

Environmental Assessment
Swanson Group, Inc. Right-of-Way Road Construction
EA Number OR118-07-006
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Abstract:

The Glendale Resource Area, Medford District, Bureau of Land Management (BLM) is determining the effects of Swanson Group, Inc. constructing and log hauling on one 175 ft spur road across BLM land and maintaining and log hauling on 1.25 miles of existing BLM controlled roads (#32-5-23.0 and #32-5-23.1), in response to their request to access their property under an amendment to a right-of-way agreement pursuant to 43 CFR 2812. The existing BLM controlled roads proposed for hauling/maintenance and proposed new spur road on BLM land are located in a Late Successional Reserve and within the Cow Creek-Quines Creek Hydrologic Unit Code (HUC 6) watershed. The Project Area is located in a portion of Township (T) 32S, Range (R) 5W, Section 23.

A previous Swanson Right-of-Way Road Construction Optional Environmental Assessment (EA), Decision Record (DR), and Finding of No Significant Impact (FONSI) was published on June 16, 2006. The BLM received one protest letter, requesting alternate access analysis to the road construction proposal in a Late Successional Reserve. As a result, the Glendale Resource Area withdrew its DR and FONSI for the optional EA and re-analyzed the proposed activities and addressed public comments in this current EA (Swanson Group, Inc. Right-of-Way Road Construction EA Number OR118-07-006).

This environmental assessment discloses the predicted environmental effects of three alternatives: Alternative 1 (No Action), Alternative 2 (Proposed Action), and Alternative 3.

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FINDING OF NO SIGNIFICANT IMPACT

Based upon review of the EA (Environmental Assessment #OR-118-07-006) and supporting project record, I have determined that Alternative 2 (Proposed Action) and Alternative 3 are not major federal actions 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. Swanson Group, Inc. requested this road construction and hauling to access their lands through BLM administered lands on January 25, 2006. The Proposed Action is a site-specific action directly involving approximately 1 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) land use allocation and within the boundaries of the 6th field Hydrologic Unit Condition (HUC 6) boundaries of the Cow Creek-Quines Creek HUC 6 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 on BLM land and the 40 acre harvest of Swanson Group, Inc.'s land. None of the effects identified, including direct, indirect and cumulative effects, are considered to be significant or 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 1508.27.

1. Impacts may be both beneficial and adverse. The environmental effects of the Action Alternatives on BLM land include:

a) Alternative 2 (Proposed Action) would result in soil disturbance from approximately 0.2 acres of permanent road construction and removal of vegetation on BLM land. There would be a total of 0.06 acres of soil compaction and productivity loss within the Cow Creek-Quines Creek HUC 6 sub-watershed analysis area and 0.06 acres of Late Successional Reserve (LSR) land would be removed from potential late successional forest development. Alternative 3 would not result in soil compaction or productivity loss on BLM land since this action proposes hauling on existing BLM lands but does not include road construction on BLM land.

Given the scope and location of the proposed road construction (Alternative 2) and hauling on and maintaining existing BLM controlled roads (Alternatives 2 & 3), these actions are anticipated to have a negligible impact to soil productivity in federal lands at the watershed scale. These actions 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, 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.

Since the project area is located below 2,500 ft in elevation, the Transient Snow Zone (TSZ), the proposed activities on BLM would not result in an increase in the magnitude of current peak flow events, or an increase in annual water yields on BLM land within the Cow Creek-Quines Creek HUC 6 drainage.

There are three main reasons why potential weed establishment that might be caused by the action alternatives are not expected to result in a detectable effect to overall ecosystem health. First, surveys indicate that very small percentages (less than 0.25 acres) within the Planning Area – are affected by noxious weeds. Second, the species actually residing at the proposed ROW location is not considered a priority species for manual treatment, as biological controls have proven effective at containing and eventually reducing the existing populations; and the knapweed population located nearby was mapped and will be treated under Medford District's *Integrated Weed Management Plan and Environmental Assessment OR-110-98-14*. Third, Project Design Features (PDFs) have been established to minimize the rate at which project activities might potentially spread noxious weed seed from outside/adjacent sources.

BLM's influence over the causes of the spread of noxious weeds is limited to those caused by human activities. Additional human disturbance and traffic would increase the potential for spreading noxious weed establishment, but regardless of human activity, spread of these weeds will continue through natural forces. Thus, the BLM cannot stop the spread of noxious weeds but might reduce the risk or rate of spread. Under the No Action Alternative, noxious weeds are likely to spread over time regardless of whether or not the ROW is granted, and that rate would not be altered to any detectable degree at the 6th field watershed level by the action alternatives.

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

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 Essential Fish Habitat (EFH), 0.3 mile away in Wildcat Creek. Shade, temperature, pool habitat and potential future woody debris recruitment would not be affected because the proposed road construction on BLM land would be located outside of Riparian Reserves. Given the scope, location and design features to reduce the transmission of fine sediment, Alternatives 2 & 3 are not expected to result in additional

sediment or turbidity in streams and would have no effect on EFH for coho or chinook salmon.

The road maintenance and haul on existing BLM roads 32-5-23 and 32-5-23.1 would not affect EFH fish habitat in Quines Creek because 1) there is only one stream crossing on the roads, 2) the distance (1.2 mile) from the stream crossing to fish habitat in Quines Creek, 3) and the gravel surface of the road at the stream crossing.

None of the environmental effects disclosed above and discussed in detail in Chapter 3 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. Alternatives 2 & 3 are comparable to other right-of-way 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 the Swanson Group, Inc. Right-of-Way 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 summer, 2006. An Optional Environmental Assessment (EA), Decision Record (DR), and Finding of No Significant Impact (FONSI) document was released to the public for this ROW request in the summer of 2006. Klamath-Siskiyou Wildlands Center submitted a written protest of the decision in June 2006 none of the concerns identified public health or safety risks.

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 prime farm lands, wetlands, wild and scenic rivers or wildernesses located within the proposed right-of-way location across BLM land. There are no developed recreation sites that would be affected by Alternative 2 or 3. The area is open to dispersed recreation use, as is most of the Glendale Resource Area. Alternatives 2 & 3 would have a neutral effect on dispersed recreation within the Resource Area. While there might be increased logging truck traffic during Swanson Group, Inc's 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 on BLM land for the proposed Swanson Group, Inc. Right-of-Way (ROW) Construction and no sites were found. If cultural resources are located on BLM land during implementation, 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 Alternatives 2 & 3 on BLM land on the quality of the human environment are adequately understood by the interdisciplinary team to provide analysis for the decision. There are no highly controversial effects from

the action alternatives. A complete disclosure of the predicted effects is contained in Chapter 3 and Appendix 2 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 effects of Alternatives 2 & 3 on BLM land are not unique or unusual. The BLM has experience issuing permits for implementing similar actions in similar areas and have found effects to be reasonably predictable. There are no predicted effects on the human environment which are considered to be highly uncertain or involve unique or unknown risks. No unique or unknown risks were identified in the public comments.

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. Alternatives 2 & 3 on BLM land do not set a precedent for future actions that might have significant effects nor do they represent a decision in principle about future consideration. Alternative 2 or 3 would occur within the needs identified in the Medford Resource Management (RMP): “Continue to make BLM-administered lands available for needed rights-of-way where consistent with local comprehensive plans, Oregon statewide planning goals and rules, and the exclusion and avoidance areas identified in this RMP,” (p.82). 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 Alternative 2 & 3 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 Alternatives 2 & 3 are contained in Chapter 3 of the EA.

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 on BLM land for the Swanson Group, Inc. Right-of-Way Road Construction and no sites were found. Alternative 2 & 3 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 action alternatives 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 road construction, hauling, and maintenance 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 (ROW) activities, which occur

in the Umpqua River Basin.

Since there would be no disturbance to nesting spotted owls or removal of spotted owl suitable or dispersal habitat from the proposed federal action, no consultation with U.S. Fish and Wildlife Service is needed. No fisher habitat would be disturbed or removed. No threatened or endangered plant species were found within the Project Area, therefore no consultation is needed.

10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment. Alternatives 2 & 3 do not violate any known federal, state, or local law or requirement imposed for the protection of the environment. Furthermore, Alternatives 2 & 3 are consistent with applicable land management plans, policies, and programs (EA, Chapter 1.5).

Chapter 1.0 Project Scope

1.1 Introduction

On January 25, 2006, Swanson Group, Inc. requested this road construction and hauling to access their lands through BLM administered lands. This EA analyzes the impacts of proposed forest management activities on the human environment in the Swanson Group, Inc Right-of-Way Road Construction Project Planning Area. The EA will provide the decisionmaker, 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 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 Swanson Group, Inc. Right-of-Way Road Construction Project provides a context for what will be analyzed in the EA, describes the kinds of action we will be considering, defines the Planning and Project Areas, describes what the proposed actions need to accomplish, and identifies the criteria that we will use 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 Swanson Group, Inc.'s request to construct and log haul on one spur road totaling 175 feet across BLM Late Successional Reserve (LSR) land allocation and to log haul on and maintain 1.25 miles of existing BLM controlled roads (#32-5-23.0 and #32-5-23.1) to access their private land and harvest trees. They have also requested to amend these roads into their Reciprocal Right-of-Way Agreement M-1396.

The purpose of this project is to meet the needs identified in the Medford District Resource Management Plan Record of Decision (RMP ROD). Those objectives are to:

“Consider as valid uses access to nonfederal lands through late-successional reserves and existing rights-of-way agreements”;

“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);

“To plan road systems that meet resource objectives and minimize detrimental impacts on water and soil resources” (RMP ROD p.157);

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 Quines Creek (Map 1) and delineated by the 18,300 acre Cow Creek-Quines Creek HUC 6 sub-watershed. The legal description of the Planning Area is T32S-R5W Section 23, NE ¼; T32S-R5W Section 14, SE ¼; Douglas County, Willamette Meridian. The Planning Area is located on Oregon and California (O&C) Railroad Lands and designated as Late-Successional Reserve land on federal lands that is a checkerboard pattern of public and private ownerships and is within in the 113,023 acre Middle Cow Creek HUC 5 watershed.

The Project Area is defined by the area of ground disturbing and hauling activities on BLM land associated with Swanson Group, Inc.’s request to access approximately 40 acres of their land for harvest in T32S-R5W-Section 14. These activities include constructing and log hauling on 175 ft of road on BLM land, off road number 32-5-23.1, and maintaining and log hauling on existing roads #32-5-23.1 and #32-5-23.0.

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;
- *Medford District Integrated Weed Management Plan Environmental Assessment (1998)* and tiered to the *Northwest Area Noxious Weed Control Program* (EIS, 1985).

The Medford District Bureau of Land Management (BLM) 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) inadequate, and the subsequent Court order on January 9, 2006, which reinstated 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. On November 6, 2006, the Ninth Circuit Court of Appeals issued an opinion in Klamath Siskiyou Wildlands Center et al. v. Lynda L. Boody et al. No. 06-35214 (Civ. No. 03-3124-CO). The Court held that the 2001 and 2003 Annual Species Reviews (ASR) regarding the red tree vole are invalid under the Federal Land Policy and Management Act (FLPMA) and the National Environmental Policy Act (NEPA), concluding that BLM's Cow Catcher and Cottonsnake timber sales violate federal law. The case was mandated back to the District Court on December 29, 2006, and the Court issued an *Order Regarding Permanent Injunctive Relief* on February 12, 2007. The Court's ruling sets aside BLM's Decision Records only for the Cow Catcher Timber Sale and Cottonsnake Timber Sale and specifically enjoins further implementation of those two sales until the project conforms to the 2001 Survey & Manage Record of Decision or, in the alternative, to a resource management plan that satisfies the FLPMA and NEPA deficiencies found by the Ninth Circuit in this case.

