations to minimize soil erosion and water quality degradation. This would not locate road construction on most stable locations (ridges, natural benches, flatter transitional slopes near ridges and valley bottoms), and would not avoid construction near headwalls, midslope locations, or slopes in excess of 70%, and would not locate roads to minimize heights of cutbanks (RMP ROD p. 157,158). This alternative would not meet, wholly or partially, the need for the Proposed Action as Seneca Jones Timber Company has stated, in a letter dated August 15, 2006, that they would be employing the No Action Alternative to harvest the Snow Creek unit to attain their primary objective which is “providing a sustainable supply of raw materials for our processing facilities.”

- 4. Of those alternatives identified in Question #3, will such alternatives have meaningful differences in environmental effects? If so, seek line officer**

approval to carry alternatives forward for detailed analysis in the environmental assessment. If no, document rationale and stop evaluation.

There are no “action” alternatives identified in Question #3 that would wholly or partially meet the need for the Proposed Action.

## APPENDIX 2 - ENVIRONMENTAL ELEMENTS

Environmental Assessment Number OR-118-06-007

In accordance with law, regulation, executive order and policy, the Seneca Right-of-Way Road Construction interdisciplinary team reviewed the elements of the environment to determine if they would be affected by the Proposed Action described in Environmental Assessment Number OR-118-06-007. The following **three tables** summarize the results of that review.

<b>Table 1. Critical Elements of the Environment.</b> This table lists the critical elements of the human environment (BLM Handbook 1790-1) which are subject to requirements specified in statute, regulation, or executive order and the interdisciplinary team's predicted environmental impact per element if the Proposed Action described in the Environmental Assessment was implemented.		
Critical Element of the Human Environment	Status 1/ Not Present 2/ Not Affected 3/ Affected	Interdisciplinary Team Remarks 1/ If not affected, why? 2/ If affected, develop cause/effect statement, unit of measure to describe environmental impacts, and if applicable, design features not already identified in Appendix C of the RMP to reduce or avoid environmental harm
Air Quality (Clean Air Act)	Not Affected	Particulate matter would not be of a magnitude to harm human health, affect the environment, or result in property damage. As such, the Proposed Action is consistent with the provisions of the Federal Clean Air Act.
Areas of Critical Environmental Concern	Not Present	There are no Areas of Critical Environmental Concern located within the project area.
Cultural, Historic, Paleontological	Not Present	There are no known cultural resource sites located within the project area. A cultural resource survey for construction of 3 spur roads was conducted in April 2006 and no cultural resources were found. If cultural resources are found during the implementation of the Proposed Action, the project may be redesigned to protect the cultural resource values present, or evaluation and mitigation procedures would be implemented based on recommendations from the Resource Area Archaeologist and concurrence from the Field Manager and SHPO.
Energy (Executive Order 13212)	Not Present	There are no known energy resources located in the project area. The Proposed Action would have no effect on energy development, production, supply and/or distribution.
Environmental Justice (Executive Order 12898)	Not Affected	The Proposed Action is not anticipated to have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.
Prime or Unique Farm Lands	Not Present	There are no Prime or Unique farmlands in or adjacent to the project area.
Flood Plains (Executive Order 11988)	Not Affected	The Proposed Action is located near ridgetops, and does not involve occupancy and modification of floodplains, and would not increase the risk of flood loss. As such, the Proposed Action is consistent with Executive Order 11988.
Hazardous or Solid Wastes	Not Present	

**Table 1. Critical Elements of the Environment.** This table lists the critical elements of the human environment (BLM Handbook 1790-1) which are subject to requirements specified in statute, regulation, or executive order and the interdisciplinary team’s predicted environmental impact per element if the Proposed Action described in the Environmental Assessment was implemented.

