

# Determination of NEPA Adequacy (DNA) Worksheet

U.S. Department of the Interior  
Bureau of Land Management  
Roseburg District

December 1, 2009

**OFFICE:** Swiftwater Field Office

**TRACKING NUMBER:** DOI-BLM-OR-R040-2009-0024-DNA

**CASEFILE/PROJECT NUMBER:** Basin Arizona Density Management

**BACKGROUND:** On June 17, 2003 the Upper Umpqua Watershed Plan Environmental Assessment (EA) was released for public comment and conformed to the 1995 Roseburg District Record of Decision and Resource Management Plan (1995 ROD/RMP) (EA, pgs. ii-iii). The EA also is consistent with the new information found within the 2008 Final Environmental Impact Statement for the Revision of the Resource Management Plans of the Western Oregon Bureau of Land Management – Salem, Eugene, Roseburg, Coos Bay, and Medford Districts, and the Klamath falls Resource Area of the Lakeview District (2008 FEIS). On July 16, 2009 the U.S. Department of the Interior, withdrew the Records of Decision for the Western Oregon Plan Revision (2008 ROD/RMP) and directed the BLM to implement actions in conformance with the resource management plans for western Oregon that were in place prior to December 30, 2008, the date the 2008 ROD/RMP was signed.

Since the Upper Umpqua Watershed Plan EA (Upper Umpqua Watershed Plan, NEPA EA # OR-104-02-09) was written in 2003 under the 1995 ROD/RMP, there is a need to evaluate the adequacy of the analysis in the EA in light of new information presented in 2008 Final Environmental Impact Statement for the Revision of the Resource Management Plans of the Western Oregon Bureau of Land Management – Salem, Eugene, Roseburg, Coos Bay, and Medford Districts, and the Klamath falls Resource Area of the Lakeview District, the Recovery Plan for the Northern Spotted Owl (May 2008), the listing of the Oregon Coast coho salmon (effective May 12, 2008, Federal Register/Vol. 73, No 28/ Monday, February 11, 2008), as well as changes to northern spotted owl habitat, aquatic conservation strategy, and the Special Status Species (6840 Policy) for plants and animals.

**LOCATION/LEGAL DESCRIPTION:** Sections 7 and 18 of T. 24 S., R. 7 W., W. M.

## **A. Description of the Proposed Action and any applicable mitigation measures**

The proposed action would implement a portion of Alternative 3 of the Upper Umpqua Management Plan EA by offering the Basin Arizona Density Management timber sale and would result in the density management of approximately 299 acres of mid-seral stands and is expected to yield approximately 5.1 million board feet of timber. The proposed action is summarized in Table 1 (below). A more detailed description of the proposed action is in the Upper Umpqua

Watershed Plan EA Alternative 3. The Basin Arizona Density Management project is derived from Alternative 3 found on pages 5 through 10 in the EA.

**Table 1. Basin Arizona Proposed Activity Summary.**

Activity		Total
<b>Density Management</b>	Late-Successional Reserve	299 acres
<b>Yarding</b>	Cable Yarding	163 acres
	Ground Based Yarding	136 acres
<b>Hauling</b>	Wet Season	27,403 feet
	Dry Season Haul only (Natural Surface roads)	14,890 feet
<b>Road Activities</b>	New, Temporary Construction	2,790 feet
	Decommissioning (i.e. waterbar, block, and mulch)	14,890 feet
	Renovation of Existing Roads	12,091 feet
	Clearing Associated with New Construction	2 acres
<b>Fuels Treatment</b>	Machine Pile and Burn at Landings	

**B. Land Use Plan (LUP) Conformance**

1995 Roseburg District Record of Decision and Resource Management Plan (1995 ROD/RMP); approved June 1995.

The proposed action is in conformance with the 1995 ROD/RMP, even though it is not specifically provided for, because it is clearly consistent with the following direction:

- Within Late-Successional Reserve, perform density management on forest stands to protect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for the northern spotted owl and other late-successional and old-growth related species. Silvicultural practices within reserves would be limited to those practices beneficial to the creation of late-successional forest conditions (1995 ROD/RMP, pg. 153).
- Select logging systems based on the suitability and economic efficiency of each system for the successful implementation of the silvicultural prescription, for the protection of soil and water quality, and for meeting other land use objectives (1995 ROD/RMP, pg. 61).
- Seek a balance between reducing the risk of wildfire and a fuel profile that supports land allocation objectives (1995 ROD/RMP, pg. 78).

These resource management decisions from the 1995 ROD/RMP remain unchanged.