This court opinion is specifically directed toward the two sales challenged in that lawsuit. At this time, the ASR process itself has not been invalidated, nor have all the changes made by the 2001-2003 ASR processes been vacated or withdrawn, nor have species been reinstated to the Survey and Manage program, except for the red tree vole.

No red tree vole habitat would be removed since no trees would be cut on BLM land under the action alternatives.

The Aquatic Conservation Strategy (ACS) consistency analysis (see Appendix 3 of this EA) evaluated the action alternatives on BLM land of the Swanson Group, Inc. Right-of-Way Road Construction EA and found the action alternatives do not retard or prevent attainment of the nine objectives and its four components of the ACS. Therefore, this project is consistent with the ACS of the Northwest Forest Plan Record of Decision (1994). The new road construction is proposed on a ridge top location and not within a riparian reserve. The action alternatives would not result in measurable adverse effects to water quality. There would be no measurable change to stream shade, water nutrient levels, flow regime, or chemical contamination of streams, or springs as a result of this action. This determination was based on the small spatial and temporal disturbances associated with the new road construction and haul/maintenance on existing roads.

Parts of the *Middle Cow Creek Watershed Analysis* is incorporated by reference; the watershed analyses provides background for the project planning and but are neither NEPA nor decision documents.

1.5 Public Scoping and Identification of Alternative Use of Resources

1.5.1 Public Scoping

The Glendale Resource Area accepts public comments on proposed forest management activities through the quarterly BLM Medford Messenger publication. A brief description of proposed projects, such as Swanson Group, Inc. Right-of-Way 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 summer of 2006.

Notification of the Swanson Right-of-Way Road Construction Optional Environmental Assessment (EA), Decision Record (DR), and Finding of No Significant Impact (FONSI) also included publication of a legal notice in the Daily Courier, newspaper of Grants Pass, Oregon and a mailing to interested individuals, organizations, and agencies that requested a copy of the document through the scoping period of the Medford Messenger.

The BLM received one protest letter, requesting alternate access analysis to the road construction proposal in a Late Successional Reserve. As a result, the Glendale Resource Area withdrew its DR and FONSI for the optional EA in January 2007 and decided to re-analyze the proposed activities. The comments received from the letter of protest were considered in the development of the alternatives for this subsequent analysis.

1.5.2 Alternative Access Consideration

An evaluation of alternate means of access to the area of timber extraction other than the proposed road construction was explored with Swanson Group, Inc. In consideration of the available roads, the original submittal for road construction location and hauling route (the Proposed Action) were found to be the most economically and least environmentally impactful viable option to extract timber within the area of interest. The timber extraction on private is feasible, at a reduced level and would require a BLM ROW Agreement amendment, without road construction on BLM land. No other means for timber extraction are available. Helicopter extraction was evaluated and found to be unsafe due to flight paths over adjacent residential homes and structures, and no authorization was granted from suitable adjacent private landowners for helicopter landing areas. Construction of new helicopter landing areas would be required on BLM land in the Late-Successional Reserve that would exceed the acreage and ground disturbance of the Proposed Action.

1.6 Decisions to be Made

The Glendale Field Manager is the official responsible for deciding whether a Supplemental Environmental Impact Statement (SEIS) 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 Impact (FONSI) would be prepared. An additional decision to be made is whether to approve or deny the proposed road construction, location, Amendment #9 to the Reciprocal Right-of-Way Agreement M-1396, and associated design features on BLM-administered lands within the Project Area.

Chapter 2.0 Alternatives

2.1 Introduction

This chapter compares the Alternative 1 (No-Action Alternative) with the action alternatives, Alternative 2 (Proposed Action) and Alternative 3 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.

Through the protest period from the Swanson Right-of-Way Construction EA/DR/FONSI, the public provided comments that were considered by the interdisciplinary team for this EA. The Glendale Resource Area withdrew its decision on this project on January 11, 2007. There was one unresolved conflict concerning alternative uses of available resources identified by the interdisciplinary team and public. This conflict included avoiding road construction in the Late Successional Reserve land allocation. This led to the development of Alternative 3 (see **Appendix 1 for discussion**). As such, the alternatives that will be analyzed in detail in this EA include the No Action Alternative, the Proposed Action Alternative, and Alternative 3.

2.2 Alternative 1: No Action

Under this alternative, the actions on federal land described under the action alternatives would not take place at this time. However, the opportunity to construct a road through BLM to access Swanson Group, Inc's land in T32S-R5W-Section 23 would continue to be a viable option for the future but would be analyzed through a separate environmental analysis. The timber on private land would remain unharvested unless other access becomes available.

2.3 Alternative 2: Proposed Action

Pursuant to 43 CFR 2812 the proposed federal action is to amend Reciprocal Right-of-Way M-1396 Agreement to authorize Swanson Group, Inc to (1) construct and haul on 175 feet of pit run road off of BLM road 32-5-23.1 at the 0.7 mile mark and (2) haul on and maintain 1.25 miles of two existing BLM controlled roads (32-5-23.1 and 32-5-23.0) located on BLM land in T32-R5W Section 23 to access private property for the purpose of timber harvest.

The new spur would be identified as road 32-5-23.06. The clearing width would be 40 feet and includes vegetation removal beyond the useable road width of 16 feet. The proposed spur road would be constructed using either an outsloped or crowned design, and rocked with a minimum of 6 inches of pit run rock to minimize erosion of the road surface and prevent excessive side slope erosion. The road is designed for safety, maintenance, and was marked by a BLM engineer to minimize resource impacts. The road would be constructed with a bladed tractor, and is located so that no commercial

timber would have to be removed. The new right-of-way would have a maximum grade of 8%.

2.4 Alternative 3

The Glendale Resource Area proposes to deny the request to build a road across BLM land, but to amend the ROW Agreement M-1396 to allow hauling logs on the #32-5-23.0 road. Swanson Group, Inc. could harvest their land in T32S-R5W-Section 14. New mid-slope road construction, bottom slope road reconstruction, and landing construction and reconstruction would likely be required on private land for downhill cable yarding as access into the unit from private land contains steep slopes in portions that would exceed Oregon Forest Practices Act (OFPA) standards for safe ground based tractor logging. Since the BLM does not have jurisdiction over actions on private land, the actual logging system(s) may be modified to the discretion of Swanson Group, Inc. without the involvement of the BLM. Off-season hauling would be done in accordance with OFPA rules and regulations.

2.5 Project Design Features for Road Work

Project design features (PDFs) are specific measures included in the design of the action alternatives 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.

2.5.1 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.

2.5.2 Wildlife

Northern Spotted Owl

- Work activities occurring during the construction of the ROW (such as tree felling, yarding, road construction, hauling on roads) which produce loud noises above ambient levels would not occur within 65 yards of any nest site or activity center of known pairs and resident singles between March 1 and June 30 (or until two weeks after the fledging period), unless protocol surveys have determined the activity center to be not occupied, non-nesting, or failed in their nesting attempt. March 1 – June 30 is considered the critical early nesting period.

- The Authorizing Officer has the option to extend the disturbance distance up to ¼ mile and the restricted season to as late as September 30 based on site-specific knowledge (such as a late or recycle nesting attempt), should the road construction extend beyond June 30. Road construction would occur after surveys have determined nesting and location status. The restricted area is calculated as a radius from the assumed nest site (point).

2.5.3 Water Quality and Soil Productivity

- The work period for road construction and drainage improvement operations would be from May 15 to October 15 of the same year to ensure that soil-disturbing activities are completed before the rainy season. If conditions are sufficiently dry outside this period activity may be allowed if approved in writing by the Authorized Officer.
- 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 with certified weed-free mulch and seeded with native grass seed or otherwise BLM approved grass/forb mix by Oct. 15th to reduce the amount of material that would be prone to erosion.
- Waste material removed due to spur road construction would be disposed of in a stable, non-floodplain site approved by an engineer.
- Should the roads 32-5-23 and 32-5-23.1 be needed for hauling during wet conditions, the amendment to the reciprocal right-of-way agreement with Swanson Group Inc. would require a minimum of 10 inches of durable rock, or durable rock of sufficient depth present across the road surface to prevent road damage, offsite erosion, or stream sedimentation. This standard is established by the Oregon Administrative Rules 629-625-0700 for this watershed. Durable rock is defined as clean, hard rock without many fines. Currently the road condition for these roads are adequately surfaced for dry season or extended season hauling only.

2.5.4 Invasive Species/Noxious Weeds

- Heavy equipment would be washed prior to entering federal lands, removing soil and 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: (1) noxious weeds/invasive species and (2) soils and hydrology 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 cumulative effects, and secondly as a basis for identifying the Proposed Action 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 action alternatives.

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.

The effects analysis of Swanson Group, Inc.’s private harvest tiers to the RMP which assumed that private lands would be extensively managed with an average rotation of 60 years. The analysis also assumes that Swanson Group, Inc. would operate within the regulations of the Oregon Forest Practices Act (OFPA), including standards and guidelines designed to minimize project effects.

3.2 Noxious Weeds/Invasive Species

3.2.1 Affected Environment

The proposed Swanson Group, Inc. ROW located in T32S-R5W-Section 23 was surveyed for noxious weeds in the spring of 2006. One small population of *Senecio jacobaea* (Tansy ragwort), was documented directly adjacent to the ROW (Table 3-1). The population was approximately 30 square feet. However, this noxious weed species is not as much a concern as it once was, as the biological control (small beetle which feeds on plants) has been very successful in reducing existing populations. Meadow knapweed (*Centaurea pratensis*) was located within 200 feet of the proposed ROW.

Table 3-1. 2004 & 2005 Plant Surveys Revealing Noxious Weed Species in the Proposed Swanson ROW Corridor

Location in Township (T), Range (R), Section (S)	Species	Coverage in Sq. Feet	Oregon Department of Agriculture Designation	Plant Description / Habitat Requirements
T32S-R5W-Section 23	Tansy ragwort	30	B*	Tansy ragwort, a biennial herb, requires sunlight and a disturbed site to establish. It is often found on roadsides, contributing to the spread of new infestations.
	Meadow Knapweed	200	B*	Meadow knapweed, a hardy biennial/perennial, favors moist roadsides, sand or gravel bars, river banks, irrigated pastures, moist meadows, and forest openings (ODA, 2005). Prefers full sun and well-drained soils. Many infestations start on rights-of-way or from infested gravel or fill. Seeds are often transported by automobiles, contaminated fill and gravel, and by wildlife (King Co., DNR, 2004).
Total Sq. feet		230		

* “B” designation; a weed of economic importance which is regionally abundant but which may have limited distribution in some counties. Where implementation of a fully integrated statewide management plan is not feasible, biological control shall be the main control approach (ODA, 2005).

Over the last 150 years activities such as motor vehicle traffic, recreational use, rural and urban development, timber harvest, road construction, and natural process have introduced and transported noxious weeds into the Rogue Valley. Noxious weeds are spread by the wind and by seed via attachment to vehicles and vectors such as humans, animals, and birds, and are able to grow on suitable habitat (generally considered as any newly disturbed ground and/or an influx of light due to canopy removal). Since the 1970s a recognition that weeds were causing environmental damage resulted in the passage of State noxious weed laws, the Carson-Foley Act of 1968 – Plant Protection Act of 2000, and Presidential Executive Orders like Invasive Species E.O. 13112, which directs federal agencies to combat the noxious weeds on federal lands. Additional direction is provided by the Medford District RMP, which states the district is to “contain and/or reduce noxious weed infestations on BLM-administered land ...(p. 92),” and “...survey BLM-administered land for noxious weed infestations...(p. 93).” These RMP directions for weed management are intended to be met at a landscape level; whether the direction is achieved is not intended to be measured at the site specific level nor with the implementation of each project. Thousands of acres of weed treatments have occurred on federal (and non-federal) lands over the last decade across the Medford District with the RMP-driven objective of containing or reducing – not eradicating - noxious weed populations (Budesza, 2006).