Critical Element of the Human Environment	Status 1/ Not Present 2/ Not Affected 3/ Affected	Interdisciplinary Team Remarks 1/ If not affected, why? 2/ If affected, develop cause/effect statement, unit of measure to describe environmental impacts, and if applicable, design features not already identified in Appendix C of the RMP to reduce or avoid environmental harm
Invasive, Nonnative Species (Executive Order 13112)	Not Affected	<p>The existing roadside and proposed ROW routes were surveyed for noxious weeds in the spring of 2006. One population of <i>Hypericum perforatum</i> (St. John’s wort) was located along the Snow Creek Road portion. This plant has been successfully treated across the district using a biological control (a small beetle which feeds on the plant parts). On the Whitehorse portion, <i>Cirsium</i> (Thistle) was noted along the roadsides. Although there are only two populations of noxious weeds in the vicinity of the proposed ROWs, openings and disturbance provide the greatest opportunity for the establishment of noxious weeds. In an effort to address the potential for project activities to increase the rate of spread of noxious weeds, Project Design Features (PDFs) have been included in the project to decrease the potential spread of weeds associated with the Proposed Action. Project Design Features include washing equipment prior to moving it on-site, operating vehicles/equipment in the dry season, and seeding and/or planting newly created openings with native vegetation to reduce the potential establishment of noxious weeds. These PDFs are widely accepted and utilized as Best Management Practices (BMPs) in noxious weed control strategies across the nation (Thompson, 2006).</p> <p>Increases in individual noxious weed site occurrences and densities within the Project Area are likely to occur as a result of disturbance on approximately 1.3 acres resulting from 3 spur roads: 0.2 acres in the Whitehorse 6<sup>th</sup> field watershed (21,935 ac) 0.8 acres in the Galesville/Upper Cow 6<sup>th</sup> field watershed (15,115 ac), and 0.2 acres in the Dismal Creek 6<sup>th</sup> field watershed (21,225 ac). Access to 774’ of 941’ spur construction would be blocked after use reducing vehicular access. However, the mixed ownership pattern of private adjacent to BLM, existing use of reciprocal ROW’s, and the cumulative effects from factors affecting weed spread (private logging, motor vehicles, recreation, rural and urban development, and natural air/water/wildlife processes) effecting the project area, and the implementation of BMP’s, the presence or absence, or weed density will not be altered to any detectable degree at the 6<sup>th</sup> field watershed level by the Proposed Action.</p>
Native American Religious Concerns	Not Present	
T/E (Threatened or Endangered) Fish Species or Habitat	Not Present (SONC Coho salmon)	<p>Southern Oregon/Northern California (SO/NC) Coho salmon or their habitat is not present within this project area or fifth-field watersheds.</p> <p>No other threatened or endangered fish are located within this project area or fifth-field watersheds.</p>

**Table 1. Critical Elements of the Environment.** This table lists the critical elements of the human environment (BLM Handbook 1790-1) which are subject to requirements specified in statute, regulation, or executive order and the interdisciplinary team’s predicted environmental impact per element if the Proposed Action described in the Environmental Assessment was implemented.

Critical Element of the Human Environment	Status 1/ Not Present 2/ Not Affected 3/ Affected	Interdisciplinary Team Remarks 1/ If not affected, why? 2/ If affected, develop cause/effect statement, unit of measure to describe environmental impacts, and if applicable, design features not already identified in Appendix C of the RMP to reduce or avoid environmental harm
T/E (Threatened or Endangered) Plant Species or Habitat	Not Affected	Of the four federally listed plants on the Medford District ( <i>Fritillaria gentneri</i> , <i>Limnanthes floccosa</i> ssp. <i>grandiflora</i> , <i>Arabis macdonaldiana</i> , and <i>Lomatium cookii</i> ), only <i>Fritillaria gentneri</i> has a range and habitat which extends into the Glendale Resource Area. Although this ROW project area is within the range and habitat of <i>F. gentneri</i> , vascular plant surveys were conducted in the spring of 2006, and no <i>Fritillaria gentneri</i> populations were found. There would be no anticipated effect from the Proposed Action on any federally listed plant.

**Table 1. Critical Elements of the Environment.** This table lists the critical elements of the human environment (BLM Handbook 1790-1) which are subject to requirements specified in statute, regulation, or executive order and the interdisciplinary team’s predicted environmental impact per element if the Proposed Action described in the Environmental Assessment was implemented.