3.2.2 Environmental Consequences

Alternative 1 (No Action)

Under the No Action Alternative, noxious weeds within the Planning Area would continue to spread into suitable habitat at an unknown rate. The rate at which noxious weeds spread is impossible to quantify, as it depends on a myriad of factors including, but not limited to, logging on private lands, motor vehicle traffic, recreational use, rural and urban development, and natural processes (Northwest Area Noxious Weed Control Program EIS, p. 59). The following table (3-2) illustrates how each of these activities affects noxious weed dispersal.

Table 3-2. Factors Affecting the Determination of the Rate of Noxious Weed Spread

Activity	Role in Potential Noxious Weed Seed Dispersal
Private Land	Private lands host a perpetual source for noxious weed seed, which can be dispersed when seeds attach to tires, feet, fur, feathers or feces, or when natural processes such as wind and/or flooding events transport the seed from its source to another geographical vicinity.
Logging on Private Lands	Logging activity presents a key dispersal opportunity for noxious weed seeds per 1) attachment to tires/tracks of mechanized logging equipment, tires of log trucks, and various other logging-related substrates which subsequently transport the seed from its source to another geographic vicinity, 2) creation of openings for potential noxious weeds colonization, and 3) a lack of PDFs – such as equipment/vehicle washing, etc. - which attempt to reduce the activity’s spread of noxious weed seeds.
Motor Vehicle Traffic (including Log Trucks)	Roads on public land include public use, which results in a plethora of seed-dispersing activities occurring on a daily basis. Private landowners use public roads to haul logs, undertake recreational pursuits, and/or access their properties. This transportation often occurs along BLM-administered roads, which are situated within a checkerboarded ownership arrangement. How or when seed detachment occurs is a random event that could take place within feet or miles from the work site/seed source, presenting a high likelihood of detachment on public lands.
Recreational Use	The public often recreates on BLM-managed public lands, and can spread seed from their residences to public land in a variety of ways such as attachment to vehicle tires, hikers’ socks, shoes, or other clothing, the fur of domesticated animals, etc.
Rural and Urban Development	Rural development occurring within the checkerboarded land arrangement often requires public landowners to acquire a Right-of-Way (ROW) from the BLM to legally access their parcel(s). These ROWs, or use of BLM-administered roads is often granted (Groves 2006). Please refer to ‘Motor Vehicle Traffic’ and ‘Private Land,’ for clarification of how this affects the spread of noxious weeds from private to public lands.
Natural Processes	Wind, seasonal flooding, and migration patterns of birds/animals are a few natural processes that potentially spread noxious weeds, especially from private land to public land. Wind carries seeds, and deposits them at random intervals. High water caused by flooding reaches vegetation (often harboring a noxious weed component) growing on the banks of rivers/creeks/stream and deposits seeds downstream.

The more aggressive species are slated for treatment under Medford District’s *Integrated Weed Management Plan and Environmental Assessment OR-110-98-14* across this District. However, the success of implementing the weed management plan would be temporary, as logging on non-federal lands, recreational use, rural and urban

development, natural processes and vehicle traffic will continue to spread noxious weed populations into the Planning Area.

Indirect effects of noxious weed spread include the potential degradation of wildlife habitat (Rice et. al, 1997, Harris and Cranston, 1979), a decline in natural diversity (Forcella and Harvey, 1983; Tyser and Key, 1988; Williams, 1997), and decline in water quality (Lacey et al, 1989); however, a very small amount of land included in the ROW proposal (less than 0.25 acres) is covered by noxious weeds, resulting in immeasurable contributions to any potential decline in ecosystem health related to existing noxious weed populations, or to any additional noxious weed populations potentially established by the activities described in Table 3-2.

Alternative 2

In the short term (approximately 1-5 years), proposed activities within the Planning Area would result in the reasonable probability of spreading noxious weeds. However, the rate at which this potential spread would occur is unknown due to the indistinguishable causal effect of other activities and factors listed in Table 3-2 on the spread of noxious weeds. Openings, such as the proposed road construction, would provide suitable habitat for noxious weeds to colonize. In addition, during project implementation, increased vehicle traffic could increase, or at least perpetuate, weed infestations along road systems because of seed dispersal. 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 approved/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). Table 3-3 delineates the Project Design Features and their expected implementation results.

Table 3-3. Project Design Features and Expected Implementation Results

Project Design Feature (PDF)	Result of Implementing PDF
Washing vehicles / equipment	Removes dirt that may contain viable noxious weed seeds, thereby reducing the potential for noxious weed spread
Operating vehicles/equipment during the dry season	Reduces the potential for viable noxious weed seed to be transported and dispersed via mud encrusted on the undercarriages/tires/tracks of logging equipment.
Seeding and/or planting newly created openings with approved vegetation.	Introduces native vegetation to the site prior to noxious weed seed recruitment, allowing native plants an advantageous jump-start in reestablishment, which reduces the potential for noxious weed infestation.

Implementing the PDFs that reduce the potential spread of noxious weeds associated with the Proposed Action, and using native/approved species for seeding/planting newly disturbed openings is expected to result in a similar potential of noxious weed expansion as associated with the No Action Alternative.

In the long term (5-100 years), tree canopies would eventually expand and reduce light levels, which in turn would prevent weeds from growing and expanding within treated areas, because populations decline as the amount of light reaching the plants diminishes. Consequently, in the long term, remaining weed populations would be confined to the road prism and adjoining (private) disturbed land as canopy is re-established in treated areas over time.

The effect of implementing Alternative 2 could possibly result in the establishment of new noxious weed populations. Under Alternative 1 (No Action), populations would continue to establish and spread due to seed transport by vehicular traffic, wildlife, and other natural dispersal methods listed in Table 3-2. Indirect effects associated with noxious weed population enlargement are similar to those mentioned in the No Action Alternative, and are known to include, generally, declines in the palatability or abundance of wildlife and livestock forage (Rice et al, 1997), declines in native plant diversity (Forcella and Harvey, 1983; Tyser and Key, 1988; Williams, 1997), reductions in the aesthetic value of the landscape, encroachment upon rare plant populations and their habitats, potential reductions in soil stability and subsequent increases in erosion (Lacey et. al, 1989), and an overall decline of ecosystem health. However, considering implementation of Alternative 2, there are three main reasons why potential weed establishment that might be caused by the Proposed Action is not expected to result in a detectable effect to overall ecosystem health. First, surveys indicate that a very small area (less than 0.25 acres) within the Planning Area are affected by noxious weeds. Second, the species actually residing at the proposed ROW location is not considered a priority species for manual treatment, as biological controls have proven effective at containing and eventually reducing the existing populations; and the knapweed population located nearby was mapped and will be treated under Medford District's *Integrated Weed Management Plan and Environmental Assessment OR-110-98-14*. Third, as aforementioned, Project Design Features (PDFs) have been established to minimize the rate at which project activities might potentially spread noxious weed seed from outside/adjacent sources.

Alternative 3

The effects under Alternative 3 to noxious weeds would be similar to Alternative 2. Since the proposed 175 ft road construction on BLM land would not occur under Alternative 3, no new ground disturbance on public land would occur since, the use of public lands would be limited to hauling on BLM road #32-5-23.0.

Cumulative Effects (Alternatives 2 & 3)

In order to address the cumulative effects of Alternatives 2 & 3 on the spread of noxious weed encroachment, the condition of non-federal lands must be considered. However, there is no available or existing data regarding noxious weed occurrence on local non-federal lands. Therefore, for purposes of this analysis, BLM assumes that 1) there is a perpetual source of noxious/invasive weeds on non-federal lands that can spread to federal lands, especially when the land ownership is checkerboard, as within the Planning Area, and 2) conversely that noxious weeds are not established on these lands, and therefore there is a need to reduce the risk of spread of noxious weeds from the federal lands to the adjoining non-federal lands. BLM's influence over the causes of the spread of noxious weeds is limited to those caused by human activities. Additional human disturbance and traffic would increase the potential for spreading noxious weed establishment, but regardless of human activity, spread of these weeds will continue through natural forces. Thus, the BLM cannot stop the spread of noxious weeds, it may only reduce the risk or rate of spread.

Given the unpredictable vectors for weed spread, such as the vehicle usage by private parties, wildlife behavior, and wind currents, it is not possible to quantify with any degree of confidence the rate of weed spread in the future, or even the degree by which that potential would be increased by the Proposed Action. Additionally, considering Swanson Group, Inc.'s plans on logging the parcel directly adjacent to this portion of public land, the potential for weed spread is conceivably as great, if not greater, than the potential for spread in Alternatives 2 & 3 on BLM land.

Foreseeable activities within the Planning Area are expected to be similar to past and current activities: motor vehicle traffic, recreational use, rural and urban development, timber harvest, road construction, firewood collection. These types of activities could result in new disturbed sites available for colonization by existing noxious weed populations, and they do offer the possibility of introduction of new noxious weed species to the Planning Area under any alternative, including the No-Action Alternative. As stated above, there is no available or existing data concerning the rate of weed spread occurring on either federal or non-federal lands as a consequence of these types of activities. Also, as discussed above, there is no information on what, if any, increase in the rate of weed spread Alternative 2 or 3 would cause, and hence, it is not possible to quantify with any degree of confidence what the incremental effect of Alternatives 2 & 3 on the spread of noxious weeds would be when added to the existing rate of weed spread caused by past, present, and future actions.

PDFs exist to reduce the potential that Alternative 2 or 3 would contribute to the spread of weed seed and establishment of new populations. PDFs are not intended or expected to completely eliminate any possibility that Alternative 2 or 3 would contribute to the spread of weed seed and establishment of new populations; however, PDFs ensure that any incremental contribution of Alternative 2 or 3 to the spread of weeds, when added to the rate of weed spread caused by past, present, and future actions, would be so small as to be incapable of quantification or distinction from the 6th field watershed background levels.

As described above, PDFs for this project are widely accepted as Best Management Practices (BMPs), as they are inexpensive to implement, easily attainable, and accomplish the objective of reducing the potential of spreading noxious weeds as a result of project-oriented activities.

There is no available data on the background rate of weed spread, and additional data collection on the rate of weed spread would not reduce the inherent speculation in predicting the future activities of private parties and wildlife and the resultant rate of weed spread. Further, additional data collection would not reduce the inherent speculation in predicting incremental effects of Alternative 2 or 3 on the spread of weeds because of (1) the unpredictable natural factors that largely determine whether weeds will spread after project activities, (2) the unlikelihood that future data collection would be able to detect or measure any difference between background rates of weed spread and the rate of weed spread as affected by Alternative 2 or 3 and correspondingly reduced by PDFs, and (3) the included PDFs that would reduce, if not eliminate, any project effects on the rate of weed spread that would make the already undetectable effects of the Proposed Action even more undetectable. Finally, further data collection on the rate of spread would not alter the PDF techniques already being applied to reduce that rate of spread. It cannot be over emphasized that under the No-Action Alternative, noxious weeds are likely to spread over time regardless of whether or not the ROW is granted, and that rate would not be altered to any detectable degree at the 6th field watershed level by Alternative 2 or 3.