Critical Element of the Human Environment	Status 1/ Not Present 2/ Not Affected 3/ Affected	Interdisciplinary Team Remarks 1/ If not affected, why? 2/ If affected, develop cause/effect statement, unit of measure to describe environmental impacts, and if applicable, design features not already identified in Appendix C of the RMP to reduce or avoid environmental harm
T/E (Threatened or Endangered) Wildlife Species, Habitat and/or Designated Critical Habitat	Not Present (MAMU/BE)	<p><b>Marbled murrelet/ bald eagle</b> Marbled murrelets (MAMU) and bald eagles (BE) are not present within the Project Area. The action alternative would not occur within designated marbled murrelet critical habitat.</p>
	Not Affected (NSO Critical Habitat)	<p><b>NSO Critical Habitat</b> The Whitehorse Project occurs within Critical Habitat Unit #OR-32, but does not remove primary constituent habitat elements within the CHU.</p>
	Affected (spotted owl)	<p><b>NSO</b> The Snow Creek project would permanently remove ½ acre of suitable habitat within the home range of a known pair of spotted owls utilized for roosting, foraging, and dispersal, but would not be expected to effect the nesting behavior or productivity, or reduce frequency of use to the effected stand by spotted owls. No disturbance to the spotted owls would occur. The unit of measure is a narrative and acres of suitable NSO habitat removed. <i>Refer to Section 3.3 of the EA for a discussion of the affected environment and environmental effects of the Proposed Action related to this element of the environment</i></p>
	Not Affected (fisher)	<p><b>Fisher (Candidate)</b> Fishers have not been found in the Glendale Resource Area with successive years of peer-reviewed survey methods. Project area has low suitability for fisher, and unlikely to be used because of past forest fragmentation and recent extensive adjacent private harvesting. No denning habitat, snags, or large down wood would be removed. Approximately ½ acre of mature habitat which has a low potential of serving as residential fisher habitat would be removed causing a small break in continuous dense canopy, but the forest stand would remain behind blocked access after the Proposed Action and reduce potential disturbance. No stand level removal of dense canopy would occur. Any intermittent and infrequent use that may occur would not be expected to change due to the Proposed Action. The Project Area would not change the assessment predicted in the NFP (p.J2-54), which stated the fisher failed to pass the species viability screens due to its dependence on interior forest habitat and large, down woody debris. The RMP/EIS assumed that in the future non-federal lands would have no spotted owl (approximately age 80+) suitable habitat (RMP/EIS, 4-73) due to 50-80 year rotations on private lands.</p>

**Table 1. Critical Elements of the Environment.** This table lists the critical elements of the human environment (BLM Handbook 1790-1) which are subject to requirements specified in statute, regulation, or executive order and the interdisciplinary team’s predicted environmental impact per element if the Proposed Action described in the Environmental Assessment was implemented.

Critical Element of the Human Environment	Status 1/ Not Present 2/ Not Affected 3/ Affected	Interdisciplinary Team Remarks 1/ If not affected, why? 2/ If affected, develop cause/effect statement, unit of measure to describe environmental impacts, and if applicable, design features not already identified in Appendix C of the RMP to reduce or avoid environmental harm
Water Quality (Surface and Ground)	<p>Not Affected Temperature</p> <p>Not Affected Chemical/Nutrient Contamination</p> <p>Affected Sediment/ Water Quality</p>	<p>Temperature: Cow Creek, Snow Creek, and Whitehorse Creek are listed for temperature on the Oregon 303(d) list. Under the Proposed Action, Spur 1 would be constructed approximately ¼ mile upslope of Snow Creek, and Spur 2 would be located approximately 1/3 mile from the closest perennial tributary to Cow Creek. However, because this action does not involve the manipulation or removal of any riparian vegetation, and would not result in any measurable hydrologic changes that could potentially alter the stream channel width to depth ratio, construction of these roads would have no affect on stream temperatures or the recruitment and development of LWD.</p> <p>There would be no burning, and no herbicides or pesticides would be used in conjunction with this road construction. As such, this action would not be expected to result in any chemical or nutrient contamination.</p> <p>The Proposed Action would result in soil disturbance, thereby increasing the potential for soil erosion, and sedimentation to streams. However, slopes throughout this project area are well vegetated and would act to keep erosion primarily on site with minimal additional sediment reaching the closest intermittent stream approximately 200 feet downslope, and no measurable sediment reaching the closest fish stream over ¼ mile downstream of the project area. As such there are no apparent mechanisms for sediment transport to streams to occur as a result of this project. The unit of measure is a narrative on whether the Proposed Action would cause sedimentation to streams that would be in excess of the Environmental Protection Agency’s criteria for surface water quality standards under 304 a(1) of the Clean Water Act. <i>Refer to Section 3.2 of the EA for a discussion of the affected environment and environmental effects of the Proposed Action related to this element of the environment</i></p>
Wetlands (Executive Order 11990)	Not Present	The Proposed Action would not result in the destruction, loss or degradation of any wetland. As such, the Proposed Action is consistent with Executive Order 11990.
Wild and Scenic Rivers	Not Present	
Wilderness	Not Present	

**Table 2. Other Elements of the Environment.** This table lists other elements of the environment which are subject to requirements specified in law, regulation, policy, or management direction and the interdisciplinary team’s predicted environmental impact per element if the Proposed Action described in the Environmental Assessment was implemented.

Other Elements of the Environment	Status 1/ Not Present 2/ Not Affected 3/ Affected	Interdisciplinary Team Remarks 1/ If not affected, why? 2/ If affected, develop cause/effect statement, unit of measure, and if applicable, design features not already identified in Appendix C of the RMP to reduce or avoid environmental harm
Essential Fish Habitat (EHF) (Magnuson-Stevens Fisheries Conservation and Management Act)	Not Affected (EHF for Coho and Chinook salmon)	Given the scope, no stream crossings, exclusion from riparian reserves, and design features to reduce the transmission of fine sediment, the Proposed Action is not expected to effect EFH. No sediment would reach the closest EFH which is 0.3 miles away in Whitehorse Creek. Shade, temperature, pool habitat and potential future woody debris recruitment would not be affected because the proposed road would be located outside of riparian reserves. Adverse effects to EFH would not occur.
Fire Hazard/Risk	Not Affected	The proposed roads are not expected to increase fire risk to those areas as they are short dead end spurs (604 ft, 170 ft, 167 ft. in length) and do not connect into the rest of the road system. The two natural surface spurs (32-3-6.1 604 ft., 32-3-6.2 174 ft.) would be re-bermed (blocked). Such conditions would not attract additional traffic by the public.
Land Uses (right-of-ways, permits, etc)	Not Affected	The Proposed Action would not have adverse or beneficial effects to any existing land use.
Mineral Resources	Not Present	
Recreation	Not Affected	<p>There are no developed recreation sites that would be affected by the Proposed Action. The area is open to dispersed recreation use, as is most of the Glendale Resource Area. The Proposed Action would have a neutral effect on dispersed recreation within the resource area. There may be increased logging truck traffic during the operational period. This type of activity is typical for the area because of harvesting on private and other government owned lands.</p> <p>The total 0.2 miles increase in road lengths to dead-end spurs is not expected to change the current condition of off-road vehicle use in the area since this is a minimal increase to road mileage and does not connect with the rest of the road system within this watershed. Such conditions would not encourage additional use by the general public.</p>
Rural Interface Areas	Not Present	The project area does not contain Rural Interface Areas as designated in the Medford District Resource Management Plan (map 13).
Special Areas (not including ACEC, RMP pp. 33-35)	Not Present	There are no designated special area land allocations within the project area.

**Table 2. Other Elements of the Environment.** This table lists other elements of the environment which are subject to requirements specified in law, regulation, policy, or management direction and the interdisciplinary team’s predicted environmental impact per element if the Proposed Action described in the Environmental Assessment was implemented.

Other Elements of the Environment	Status 1/ Not Present 2/ Not Affected 3/ Affected	Interdisciplinary Team Remarks 1/ If not affected, why? 2/ If affected, develop cause/effect statement, unit of measure, and if applicable, design features not already identified in Appendix C of the RMP to reduce or avoid environmental harm
Survey and Manage, Special Status Species (not including T/E): Fish Species/Habitat	Not Present Survey & Manage	There are no Survey and Manage fish species listed in the <i>Final Supplemental Environmental Impact Statement and Record of Decision and Standards and Guidelines for Amendment to the Survey &amp; Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines</i> (FSEIS, 2000 and ROD, 2001) including any amendments or modifications in effect as of March 21, 2004.
	Not Affected (OC Coho salmon, OC steelhead, or habitat)	The proposed road construction is located near or on ridgetops. There are no stream crossings or headwalls within this project area. Eroded material would be expected to remain primarily onsite within the vegetation. No sediment would reach the closest fish bearing stream which is 0.3 miles away in Whitehorse Creek. Shade, temperature, pool habitat and potential future woody debris recruitment would not be affected because the proposed road would be located outside of riparian reserves. Given the scope, location and design features to reduce the transmission of fine sediment, the Proposed Action is not expected to result in additional sediment or turbidity in streams and would have no effect on Oregon Coast (OC) Coho salmon and Oregon Coast (OC) steelhead (Bureau Sensitive Species) or their habitat.
	Not Affected/ No management requirement: Pacific lamprey and Oregon coast cutthroat trout	Pacific lamprey and Oregon coast cutthroat trout, Bureau Tracking species, are also found within the planning areas. Bureau Tracking species are not considered special status species for management purposes and do not require any special management or mitigation (IM OR-2003-054). Streams with lamprey and cutthroat trout are managed by the BLM as fish bearing streams as directed by the RMP. The BLM objective for fisheries management is to maintain or enhance the fisheries potential of streams and other waters (RMP pg 49). Given the scope, location and design features to reduce the transmission of fine sediment, the Proposed Action is not expected to result in additional sediment or turbidity in streams. As such habitat for lamprey and cutthroat habitat would be maintained within the planning area.