3.3 Soils and Hydrology

3.3.1 Affected Environment

The Middle Cow Creek HUC 5 watershed is located within the Klamath Mountain Province and is mostly the Galice Formation. Extensive natural erosion has created steep canyons with slopes averaging 50-60 percent. The Galice Formation, which is composed of metavolcanic and metasedimentary rock types, intruded by the White Rock Pluton. Soils derived from metasedimentary rock tend to be deeper and have more nutrients, whereas the metavolcanic soils tend to be shallower, with fewer nutrients and a lower water holding capacity. Metasedimentary and other metavolcanic soils in this project area tend to be more developed, have a higher nutrient availability, and are generally relatively stable when dry.

The proposed road construction spur on BLM is within the 18,300 acre Cow Creek-Quines Creek HUC 6 sub-watershed, located within the 113,025 acre Middle Cow Creek HUC 5 watershed. Soils associated with this spur are mapped as an Acker gravelly loam, which is fairly deep, well drained, and typically has moderately slow permeability. The Douglas County Soils Survey (NRCS, 1994) identifies steepness of slope, and hazard of erosion and compaction 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 or where moderately steep slopes occur. As a result, the NRCS (1994) recommends ensuring proper design of

road systems and drainage features to reduce the erosion potential. Slopes adjacent to this proposed ridge top road construction are generally less than 30%. There are no stream crossings or headwalls in the area of the proposed road construction on BLM land, and no trees would need to be removed during the construction of the 175 ft spur road.

Current Condition of the Sub-watershed

Water yield is defined as the total volume of surface runoff, measured as stream discharge that leaves a sub-watershed area (Church and Eaton, 2001). 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). The term open space in this document refers to acres that do not have trees over 30 years of age (stands that are considered hydrologically unrecovered), or stands that have canopy closures less than approximately 30%. 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 pre-treatment levels within two to three decades (Hicks et al. 1991). Currently, approximately 28.4% of the Cow Creek-Quines Creek HUC 6 sub-watershed is hydrologically unrecovered, and thus contributing to open space within the sub-watershed (Middle Cow Creek Landscape Planning Project Environmental Assessment, EA # OR118-05-022, July 2006). This percentage was determined by applying the Medford Change Detection Satellite Imagery Program data for the years 1974-2002; acres proposed for harvesting on BLM land in the Westside Landscape EA (EA#OR118-05-021) and the Middle Cow Landscape Planning Project EA; observed cleared acres; and any renewals or notifications received by ODF for ongoing private harvest in 2006 for the Cow Creek-Quines Creek HUC 6 sub-watershed.

Currently up to 2.0% (or approximately 350 acres) of the Cow Creek-Quines HUC 6 sub-watershed is estimated to be compacted as a result of existing roads. Existing roads are considered non-productive for timber production purposes as a result of soil compaction. Research indicates that changes in runoff timing may occur when road acres 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 Cow Creek-Quines HUC 6 sub-watershed are currently at approximately 5.1 mi/mi². Road densities as a result of past road construction are currently above National Marine Fisheries Service (NMFS) recommended levels for properly functioning watershed condition (NOAA 2004). Currently about 32% of the road miles within the Cow Creek-Quines HUC 6 sub-watershed are within 170 feet of a perennial or intermittent stream (Medford District GIS). 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 this watershed (USDI 1999). Un-vegetated ditchlines, road surfaces, and cross drains can all mobilize soils. Across all

ownerships, approximately 5.2% of the Quines Creek HUC 6 sub-watershed roads are natural surface and 33% of roads are rocked. 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 wet weather haul are required to have adequate surfacing (which is at least 10 inches of durable rock) to prevent excessive erosion. Natural surface roads on BLM land are only to be used for log hauling during the dry season or dry conditions as approved by the Authorized Officer.

On BLM land aquatic habitat conditions are currently in fair condition and water quality within the Cow Creek-Quines HUC 6 sub-watershed is currently thought to be improving (USDI 1999). However, Quines Creek is listed for temperature on the Oregon Department of Environmental Quality (DEQ) 303(d) list and for flow modification and habitat modification in the ODEQ Integrated Report. The elevated temperature and sedimentation within Quines Creek is mostly associated with (1) past private and federal pre-Northwest Forest Plan timber harvest activities (USDI 1994, p. 4-18) within riparian zones affecting shade and reducing large woody debris (LWD); (2) placer mining; and (3) roads located within riparian areas and along streams or hydrologically connected to streams. 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.

3.3.2 Environmental Effects

Alternative 1 (No Action)

Under this alternative, soil resources and watershed hydrology on BLM lands would remain in their present condition. The pattern of erosion and the existing sediment regime would be unaltered within this Project Area, since no road construction, and maintenance would occur on BLM land under this alternative. Road densities within the Cow Creek-Quines Creek HUC 6 sub-watershed, would remain at approximately 5.1 mi/mi² and would keep the amount of exposed soil potentially prone to erosion, compaction, and productivity loss, at existing levels. There would, therefore, be no change in the number of acres available for late successional habitat development on BLM in the future, and no contribution to changes in watershed hydrology from BLM lands.

Alternative 2

On BLM land this alternative would consist of constructing and log hauling on 175 ft of a proposed spur road (0.03 acres), and log hauling on and maintaining existing BLM roads #32-5-23 and 32-5-23.1.

The proposed spur road would be constructed using either an outsloped or crowned design, and rocked with a minimum of 6 inches of pit run rock to minimize erosion of the road surface and prevent excessive side slope erosion. Best Management Practices (BMPs) and Project Design Features (PDFs) would be used to minimize the amount of material eroded during the spur road construction. Surface erosion would be expected to

be slightly elevated above natural conditions as a result of road construction and hauling. However, soils within this complex are generally stable, and sideslopes within the proposed construction area and haul route are for the most part of low to moderate steepness (generally between 12-30%) and are well vegetated. There are no stream crossings or headwalls within the proposed construction area on BLM land. According to Medford BLM District's GIS data the proposed ridgetop construction is located more than 165 feet from any intermittent streams and more than 820 feet from the nearest fish bearing stream. Because the proposed road construction would not be hydrologically connected to any stream channels and there would be no culvert or ditchline conduit to a stream created as a result of the construction of this road spur, eroded material would be expected to remain primarily on site within the roadside vegetation during the construction of the road. Therefore, the construction and use of this road spur would not result in measurable sediment reaching the closest fish stream over 820 ft downstream of the proposed spur. Sediment produced from the maintenance of existing BLM roads 32-5-23 and 32-5-23.1 is expected to remain on site due to well vegetated side slopes. Hauling along these roads during dry weather is not expected to contribute any measurable sediment to streams along the haul route due to the inherent stability of a dry road surface. Wet weather hauling increases the potential for sediment to enter streams. When roads are in close proximity, or hydrologically connected to streams, no level of road maintenance can eliminate all of the sediment delivery from the road. However, should Swanson Group, Inc. need to haul during wet weather, their actions would be consistent with guidelines set forth under the Oregon Forest Practices Act. 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.

The Proposed Action on BLM land would result in soil disturbance from permanent road construction and the removal of vegetation within the clearing limits of the roads on as much as 0.2 acres (0.001%), and as a result, compaction and productivity loss on approximately 0.06 acres(0.0003%) of the Cow Creek-Quines Creek HUC 6 sub-watershed. The proposed spur road construction on BLM land would only add an additional 0.20 acres (0.001%) of open space in this sub-watershed, its contribution to increasing water yield would be immeasurable as this amount would not change the open space percentage from its current condition at 28.4%. This action would be well within the established thresholds for soil productivity, compaction, and erosion set forth in the Medford District RMP EIS.

On BLM land road densities would remain at approximately 5.1 mi/mi² within the Cow Creek-Quines Creek HUC 6 sub-watershed, with only 0.03 miles (175 feet) of road proposed for construction. Additionally, road acres would remain below the level (3-4%) where changes in runoff timing may occur within a watershed. The ridgetop location of the proposed spur would not intercept subsurface flow, and any precipitation intercepted or routed by the short spur would be expected to infiltrate back into the soil prior to reaching any streams. Road maintenance to prepare the 32-5-23 and 32-5-23.1 roads for hauling would not affect stream flow or runoff timing as the roads would not be

expanded beyond their existing footprint. Therefore, it would not be expected that the activities on BLM land would measurably contribute to an increase in flows or runoff timing.

All activities on federal land would be consistent with the standards and guidelines set forth under the Medford RMP EIS. Although the proposed action on BLM land would create a small effect at the site scale, it would be negligible at the HUC7 scale, and not detectable at the HUC 6 scale.

Cumulative Effects (Alternative 2)

In compliance with Medford RMP, a cumulative effects analysis for this project was completed at the HUC 6 sub-watershed scale. The following guidelines are provided for cumulative effects analysis, “To minimize detrimental impacts on water and soil resources resulting from the cumulative impact of land management activities within a watershed. Use the following general guidelines to delineate watersheds for cumulative effects analyses: Natural drainage boundaries, third to fifth order drainages (approximately 500 to 10,000 acres),” (USDI 1995, Appendix D, p. 153). Cumulative effects should therefore be written using a watershed delineated boundary that, as defined by acreage and stream order in the RMP, is at the HUC 7 or HUC 6 scale.

According to the BLM GIS stream layer, the portion of Swanson land which could be harvested contains two intermittent streams, which flow into Blue Creek. Blue Creek flows into a canal which then flows approximately 1.2 miles before reaching Quines Creek. Harvest activities would also occur on land adjacent to the perennial, fish bearing Wildcat Creek, which flows directly into Cow Creek. Hauling from this 40 acre site would cross one intermittent stream on a natural surface road, and one intermittent and one perennial stream (Blue Creek) on a rock surface road. Appropriate Riparian Management Areas (RMA) would be applied along Wildcat Creek, as guided by required under the OFPA. “Riparian management area widths are designed to provide adequate areas along streams, lakes, and significant wetlands to retain the physical components and maintain the functions necessary to accomplish the purposes and to meet the protection objectives and goals for water quality, fish, and wildlife set forth in OAR 629-635-0100” (ODF, 2004).

Private harvest would be expected to continue to occur at current rates. Swanson Group, Inc. would proceed with timber harvest activities on private lands in the Project Area. Swanson would have access to their land from the proposed new 175 ft spur road located along the ridge above their land (BLM land). Specific ground disturbance locations on private land relative to Wildcat Creek, and other streams within the harvest unit, are unknown, and it is not known in which portions, or to what extent, tractor yarding would be used under this alternative. Therefore, the amount of disturbance, subsequent erosion and increase in road density is uncertain. However, it can be assumed that Swanson would cable yard as much ground as possible from the spur road and would tractor yard the remainder. This would likely entail skyline cable yarding (from the proposed spur road on BLM land), and tractor yarding (from private land along the bottom of the slope).

Access into the private unit would require road construction and reconstruction, landing reconstruction, and new landing construction on Swanson land. The RMP acknowledges that land use practices on private may contribute to sediment deposition and that erosion and turbidity may continue to occur (USDI 1994, p. 4-66). As stated in the RMP EIS (p. 4-16) “increases in turbidity and sediment resulting from surface disturbing activities tend to diminish as disturbed areas stabilize and revegetate. Turbidity and sediment levels would remain above pre-disturbance levels until the disturbed area is fully vegetated” (typically between 1-3 years but could be longer if soils have been highly degraded or compacted. It is expected that all operations would not exceed the assumptions in the RMP EIS and would be in compliance with OFPA regulations.

The Medford RMP EIS assumes all private land over 60 years of age would be intensively managed. Harvesting of timber would increase open space within the Cow Creek-Quines Creek HUC 6 sub-watershed by approximately 40 acres, incrementally increasing open space within this sub-watershed to about 28.6% (an increase of only 0.2%). Because the baseline conditions for open area (25%) are already above the point where there would be measurable effects for potential increases in water yield, the compounding effects from private harvest would likely result in a slight increase in annual water yields at the project level, or HUC 7 level of this sub-watershed (Church and Eaton, 2001). However, it is unlikely effects would be seen at the HUC 6 sub-watershed scale, due to the small scale of this project (i.e. 40 acres only comprises 0.2% of the sub-watershed). The effects of private timber harvest are within those analyzed under the Medford RMP which states that increases in water yield 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). The combination of constructing the proposed spur road on BLM and private harvest by The Swanson Group, Inc. would equate to an increase of open space by 0.2% to 28.6% for this sub-watershed (40 acres is approximately 0.2% and 0.16 acres is approximately 0.001%).

Currently, road densities within the Cow Creek-Quines Creek HUC 6 sub-watershed are approximately 5.1mi/mi²; which is above NMFS recommended levels for properly functioning watershed condition (FWS/NOAA Fisheries Table of Population and Habitat Indicators, NOAA 2004). At this time, up to 1.9% of the Cow Creek-Quines Creek sub-watershed is estimated to be compacted as a result of existing roads. Alternative 2 would not appreciably increase road density on BLM land within the Cow Creek-Quines Creek HUC 6 drainage (an increase of 0.03 road miles, or approximately 0.0004%) and would not be expected to result in measurable stream sedimentation. As expected in the RMP EIS, road densities would be expected to continue to increase on non-federal land as needed to provide access for private harvest activities. On private land specific road, skid road, and landing construction length and locations are unknown, and it is not known to what extent cable yarding or tractor yarding would be utilized; therefore, the amount that road density on Swanson Group, Inc’s land would increase is uncertain. Currently, within this sub-watershed, there are approximately 8,900 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

existing roads for access. Even if road acres were increased by 50% (up to 90 new miles) within this sub-watershed as a result of future access needs on private and public ground, road acres within this sub-watershed would remain below the 3-4% of road acres, which research indicates may result in measurable changes to hydrologic timing. Since this would be an unrealistically high amount of new road miles that would be built in the foreseeable future, it would be logical to conclude that this project would not result in any measurable effects to hydrologic function.

Because no riparian vegetation would be disturbed, construction of the spur road on BLM land, and maintenance of existing BLM roads is not expected to directly affect stream temperatures. However, timber harvest activities that remove canopy within the primary shade zone (as described in Northwest Forest Plan Temperature TMDL Implementation Strategies, Feb. 2005) would result in increases in solar exposure and stream temperature. As assumed in the RMP EIS (p. 4-18), stream water temperatures are directly influenced by non-BLM administered lands. On private ground Riparian Management Areas (RMAs), are designed to minimize the increase in solar radiation exposure and subsequent increases in stream temperature.

There are no other planned future projects on federal ground that would reduce the number of acres that would be available for late successional habitat development, affect open area, or increase road densities within this sub-watershed. The combined effects associated with past, present, and future road construction, and use would not be expected to result in enough erosion to cause ODEQ water quality standards (turbidity) (available at www.epa.gov/waterscience/criteria/sediment/appendix3.pdf) to be exceeded because OFPA on non-federal lands, and the Northwest Forest Plan on federal lands, would be followed for all road construction and hauling activities, and these regulations were designed to keep projects in compliance with federal and state laws.

In conclusion, private actions would be consistent with OFPA standards and guidelines designed to minimize impacts to soils and water resources. Therefore, all effects, both private and federal, are well within expectations, and would not exceed the assumptions within the RMP EIS.

Alternative 3

On BLM land this alternative would consist of hauling on and maintaining existing BLM road #32-5-23. Since the construction of the spur on BLM land (as described in Alt.2) would not occur, hauling and maintenance on road #32-3-23.1 would not be needed.

Under this alternative, soil resources and watershed hydrology on BLM lands would remain in their present condition. Since there would be no soil disturbance or open space created, the pattern of erosion and the existing sediment regime would be unaltered within this proposed Project Area. Road densities within the Cow Creek-Quines Creek HUC 6 sub-watershed, would remain at approximately 5.1 mi/mi² and would keep the amount of exposed soil potentially prone to erosion, compaction, and productivity loss, at

existing levels. There would, therefore, be no contribution to changes in watershed hydrology from BLM lands.

The effects of the proposed Reciprocal ROW Agreement for log hauling on BLM road 32-5-23 would be the same as those analyzed for hauling on this road under Alternative 2. Road maintenance to prepare the 32-5-23 road for hauling would not affect watershed hydrology as the road would not be expanded beyond its existing footprint. Maintenance and hauling down the existing BLM 32-5-23 road 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.

All activities on federal land would be consistent with the standards set forth under the Medford RMP EIS.

Cumulative Effects (Alternative 3)

Under Alternative 3, Swanson Group, Inc. would proceed with timber harvest activities on private lands in the proposed Project Area. Because no roads would be built on BLM land, harvest equipment would not have access to the ridge above Swanson's land. As a result, harvest activities would likely be changed from skyline cable yarding and tractor yarding, to mostly tractor yarding, and possibly downhill cable yarding. This would require road reconstruction, new road construction, landing reconstruction, and new landing construction on Swanson land, along with road maintenance on BLM road 32-5-23.

In Alternative 3, the anticipated amount of road and landing construction/reconstruction, and more extensive ground-based logging methods on private land would likely have greater effects on soil disturbance, productivity loss, compaction, sedimentation, and erosion and potentially on water yield and temperature than the combined federal and private activities under the Proposed Action (Alternative 2).

Since specific ground disturbance locations relative to creeks within and adjacent to the harvest unit, is unknown, and it is not known in which portions, or to what extent, tractor or downhill yarding would be used under this alternative, the amount of erosion and subsequent sediment input to streams is uncertain. However, it can be assumed, ground disturbance would be limited to 60-70% slope for tractor logging to meet OFPA requirements and, where feasible, all other ground would be downhill yarded. Downhill cable yarding would likely produce more disturbed ground than skyline cable yarding as obtaining suspension off the ground is more difficult. According to Sidle (1980) tractor yarding contributes 20% more disturbed ground than high-lead cable yarding, (35% for tractor logging compared to 15% for cable yarding). Thus, the amount of erosion and sediment produced as a result of these proposed private activities would be relative to the harvesting method, and extent and location of ground disturbance. In addition, cable yarding systems are recommended by the Natural Resource Conservation Service to minimize soil erosion on a majority of the soil types, which occur in this harvest area (NRCS, 1994). Log haul down the 32-5-23 road, the maintenance and use of

roads that cross streams within and adjacent to the harvest unit, the skid roads and landings on private land next to Wildcat Creek, and some harvest areas (where they extend into riparian reserves) would likely result in additional measurable increases in sediment due to the close proximity and hydrologic connectivity with both creeks.

The effects of harvest actions on stream temperatures are similar to those described under Alternative 2. All other effects not specifically discussed under Alternative 3 would be similar to those discussed under Alternative 2 and would be consistent with the Medford RMP EIS, as described under Alternative 2. Private actions would also be consistent with OFPA standards and guidelines.

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>
Michelle Calvert	Ecosystem Planner	NEPA
Marlin Pose	Wildlife Biologist	Wildlife, Team Lead, Visual Quality
Dustin Wharton	Engineer	Transportation
Carl Symons	Right-of-Way Specialist	Right-of-Ways, Realty
Rose Hanrahan	Hydrologist	Soils, Watershed, Riparian
Stephanie Messerle	Fish Biologist	Fisheries
Rachel Showalter	Botanist	Botany & Noxious weeds
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 Swanson Group, Inc. Right-of-Way 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 summer, 2006.

An optional Environmental Assessment (EA), Decision Record (DR), and Finding of No Significant Impact (FONSI) document was released to the public for this ROW request in the summer of 2006. Klamath-Siskiyou Wildlands Center submitted a written protest of the decision in June 2006 on the following: (1) consider alternative access outside of ground disturbance in the LSR; (2) provide a public scoping or commenting period prior to issuing a decision; (3) requested a hard look at the environmental consequences, including cumulative effects, prior to concluding that impacts are insignificant; (4) did not understand how the proposed road would benefit habitat in the LSR; (5) concerned about the additional road impacting wildlife, soils, and microclimates, fragmenting northern spotted owl habitat, and increasing off-highway vehicle use; and (6) requested disclosure of interconnected & interrelated actions, an Aquatic Conservation Strategy (ACS) evaluation; and (7) adequately disclose and analyze the spread of noxious weeds. The Glendale Resource Area withdrew its decision on this project in January, 2007 and decided to re-analyze the proposed activities. The comments received from the letter of protest were addressed in this EA by developing an alternative for access other than road construction in the LSR and disclosure of the cumulative effects including connected actions (see Chapter 3), effects on LSR habitat (see Appendix 2), from the spread of noxious weeds, and an ACS evaluation (Chapter 1 and Appendix 3).

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 (USFWS)

No disturbance to nesting spotted owls or removal of spotted owl habitat would occur from the proposed federal action and therefore no consultation is needed.

Since the Project Area is outside the natural range of the marbled murrelet and there are no known bald eagles on BLM land within the Project Area, no consultation is needed for these species.

Since no threatened or endangered plant species were found within the Project Area, no consultation is needed.

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. The State Historical Preservation Office approved the clearance/tracking form for the Swanson Group, Inc. Right-of-Way Construction Project. The form is contained within the environmental assessment 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 Swanson Group, Inc. 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 about the Swanson Group, Inc. Right-of-Way Road Construction Project.

ACRONYMS AND GLOSSARY

Abbreviations:

ACEC	Area of Critical Environmental Concern
ACS	Aquatic Conservation Strategy
BA	Biological Assessment
BO	Biological Opinion
BLM	Bureau of Land Management
BMP(s)	Best Management Practices
BSO	Bureau Sensitive
CCH	coho critical habitat
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CHU	Critical Habitat Unit
DBH	Diameter at Breast Height
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act
FONSI	Finding of No Significant Impact
HUC	Hydrologic Unit Condition
LSR	Late Successional Reserve
LWD	Large Woody Debris

MAMU	marbled murrelet
NEPA	National Environmental Policy Act
NFP	Northwest Forest Plan
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic & Atmospheric Administration
NRCS	Natural Resource Conservation Service
NRF	nesting, roosting, or foraging
NSO	northern spotted owl
O&C	Oregon & California
ODEQ	Oregon Department Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
ODF	Oregon Department of Forestry
OFPA	Oregon Forest Practices Act
PDF	Project Design Feature
RMA	Riparian Management Area
RMP	Resource Management Plan
ROD	Record of Decision
ROW	Right-of-Way
RTV	Red Tree Vole
SHPO	State Historic Preservation Office
SONC	Southern Oregon/Northern California
S&M	Survey and Manage
SSS	Special Status Species
T/E	Threatened/Endangered
TSZ	Transient Snow Zone
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
VRM	Visual Resource Management

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)).

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.

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.

Cross drains. Device or structure designed to remove water off the road surface and release it or disperse it off the edge of the road in a manner that minimizes effects to adjacent areas and the watershed.

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.

Dispersal Habitat. Dispersal habitat for the northern spotted owl consists of forest lands generally greater than 40 years of age with canopy closures of 40 percent or greater and an average diameter at breast height of 11 inches or greater. Spotted owls use dispersal habitat to move between blocks of suitable habitat; juveniles use it to disperse from natal territories. Dispersal habitat may have roosting and foraging components, enabling spotted owls to survive, but lack structure suitable for nesting.