**Table 2. Other Elements of the Environment.** This table lists other elements of the environment which are subject to requirements specified in law, regulation, policy, or management direction and the interdisciplinary team’s predicted environmental impact per element if the Proposed Action described in the Environmental Assessment was implemented.

Other Elements of the Environment	Status 1/ Not Present 2/ Not Affected 3/ Affected	Interdisciplinary Team Remarks 1/ If not affected, why? 2/ If affected, develop cause/effect statement, unit of measure, and if applicable, design features not already identified in Appendix C of the RMP to reduce or avoid environmental harm
Survey and Manage, Special Status Species (not including T/E): Plant Species/Habitat	Not Present	<p><b>Survey and Manage or Bureau Special Status Vascular plants</b> Vascular plant surveys were conducted in the spring of 2006, and surveys were completed in the spring of 2006 for lichens and bryophytes by a professional botanist. Surveys were done under 2001 S&amp;M and 2003 ASR protocol, and revealed no Survey and Manage or Bureau Special Status plant sites.</p>
	Not Present	<p><b>Survey and Manage or Bureau Special Status Non-Vascular plants</b> Nonvascular surveys, completed in spring 2006, resulted in no new S&amp;M or bureau special status nonvascular plant sites.</p>
	Not Affected	<p><b>Survey and Manage or Bureau Special Status Fungi</b> The project area was not surveyed for fungi, as pre-disturbance surveys for Special Status fungi are not practical, nor required per BLM – Information Bulletin No. OR 2004-121, which states “If project surveys for a species were not practical under the Survey and Manage standards and guidelines (most Category B and D species), or a species’ status is undetermined (Category E and F species), then surveys will not be practical or expected under the Special Status/Sensitive Species policies either (USDA FS and USDI BLM, 2004, p.3).” Current special status fungi were formerly in the aforementioned S&amp;M categories which did not consider surveys practical, and are therefore exempt from survey requirements. With the recent re-instatement of Survey and Manage Protocols, these species were placed back into their respective S&amp;M categories (9 species in B, 1 species in F) – none of which require surveys under S&amp;M protocol.</p> <p>District wide, the Medford BLM has ten Bureau Sensitive (BSO) fungi species; six are suspected to occur here, while the remaining four have been documented. Based on the outcome of utilizing the ‘Likelihood of Occurrence Key’ provided from the BLM Oregon State Office, there is a “low likelihood of occurrence and low risk to species viability or trend toward listing,” for sensitive fungi species potentially located in the project area. While it is possible that this project is occurring within potential habitat for some species, there is very little information available describing the <i>exact</i> habitat requirements or population biology of these species (USDA,USDI 2004 (2004 Final SEIS vol.1) p. 148).</p> <p>Based on the above information, the likelihood of a Bureau Sensitive fungi species in this project area is very low; the likelihood of a sensitive fungi occurring within the project area is even lower since the area impacted by the new road construction is 1.3 acres. The likelihood of contributing toward the need to list is not probable.</p>