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.

Forb. Any herb other than grass.

Fuels. Combustible wildland vegetative materials present in the forest which potentially contribute to a significant fire hazard.

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.

Peak flow. The highest stream flow that occurs during a storm event.

Perennial streams. Streams that flow continuously throughout the year.

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).

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

Riparian 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.

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.

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.

Seral stages. The series of relatively transitory plant communities that develop during ecological succession from bare ground to the climax stage. Generally there are five stages recognized: early-seral, mid-seral, late-seral, mature-seral, and old-growth.

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. Compaction decreases productivity by reducing water and nutrient holding capacity, root respiration, and microbial activity.

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

Sub-watershed. In this document the term refers to the entire area that contributes water to a drainage system or stream at the sixth-field watershed scale (HUC 6). The sixth field watershed within the Swanson Right-of-Way Road Construction Project Planning Area is Cow Creek-Quines Creek.

Transient Snow Zone (TSZ). The area in which the winter snow pack is short-lived and transitory in nature (these areas normally do not have a substantial covering of snow for an entire winter season). Within our region this zone generally exists above 2,500 feet in elevation.

Trend analysis. Estimated annual rate of private harvest applied to the years 2003-2007 by averaging the annual private acres harvested through satellite imagery data since implementation of the Northwest Forest Plan (1994-2002).

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.

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

Watershed. Entire area that contributes water to a drainage system or stream. The fifth-field watershed within the Swanson Right-of-Way Road Construction Project Planning Area is Middle Cow Creek.

Water yield. The total volume of surface runoff, measured as stream discharge that leaves a sub-watershed area. 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 pre-treatment levels within two to three decades.

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

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APPENDIX 1 - ALTERNATIVE DEVELOPMENT SUMMARY

Environmental Assessment Number OR-118-07-006

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.**

Yes. Consider *alternative access methods (such as aerial logging)*.

The Northwest Forest Plan (NFP) Record of Decision (ROD), Medford Resource Management Plan (RMP), and the Galesville/South Umpqua Late Successional Reserve Assessment (LSRA) provide management direction and guidance on non-federal access and road construction through Late Successional Reserves. The NFP 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 RMP ROD 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 LSRA 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).

Although the management direction (NFP and RMP) and guidance (LSR Assessment) outlined above recognizes nonfederal right-of-way access as a valid use and permits road construction in the LSR, it recommends consideration of alternate access or avoidance to disturbance of LSR habitat when: (1) this is not a viable option or (2) the alternate route outside of the LSR would increase resource impacts.

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.

An alternative was considered utilizing helicopter logging to avoid road construction in the LSR on BLM land.

Another alternative was considered that would not propose road construction across BLM land. This alternative would evaluate amending the ROW Agreement M-1396 for hauling private harvested logs on BLM road #32-5-23.0. Under this scenario, access into the private parcel would be needed across private land. Since, steep slopes in portions of the private area would exceed Occupation Safety and Health Administration (OSHA) standards for safe ground based tractor logging, a combination of downhill cable yarding, middle slope road construction, bottom slope road reconstruction, and landing construction on private land would be required.

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 rational and stop evaluation.

Helicopter extraction was evaluated and found to be unsafe due to flight paths over adjacent residential homes and structures, and no authorization was granted from suitable adjacent private landowners for helicopter landing areas. Construction of new helicopter landing areas would be required on BLM land in the LSR that would exceed the acreage and ground disturbance of the Proposed Action.

The second scenario identified in Question #2 (Alternative 3), would meet the purpose and need of meeting the management direction and guidance from the NFP ROD, RMP, and LSRA to consider alternate rights-of-way routes that avoid road construction within the LSR.

- 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.

Although the proposed action involves 175 ft of road ridgetop spur road construction and uphill cable yarding in a LSR, it would not cut any trees in this BLM land allocation.

In Alternative 2, the likely new mid-slope road and landing construction/reconstruction, and ground-based logging methods on private land would potentially have greater effects on soil resources, hydrology and water quality regardless of ownership than the Proposed Action. The Oregon Forest Practices Act (OFPA) allows for ground under 60-70% slope to be tractor logged. According to Sidle (1980) tractor yarding contributes 20% more disturbed ground than high-lead cable yarding (35% for tractor logging compared to 15% for cable yarding). An increase in soil disturbance would occur in slopes up to 70% from cable yarding and from the greater road and landing disturbance acres for construction/reconstruction than in the Proposed Action.

APPENDIX 2 - ENVIRONMENTAL ELEMENTS

Environmental Assessment Number OR-118-07-006

In accordance with law, regulation, executive order and policy, the Swanson Group, Inc. Right-of-Way Road Construction interdisciplinary team reviewed the elements of the environment to determine if they would be affected by the action alternatives described in Environmental Assessment Number OR-118-07-006. The following **three tables** summarize the results of that review.

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 predicted environmental impact per element if the action alternatives 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	Dust created from building approximately 175 ft of road on BLM land and hauling on existing 1.24 miles on road #32-3-23.0 and #32-3-23.1 are expected to be localized. 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	On BLM land, cultural resource surveys were completed March 2006 and no sites were found. Guidelines for the survey followed compliance procedures for cultural resource survey set forth by Section 106 National Historic Preservation Act (NHPA). Surveys would be conducted using Oregon State Historic Preservation Office (SHPO) protocol. 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 with concurrence from the State Historic Preservation Office. All such sites would be evaluated and protected by the BLM under the following Federal laws: Federal Land Policy and Management Act of 1976, National Historic Preservation Act (Section 106) of 1966, Antiquities Act of 1906, Archaeological Resource Protection Act of 1979, Reservoir Salvage Act of 1960, American Indian Religious Freedom Act of 1978, National Environmental Policy Act of 1960, and Native American Graves Protection and Repatriation Act of 1990.
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.

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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
Environmental Justice (Executive Order 12898)	Not Affected	The action alternatives are 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 action alternatives are located on a ridgeline or on existing roads, and do not involve occupancy and modification of floodplains, and would not increase the risk of flood loss. As such, the action alternatives are consistent with Executive Order 11988.
Hazardous or Solid Wastes	Not Present	
Invasive, Nonnative Species (Executive Order 13112)	Affected	<p>The existing roadside and proposed ROW location on BLM land was surveyed for noxious weeds in the spring of 2006. One population of <i>Senecio jacobaea</i> (Tansy ragwort), was located directly adjacent to the 175 ft proposed ROW on BLM land and <i>Centaurea pratensis</i> (Meadow knapweed) is located within 200 ft of this proposed ROW.</p> <p>Openings from road construction and increased vehicle traffic can provide suitable habitat for noxious weeds to colonize or provide vectors that may introduce noxious weed seeds into the disturbed area. 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 action alternatives. These PDFs are widely accepted and utilize Best Management Practices (BMPs) in noxious weed control strategies across the nation (Thompson, 2006).</p> <p>There are three main reasons why potential weed establishment that might be caused by the action alternatives are not expected to result in a detectable effect to overall ecosystem health. First, surveys indicate that a very small area (less than 0.25 acres) within the Planning Area are affected by noxious weeds. Second, the species actually residing at the proposed ROW location is not considered a priority species for manual treatment, as biological controls have proven effective at containing and eventually reducing the existing populations; and the knapweed population located nearby was mapped and will be treated under Medford District's <i>Integrated Weed Management Plan and Environmental Assessment OR-110-98-14</i>. Third, as aforementioned, Project Design Features (PDFs) have been established to minimize the rate at which project activities might potentially spread noxious weed seed from outside/adjacent sources. Refer to Section 3.2 of the EA for a discussion of the affected environment and environmental effects of the alternatives related to this element of the environment.</p>

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Native American Religious Concerns	Not Present	
T/E (Threatened or Endangered) Fish Species or Habitat	Not Present (SONC coho salmon)	The action alternatives would occur in the Umpqua Basin. There are no threatened or endangered fish species located within the Project Area or fifth-field watershed. Southern Oregon Northern California coho salmon (a threatened species) or their habitat is not present within this Project Area, fifth-field watershed, or the Umpqua Basin.
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> , as determined by the 2006 US Fish and Wildlife Service Biological Opinion, vascular plant surveys were conducted on BLM land 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.
T/E (Threatened or Endangered) Wildlife Species, Habitat and/or Designated Critical Habitat	Not Present Not Present Not Affected Not Affected	Marbled murrelet/ bald eagle The project occurs outside the range of the marbled murrelet. There are no known bald eagles (BE) on BLM land within the Project Area. Northern Spotted Owl (NSO) habitat No spotted owl habitat or disturbance to individual owls would occur on BLM from Alternative 2 or 3. Suitable spotted owl habitat is present adjacent to the Project Area but is not expected to be occupied since the area is adjacent to the Starved Bull owl site, and has not been occupied since surveys were initiated in 1988. Northern Spotted Owl Critical Habitat No road construction or removal of habitat is proposed within spotted owl Critical Habitat. Hauling on roads would have no effect on Critical Habitat. Fisher (federal threatened candidate) & Bureau Sensitive The Project Area has low suitability for fisher, and is unlikely to be used because of past forest fragmentation, recent extensive adjacent private harvesting, and unsuitability due to disturbance from adjacent rural housing and human/domestic animal disturbance. No mature or old growth habitat, denning habitat, snags, or large down wood would be removed on BLM land from Alternative 2 or 3.

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 predicted environmental impact per element if the action alternatives 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 (continued)	Affected (Late Successional Reserve)	<p>Alternative 2</p> <p>Although the Proposed Action would not remove any trees, denning habitat, snags, or large down wood on BLM land, the road construction would remove 0.06 acres available for potential late successional habitat development in a Late Successional Reserve. The ridge top location is consistent with the NFP ROD and RMP guidelines (p. C-19, and p.34-35, respectively) which states access to nonfederal lands through LSR would be designed and located to have the least impact on late-successional habitat. Given the scope and ridge top location of this proposed spur road on BLM land, this action is anticipated to have a negligible impact on the function of the LSR at the 6th field sub-watershed scale, and an immeasurable impact at the 5th field watershed scale. The hauling on existing BLM controlled roads 32-5-23 and 32-5-23.1 do not involve any new ground disturbance.</p>
	Not Affected (Late Successional Reserve)	<p>Alternative 3</p> <p>Since this alternative does not include any road construction on BLM land, there would be no change in the number of acres available for potential late successional habitat development in a Late Successional Reserve. The hauling on existing BLM controlled road 32-5-23 does not involve any new ground disturbance.</p>
Water Quality (Surface and Ground)	Affected (Sediment, Turbidity)	<p>Sediment & Turbidity</p> <p>Constructing and hauling on 175 feet of road on BLM land and hauling on and maintaining existing BLM roads 32-5-23 and 32-5-23.1 would result in slightly elevated surface erosion. However, any sediment mobilized from spur road construction is expected to remain on site due to the ridge top location of the road, well vegetated side slopes, and that it would not be hydrologically connected to a stream. Sediment produced from the maintenance and haul on the existing BLM roads 32-5-23 (Alt.2 & 3) and 32-5-23.1 (Alt.3) are expected to remain on site due to well vegetated side slopes. Should wet weather hauling be needed, all actions would be in compliance with OFPA standards and guidelines. On federal lands no actions would exceed State water quality standards, and would be consistent with ACS objectives of the Northwest Forest Plan (see Appendix 3). <i>Refer to Section 3.3 of the EA for a discussion of the affected environment and environmental effects of the alternatives related to this element of the environment.</i></p>