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Survey and Manage Special Status Species (not including T/E): Wildlife Species/Habitat	Not Present	<p><b>Bureau Sensitive</b> - Northwestern pond turtle, Oregon shoulderband (snail), Townsend’s big-eared bat, American peregrine falcon (also USFWS identified species of conservation concern) , black-backed woodpecker, flammulated owl (also USFWS identified species of conservation concern) , Lewis’ woodpecker (also USFWS identified species of conservation concern) , three-toed woodpecker, white-headed woodpecker (also USFWS identified species of conservation concern) , Siskiyou short-horned grasshopper, Chase sideband (snail), Siskiyou hesperian, traveling sideband (snail), and Clark’s grebe.</p> <p><b>Bureau Assessment-</b> white-tailed kite, Foothill yellow-legged frog</p>
	Not Affected	<p><b>Bureau Assessment</b> - Pacific pallid bat and fringed myotis, may occur in mature conifer stands. The ½ acre of habitat removed for the Snow Creek ROW’s is narrow, not likely to change detectable population levels, and is space expected to be utilized as foraging area for bats and maintain existing viable populations.</p>
	Not Affected/ Removed Red Tree Vole	<p><b>Northern goshawk (Bureau Sensitive)</b> – No nest structures were observed in the project area. Goshawks have been observed near Azalea and are likely to occur within the 5<sup>th</sup> field watersheds. Proposed Snow Creek construction would remove 1/2 acre of suitable nesting habitat from 664’ spur road construction. There is sufficient mix of seral stages including large trees in the planning area, in late successional reserve to provide nesting, fledging, and foraging habitat. Viability rating would remain high and unchanged. (USDA/USDI 1994a 3&amp;4 p179). Therefore, it is expected there would be no effect from project activities on northern goshawks.</p> <p><b>Red Tree Vole (removed from Survey &amp; Manage)</b> – This species would not be affected by the Proposed Action. No nests were observed within the proposed Snow Creek project proposed 664’ spur. Habitat is suitable, and the red tree vole may occur and individuals may be impacted by removal of suitable habitat. Removal of ½ acre of suitable habitat with the LSR and 5<sup>th</sup> field watershed is not of a magnitude to affect species persistence, nor contribute towards a trend to list the species for federal protection. This species was removed from the Survey and Manage list for this geographic area (Mesic Zone) through the 2003 Survey and Manage Annual Species Review (IM OR-2004-034), because the species was found to be more plentiful and widely distributed in this portion of its range, and there was no concern for persistence. The red tree vole was not re-assigned as a Special Status Species. Surveys, protection of known sites, other management or mitigation is not required.</p>



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Other Elements of the Environment	Status 1/ Not Present 2/ Not Affected 3/ Affected	Interdisciplinary Team Remarks 1/ If not affected, why? 2/ If affected, develop cause/effect statement, unit of measure, and if applicable, design features not already identified in Appendix C of the RMP to reduce or avoid environmental harm
Visual Resources	Not Affected	The proposed project area is located within the Class 4 VRM (Visual Resource Management) category which allows for major modification of the existing character of the landscape. The Proposed Action is consistent with these visual resource management objectives.
Water Resources (not including water quality)	Not Affected	The Proposed Action would increase the amount of impermeable surface in the watershed by 1.3 acres and would not result in a measurable increase in base flows over the existing condition. The Proposed Action is not anticipated to have measurable effects on watershed hydrology and would not affect municipal and domestic water use.
Port-Orford cedar	Not Present	Proposed Action is out of the natural range of Port-Orford cedar.

\*Bureau Special Status Species Policy for sensitive species requires that the BLM protect, manage, and conserve those species and their habitats such that any Bureau action would not contribute to the need to list any of these species. Bureau Assessment species, which are not eligible for federal listing status like sensitive species, but are of a concern in Oregon might, at a minimum, need protection or mitigation in BLM activities. Bureau Tracking species are not considered special status species for management purposes. These species do not require management or mitigation (IM OR-2003-054).

**Table 3. Aquatic Conservation Strategy Summary.** This table lists the four components of the Aquatic Conservation Strategy (RMP pp. 5-7) and the interdisciplinary team’s predicted environmental impact per component if the Proposed Action described in the Environmental Assessment was implemented.

Riparian Reserves	Consistent	The Proposed Action would not occur within Riparian Reserves.
Key Watershed	Not Present	The Proposed Action is not located in a Tier 1 Key watershed.
Watershed Analysis	Consistent	Upper Cow Creek Watershed Analysis, 2005: decommission roads when new roads are constructed to maintain or reduce road density. Ridgetop roads with slopes < 35% have little affect on streams. Middle Cow Creek Watershed Analyses, 1999: decommission roads when new roads are constructed to maintain or reduce road density. Ridgetop roads have the least effect on streams.
Watershed Restoration	Consistent	Although the Proposed Action is not a component of the resource area’s watershed restoration program, it would not have an adverse effect on restoration efforts. Roads are decommissioned when possible through landscape planning projects. Proposed spur road construction would reduce negative cumulative impacts to soil and hydrology by avoiding water diversion and erosion caused by new road construction on steep slopes on private, and reduce soil disturbance, compaction, and erosion, by avoiding downhill and tractor logging on private. The use of ridgetop roads would avoid the need to reconstruct and utilize a private road within a riparian area adjacent to a fish-bearing stream. The control and prevention of road related runoff and sediment production would be addressed through installation as necessary, culverts and cross drains with splash guards, road outsloping, surface drainage reliefs, road rock lift for wet season haul, and dry season road construction, and dry season haul on natural surface roads.