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Water Quality (Surface and Ground) (continued)	Not Affected Temperature Not Affected Chemical/Nutrient Contamination	<p>Temperature Quines Creek is listed for temperature, flow modification, and habitat modification on the Oregon 303(d) list. The proposed spur on federal land would not involve the manipulation or removal of any riparian vegetation, thus, it would not have any effect on stream temperatures or development of LWD. The proposed hauling route is on existing roads and maintenance of that route would not cause any further impact to riparian vegetation.</p> <p>Chemical & Nutrient Contamination On federal land there would be no burning and no herbicides or pesticides used in conjunction with spur road construction or maintenance of the hauling route. As such, this action would not be expected to result in any chemical or nutrient contamination.</p> <p>The overall effects of the proposed action on water quality are expected to be neutral and the State of Oregon water quality standards would not be exceeded.</p>
Wetlands (Executive Order 11990)	Not Present	The Proposed Action would not result in the destruction, loss or degradation of any wetland on federal land. 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 predicted environmental impact per element if the action alternatives 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 (EFH) (Magnuson-Stevens Fisheries Conservation and Management Act)	Not Affected (EFH for coho and chinook salmon)	<p>Alternative 2 The proposed road construction is located on a ridgetop. 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 EFH, 0.3 mile away in Wildcat 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 EFH.</p> <p>The haul on the proposed road constructed and road maintenance and haul on (including winter haul) existing BLM roads 32-5-23 and 32-5-23.1 would not effect EFH fish habitat in Quines Creek because 1) there is only one stream crossing on the roads, 2) the distance (1.2 mile) from the stream crossing to fish habitat in Quines Creek, 3) and the gravel surface of the road at the stream crossing.</p> <p>Alternative 3 The road maintenance and haul (including winter haul) on existing BLM road 32-5-23 would not affect EFH in Quines Creek because 1) there is only one stream crossing on the road, 2) the distance (1.2 mile) from the stream crossing to EFH in Quines Creek, 3) and the gravel surface of the road at the stream crossing.</p>
Fire Risk	Not Affected	Although new road construction has the potential to increase risk of fire ignition due to an increase in human presence, this proposal would have a negligible affect on fire risk. This is because the length of road is minimal; it would not serve as major travel route as a dead end spur road; it would not provide access to appealing recreation or other high-use sites; nor is it near any major population centers which provide the potential for human presence. Hauling has not been known to considerably affect fire risk, the amount of hauling is limited due to the minimal acreage being harvested. As such, there would be no expected measurable adverse affects on fire risk.
Fire Hazard	Not Affected	The proposed ROW road construction and associated hauling are not expected to have any direct effects on fire hazard in the area because the action would not result in any measurable changes to the current fuel model as the area involved is minimal and most of the slash would be crushed and covered in the fill slope of the road.
Land Uses (right-of-ways, permits, etc)	Not Affected	The action alternatives would not have adverse or beneficial effects to any existing land use.
Mineral Resources	Not Present	

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Recreation	Not Affected	<p>There are no developed recreation sites that would be affected by the action alternatives. The area is open to dispersed recreation use, as it most of the Glendale Resource Area. The action alternatives would have a neutral effect on dispersed recreation within the resource area. There may 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.</p> <p>The total 0.03 mile (175 feet) increase in a dead-end BLM spur road 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 p. 33-35)	Not Present	There are no designated special area land allocations in this watershed.
Survey and Manage, Special Status Species (not including T/E): Fish Species/Habitat	<p>Not Present Survey & Manage</p> <p>No management requirement: Pacific lamprey and coastal cutthroat trout</p>	<p>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 & 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.</p> <p>Pacific lamprey and Oregon coast cutthroat trout, Bureau Tracking species, are also found within the Planning Area. 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). The action alternatives would not impact fish habitat since there are no stream crossings or headwalls in the Project Area and fish habitat is 0.6 miles away in Wildcat Creek. As such habitat for lamprey and cutthroat habitat would be maintained within the Planning Area.</p>

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Survey and Manage, Special Status Species (not including T/E): Fish Species/Habitat (continued)	Not Affected (Oregon Coast coho salmon, Oregon Coast steelhead, or habitat)	<p>Alternative 2 The proposed road construction on BLM land along a ridgetop. 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 Oregon Coast steelhead habitat, 0.6 mile away in Wildcat 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 action alternatives are not expected to result in additional sediment or turbidity in streams and would have no effect on Oregon Coast coho salmon and Oregon Coast steelhead (Bureau Sensitive Species) or their habitat.</p> <p>The road maintenance and haul (including winter haul) on existing BLM roads 32-5-23 and 32-5-23.1 would not effect EFH fish habitat in Quines Creek because 1) there is only one stream crossing on the roads, 2) the distance (1.2 mile) from the stream crossing to fish habitat in Quines Creek, 3) and the gravel surface of the road at the stream crossing.</p> <p>Alternative 3 The road maintenance and haul (including winter haul) on existing BLM road 32-5-23 would not affect EFH in Quines Creek because 1) there is only one stream crossing on the road, 2) the distance (1.2 mile) from the stream crossing to EFH in Quines Creek, 3) and the gravel surface of the road at the stream crossing.</p>
Survey and Manage, Special Status Species (not including T/E): Plant Species/Habitat	Not Present Survey and Manage or Bureau Special Status Vascular Plants	<p>On BLM land, vascular plant surveys were conducted in the spring of 2006, and surveys were completed in the spring of 2006 for lichens and bryophytes. A professional botanist surveyed the proposed ROW using intuitive controlled methodology, wherein areas supporting high potential habitat were surveyed more intensively. All surveys were completed in accordance with the 2001 S&M protocol, and revealed no Survey and Manage or Bureau Special Status plant sites and no new S&M or bureau special status nonvascular plant sites.</p> <p>Vascular plants: <i>Botrychium minganense</i>, <i>Botrychium montanum</i>, <i>Coptis asplenifolia</i>, <i>Coptis trifolia</i>, <i>Corydalis aquae-gelidae</i>, <i>Cypripedium fasciculatum</i>, <i>Cypripedium montanum</i>, <i>Eucephalis vialis</i>, <i>Galium kamtschaticum</i>, <i>Plantanthera orbiculata</i> var. <i>orbiculata</i></p>

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 predicted environmental impact per element if the action alternatives 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
<p>Survey and Manage, Special Status Species (not including T/E): Plant Species/Habitat (continued)</p>	<p>Not Present Survey and Manage or Bureau Special Status Non Vascular Plants</p> <p>Not Affected Survey and Manage or Bureau Special Status Fungi</p>	<p>Nonvascular surveys, completed in spring 2006, resulted in no new S&M or bureau special status nonvascular plant sites.</p> <p>Lichens: Bryoria pseudocapillaris, Bryoria spiralifera, Hypogymnia duplicate, Leptogium cyanescens, Lobaria linita, Nephroma occultum, Niebla cephalota, Pseudocyphellaria perpetua, Pseudocyphellaria rainierensis, Teloschistes flavicans</p> <p>Byrophytes: Schistostega pennata, Tetraxis geniculata</p> <p>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 to occur 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&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&M categories (9 species in B, 1 species in F) – none of which require surveys under S&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 new road construction is 1.3 acres. The likelihood of contributing toward the need to list is not probable.</p> <p>Survey and Manage and Special Status Species are a federal designation on BLM land.</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
Survey and Manage Special Status Species (not including T/E): Wildlife Species/Habitat	Not Present	Bureau Sensitive - Northwestern pond turtle, Oregon shoulderband (snail), Townsend 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 grebe.
	Not Present	Bureau Assessment - white-tailed kite, Foothill yellow-legged frog
	Not Affected	Bureau Assessment - Pacific pallid bat, Fringed myotis, may occur in adjacent mature conifer stands. No habitat would be removed from alternative 2 or 3 on federal land. Since private land is expected to be harvested before stands support mature trees (RMP EIS p.4-5.), this land is not expected to contribute habitat to the species.
	Not Affected	Bureau Sensitive - Northern goshawk There are no known sites in the Project Area. Goshawks have been observed near Azalea and are likely to occur within the 5 th field watersheds. No suitable nesting habitat would be removed from Alternative 2 or 3 on federal land. There is a sufficient mix of seral stages including large trees in the Planning Area, in the Galesville/South Umpqua Late Successional Reserve to provide nesting, fledging, and foraging habitat. Viability rating would remain high and unchanged (USDA/USDI 1994a 3&4 p179). Therefore, it is expected there would be no effect from project activities on northern goshawks.
	Not Affected	Survey and Manage - Red Tree Vole (RTV) This species would not be affected by Alternative 2 or 3 since no existing RTV habitat would be removed from BLM land.
Not Present	Mollusks There is no habitat for Survey & Manage mollusks present, and it is not expected to be affected by BLM actions.	

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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
Migratory Birds	Not Affected	Olive-sided flycatcher, rufous hummingbird, (USFWS identified species of conservation concern (Federal Register July 10, 2003 Vol. 68, No. 25, 6179). Some migratory bird individuals other than USFWS species of concern may be lost or displaced during project activities, but there would be no perceptible shift in species composition because of the small scale habitat modifications (less than 0.2 acres of early seral forest). Adequate untreated areas in and adjacent to the Project Area would maintain habitat for displaced individuals. Overall, populations in the region would be unaffected due to this small amount of loss that would not be measurable at the regional scale. Partners in Flight supports the eco-regional scale as appropriate for analyzing bird populations.
Soil (productivity, erodibility, mass wasting, etc.)	Affected (Productivity) Affected (Erosion) Not Affected (Mass Wasting)	<p>Productivity The Proposed Action would result in soil disturbance on approximately 0.16 acres from road construction. Soil compaction and subsequent productivity loss would occur on about 0.06 acres. Productivity losses would result primarily from the permanent compaction of the ground below the road surface. Given the small scale and location of the proposed spur road, this action is anticipated to have a negligible impact on soil productivity at the sub-watershed or watershed scale. There would be no loss of soil productivity from hauling and maintaining existing BLM roads 32-5-23.1(Alt. 2) and 32-5-23 (Alt.2 & 3).</p> <p>Erosion The proposed 175 ft spur road construction on BLM land is located along a ridge. There are no stream crossings or headwalls within this Project Area. According to Medford BLM District's GIS data this proposed construction is located more than 165 feet from any intermittent streams and more than 820 feet from the nearest fish bearing stream. Because the proposed road spur would not be hydrologically connected to any stream channels and there would be no culvert or ditchline conduit created as a result of the construction of this road spur, eroded material is expected to remain primarily onsite within roadside vegetation.</p> <p>This action would be consistent with all soil productivity, compaction, and erosion standards set forth in the Medford District RMP. <i>Refer to Section 3.3 of the EA for a discussion of the affected environment and environmental effects of the alternatives related to this element of the environment.</i></p> <p>Mass Wasting Given the short length (175 ft), the lack of any headwalls, and the ridgetop location of the proposed road spur (Alt. 2), use and maintenance of existing BLM roads (Alt.2 & 3), and the project design features; the action alternatives on federal ground are expected to have a neutral effect on mass wasting potential.</p>

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 predicted environmental impact per element if the action alternatives 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
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 action alternatives are consistent with these visual resource management objectives.
Water Resources (not including water quality)	Not Affected	<p>The proposed 175 ft spur road on BLM land would increase the amount of impermeable surface in the watershed by 0.06 acres and would not result in a measurable increase in base flows or water yield over the existing condition. 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) (generally above 2,500 ft in elevation for this area). Rain-on-snow events within the TSZ can accelerate snow melt in forest openings, further increasing the rate of delivery and enhancement of peak flows within a watershed. Since the project area is located below 2,500 ft in elevation, open space within the TSZ would not increase in this watershed and there is no potential for peak flow increases, as a result of this project.</p> <p>Research indicates that changes in runoff timing may occur when road acres 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). The proposed road construction on BLM land would add 0.03 miles (175 feet) of road and would remain below the level (3-4%) where changes in runoff timing may occur within a watershed. The ridgetop location of the proposed spur would not intercept subsurface flow, and any precipitation intercepted or routed by the short spur would be expected to infiltrate back into the soil prior to reaching any streams. Road maintenance to prepare the 32-5-23 and 32-5-23.1 roads for hauling would not affect stream flow or runoff timing as the roads would not be expanded beyond their existing footprint. Therefore it would not be expected that the activities on BLM land would measurably contribute to an increase in flows or runoff timing.</p> <p>The Proposed Action on federal ground is not anticipated to have measurable effects on watershed hydrology and would not affect municipal and domestic water use.</p>
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).

APPENDIX 3 – AQUATIC CONSERVATION STRATEGY CONSISTENCY ANALYSIS

Environmental Assessment Number OR-118-07-006

“The Aquatic Conservation Strategy was developed to restore and maintain the ecological health of watersheds and aquatic ecosystems contained within them on public lands. The strategy would protect salmon and steelhead habitat on Federal lands managed by the Forest Service and Bureau of Land Management within the range of the Pacific Ocean anadromy.” (Medford District RMP pg. 22)

There are four components of the ACS which are riparian reserves, key watersheds, watershed analysis, and watershed restoration. The ACS was designed to meet the nine objectives discussed below.

This ACS consistency analysis evaluates all action alternatives (Alternatives 2 and 3) on BLM land in the Swanson Group, Inc. Right-of-Way Road Construction EA.

Analysis of the Four Components of the ACS:

1. **Riparian Reserves:** The proposed construction and haul on 175 ft of road on BLM land would not occur within riparian reserves. The proposed road maintenance and haul on existing BLM roads 32-5-23 and 32-5-23.1 are consistent with the roads management actions/directions within riparian reserves as described in the Medford District RMP on pages 27-28. The action alternatives are also consistent with the Best Management Practices (BMPs) within Appendix D of the Medford RMP.
2. **Key Watershed:** The action alternatives are not located in a Key watershed.
3. **Watershed Analysis:** The Glendale Resource Area completed the Middle Cow Creek Watershed Analyses in 1999. The action alternatives are consistent with the watershed analysis and would maintain the existing condition of the watershed.
4. **Watershed Restoration:** The Swanson Group, Inc. Right-of-Way Road Construction is not a watershed restoration project. The action alternatives would not reverse any restoration efforts which have been accomplished or are planned in the Middle Cow Creek Watershed. Roads within the Middle Cow Watershed are decommissioned when possible through separate landscape planning projects. The Swanson Group, Inc. Right-of-Way Road Construction is not a watershed restoration project. The action alternatives would not reverse any restoration efforts which have been accomplished or are planned in the Middle Cow Creek Watershed. The new road construction is proposed on a ridge top location and not within a riparian reserve. The minimization of road related runoff and sediment production would be addressed through an outsloped or crowned design, and rocked with a minimum of 6 inches of pit run rock to minimize erosion of the road surface and prevent excessive side slope

erosion.

Consistency Analysis with the Record of Decision Northwest Forest Plan (1994)
Aquatic Conservation Strategy nine objectives:

1. Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted.

The watershed and landscape-scale features which protect species, populations and communities dependent on aquatic systems would be maintained. This conclusion was based on the following information found in the EA:

- “The proposed road construction on BLM land would add 0.03 miles (175 feet) of road and would remain below the level (3-4%) where changes in runoff timing may occur within a watershed. The ridgetop location of the proposed spur would not intercept subsurface flow, and any precipitation intercepted or routed by the short spur would be expected to infiltrate back into the soil prior to reaching any streams. Road maintenance to prepare the 32-5-23 and 32-5-23.1 roads for hauling would not affect stream flow or runoff timing as the roads would not be expanded beyond their existing footprint. Therefore it would not be expected that the activities on BLM land would measurably contribute to an increase in flows or runoff timing,” (EA pg. 57).
- “The proposed 175 ft spur road on BLM land would increase the amount of impermeable surface in the watershed by 0.06 acres and would not result in a measurable increase in base flows or water yield over the existing condition. 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) (generally above 2,500 ft in elevation for this area). Since the project area is located below 2,500 ft in elevation, open space within the TSZ would not increase in this watershed and there is no potential for peak flow increases, as a result of this project,” (EA pg. 57).
- “Given the short length (175 ft), the lack of any headwalls, and the ridgetop location of the proposed road spur (Alt. 2), use and maintenance of existing BLM roads (Alt.2 & 3), and the project design features; the action alternatives on federal ground are expected to have a neutral effect on mass wasting potential,” (EA pg. 56).
- “The proposed 175 ft spur road construction on BLM land is located along a ridge. There are no stream crossings or headwalls within this Project Area. According to Medford BLM District’s GIS data this proposed construction is located more than 165 feet from any intermittent streams and more than 820 feet from the nearest fish bearing stream. Because the proposed road spur would not be hydrologically connected to any stream channels and there would be no culvert or ditchline conduit created as a result of the construction of this road spur, eroded material is expected to remain primarily onsite within roadside vegetation,” (EA pg. 56).

- “The Proposed Action would result in soil disturbance on approximately 0.16 acres from road construction. Soil compaction and subsequent productivity loss would occur on about 0.06 acres. Productivity losses would result primarily from the permanent compaction of the ground below the road surface. Given the small scale and location of the proposed spur road, this action is anticipated to have a negligible impact on soil productivity at the sub-watershed or watershed scale. There would be no loss of soil productivity from hauling and maintaining existing BLM roads 32-5-23.1(Alt. 2) and 32-5-23 (Alt.2 & 3),” (EA pg. 56).
- “The proposed spur on federal land would not involve the manipulation or removal of any riparian vegetation, thus, it would not have any effect on stream temperatures or development of LWD. The proposed hauling route is on existing roads and maintenance of that route would not cause any further impact to riparian vegetation,” (EA pg. 50).
- “On federal land there would be no burning and no herbicides or pesticides used in conjunction with spur road construction or maintenance of the hauling route. As such, this action would not be expected to result in any chemical or nutrient contamination,” (EA pg. 50).
- “Constructing and hauling on 175 feet of road on BLM land and hauling on and maintaining existing BLM roads 32-5-23 and 32-5-23.1 would result in slightly elevated surface erosion. However, any sediment mobilized from spur road construction is expected to remain on site due to the ridge top location of the road, well vegetated side slopes, and that it would not be hydrologically connected to a stream. Sediment produced from the maintenance and haul on the existing BLM roads 32-5-23 (Alt.2 & 3) and 32-5-23.1 (Alt.3) are expected to remain on site due to well vegetated side slopes,” (EA pg. 49).

2. Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope areas, headwater tributaries, and intact refugia. These network connections must provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species.

The spatial and temporal connectivity within and between watersheds would not be affected by the new road construction on BLM land or the hauling/maintenance on the existing roads. Chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species would be maintained because the new road construction is proposed on a ridge top and would not include any stream crossings nor would it be within a riparian reserve.

3. Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.

The physical integrity of aquatic systems, including shorelines, banks, and bottom configurations would not be affected because the new road construction on BLM land is proposed on a ridge top and not within a riparian reserve. The haul and maintenance

activities on existing roads would not cause a change in the shorelines, banks, or bottom configurations because the activities would be done within the existing road prism.

4. Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical, and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities.

Water quality would not be affected. This conclusion was based on the following information found in the EA:

- “The proposed spur on federal land would not involve the manipulation or removal of any riparian vegetation, thus, it would not have any effect on stream temperatures or development of LWD. The proposed hauling route is on existing roads and maintenance of that route would not cause any further impact to riparian vegetation,” (EA pg. 50).
- “On federal land there would be no burning and no herbicides or pesticides used in conjunction with spur road construction or maintenance of the hauling route. As such, this action would not be expected to result in any chemical or nutrient contamination,” (EA pg. 50).

5. Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport.

The sediment regime under which aquatic ecosystems evolved would be maintained. This conclusion was based on the following information found in the EA:

- “The proposed 175 ft spur road construction on BLM land is located along a ridge. There are no stream crossings or headwalls within this Project Area. According to Medford BLM District’s GIS data this proposed construction is located more than 165 feet from any intermittent streams and more than 820 feet from the nearest fish bearing stream. Because the proposed road spur would not be hydrologically connected to any stream channels and there would be no culvert or ditchline conduit created as a result of the construction of this road spur, eroded material is expected to remain primarily onsite within roadside vegetation,” (EA pg. 56).
- “Constructing and hauling on 175 feet of road on BLM land and hauling on and maintaining existing BLM roads 32-5-23 and 32-5-23.1 would result in slightly elevated surface erosion. However, any sediment mobilized from spur road construction is expected to remain on site due to the ridge top location of the road, well vegetated side slopes, and that it would not be hydrologically connected to a stream. Sediment produced from the maintenance and haul on the existing BLM roads 32-5-23 (Alt.2 & 3) and 32-5-23.1 (Alt.3) are expected to remain on site due to well vegetated side slopes,” (EA pg. 49).

6. Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected.

The in-stream flows, including the timing, magnitude, duration, and spatial distribution of peak, high, and low flows would be maintained. This conclusion was based on the following information in the EA:

- “The proposed road construction on BLM land would add 0.03 miles (175 feet) of road and would remain below the level (3-4%) where changes in runoff timing may occur within a watershed. The ridge top location of the proposed spur would not intercept subsurface flow, and any precipitation intercepted or routed by the short spur would be expected to infiltrate back into the soil prior to reaching any streams. Road maintenance to prepare the 32-5-23 and 32-5-23.1 roads for hauling would not affect stream flow or runoff timing as the roads would not be expanded beyond their existing footprint. Therefore it would not be expected that the activities on BLM land would measurably contribute to an increase in flows or runoff timing,” (EA pg. 57).
- “The proposed 175 ft spur road on BLM land would increase the amount of impermeable surface in the watershed by 0.06 acres and would not result in a measurable increase in base flows or water yield over the existing condition. 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) (generally above 2,500 ft in elevation for this area). Since the project area is located below 2,500 ft in elevation, open space within the TSZ would not increase in this watershed and there is no potential for peak flow increases, as a result of this project,” (EA pg. 57).

7. Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.

The timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands would not be affected because the new road construction on BLM land is proposed on a ridge top and not within a riparian reserve, meadow, or wetland. The haul and maintenance activities on existing roads would not cause a change in the characteristics of meadows or wetlands because the activities would be done within the road prism. “The Proposed Action would not result in the destruction, loss or degradation of any wetland on federal land,” (EA pg. 50).

8. Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion,

and channel migration and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.

The species composition and structural diversity of plant communities in riparian areas and wetlands would not be affected because the new road construction on BLM land is proposed on a ridge top and not within a riparian area or wetland. Construction of the new road would not involve the manipulation or removal of any riparian vegetation.

9. Maintain and restore habitat to support well-distributed populations of native plant, invertebrate and vertebrate riparian-dependent species.

Habitat for riparian-dependent plant, invertebrate and vertebrate species would not be affected because the new road construction is proposed on a ridge top and not within a riparian reserve.

CONCLUSION:

Based on the EA effects analysis of the action alternatives, at both the site and watershed scale, it was determined that the actions are consistent with the nine objectives and the four components of the ACS. This determination was based on the small spatial and temporal disturbances associated with the new road construction and haul/maintenance on existing roads.