**C. Identify applicable National Environmental Policy Act (NEPA) documents and other related documents that cover the proposed action.**

*1994 Final - Roseburg District Proposed Resources Management Plan / Environmental Impact Statement (1994 PRMP/EIS).*

*1995 Roseburg District Record of Decision and Resource Management Plan (1995 ROD/RMP); approved June 1995.*

*Upper Umpqua Watershed Plan Environmental Assessment; released June 17, 2003 (NEPA EA # OR -104-02-09).*

*Upper Umpqua Watershed Plan Decision Record; signed October 10, 2003.*

**D. NEPA Adequacy Criteria**

**1. Is the new proposed action a feature of, or essentially similar to, an alternative analyzed in the existing NEPA document(s)? Is the project within the same analysis area, or if the project location is different, are the geographic and resource conditions sufficiently similar to those analyzed in the existing NEPA document(s)? If there are differences, can you explain why they are not substantial?**

Yes. The proposed action is the implementation of the Basin Arizona Density Management as derived from Alternative 3, described in the Upper Umpqua Watershed Plan EA (pg. v). The Basin Arizona Density Management project is a site specific project within the same analysis area analyzed by the Upper Umpqua Watershed Plan EA and conditions remain similar to those analyzed in the EA.

The Basin Arizona Density Management project plans the density management of 297 acres of mid-seral forest and proposes 2,790 feet of new temporary road and spur construction. There would be approximately two acres cleared for the development of these roads and/or rights-of-way to access the harvest units for a total of 299 acres. All natural surface roads related to this project would be decommissioned after use.

**2. Is the range of alternatives analyzed in the existing NEPA document(s) appropriate with respect to the new proposed action, given current environmental concerns, interests, and resource values?**

Yes. The range of alternatives, consisting of the No Action, Alternative 2, and Alternative 3, analyzed in the Upper Umpqua Watershed Plan EA were appropriate given resource commitments and decisions made by the 1995 ROD/RMP.

No new environmental concerns, interests or resource values were identified which would indicate the need to re-analyze the project and consider additional alternatives.

**3. Is the existing analysis valid in light of any new information or circumstances (such as, rangeland health standard assessment, recent endangered species listings, updated lists of BLM-sensitive species)? Can you reasonably conclude that new information and new circumstances would not substantially change the analysis of the new proposed action?**

Yes. The “new information” or “new circumstance” triggering this DNA exercise is the release of the information presented in the:

- 2008 Final Environmental Impact Statement for the Revision of the Resource Management Plans of the Western Oregon Bureau of Land Management – Salem, Eugene, Roseburg, Coos Bay, and Medford Districts, and the Klamath falls Resource Area of the Lakeview District (2008 FEIS),
- Recovery Plan for the Northern Spotted Owl (May 2008),
- Listing of the Oregon Coast coho salmon (effective May 12, 2008, Federal Register/Vol. 73, No 28/ Monday, February 11, 2008),

as well as changes to

- northern spotted owl critical habitat,
- Aquatic Conservation Strategy, and the
- Special Status Species (6840) policy for plants and animals.

The Upper Umpqua Watershed Plan EA was originally issued on June 17, 2003 under the 1995 ROD/RMP approved June 1995. The Records of Decision for the Western Oregon Plan Revision (2008 ROD/RMP) was released December 30, 2008 and was the controlling resource management plan until it was withdrawn on July 16, 2009. With the withdrawal of the, the BLM was directed to implement actions in conformance with the resource management plans for western Oregon that were in place prior to December 30, 2008. The 1995 ROD/RMP was reinstated and the Basin Arizona Decision Record would be issued under this management plan.

A proposed action can only be in “conformance” with the current, valid resource management plan in place at the time. A proposed action can also be in “compliance” with one or more other documents that provide guidance at the discretion of the Decision Maker.

In summary, comparing the basic information from the Upper Umpqua Watershed Plan EA with the new information through this DNA assures conformance with the 1995 ROD/RMP and compliance with the 2008 Final Environmental Impact Statement for the Revision of the Resource Management Plans of the Western Oregon Bureau of Land Management – Salem, Eugene, Roseburg, Coos Bay, and Medford Districts, and the Klamath falls Resource Area of the Lakeview District (2008 FEIS), the Recovery Plan for the Northern Spotted Owl (May 2008), the listing of the Oregon Coast coho salmon (effective May 12, 2008, Federal Register/Vol. 73, No 28/ Monday, February 11, 2008). In this instance, the effects of the proposed action or the nature of those effects on the ground would not change.

## Vegetation

There is no new information on tree or stand responses to density management in the 2008 FEIS which would alter the effects analysis or result in a different outcome relative to the Basin Arizona Density Management proposed actions. Individual tree growth responses and stand growth for a given stand type, thinning method and intensity should be similar for stands analyzed for the project in the Upper Umpqua Watershed Plan EA and for the 2008 FEIS. In both instances the same underlying stand development concepts and growth simulation model were used.

The analyses of forest growth of existing stands for both the proposed action Upper Umpqua Watershed Plan EA and the 2008 FEIS were done using the ORGANON forest growth and yield model. The analysis for Basin Arizona Density Management used the ORGANON growth and yield model version 8.2. Model output was used to describe current stand conditions and to predict post treatment conditions after the prescribed management was implemented. The 2008 FEIS analyses used a version of the ORGANON model incorporating the same basic equations (growth and response to treatment assumptions) as ORGANON 8.2, but which included additional features specific to FEIS analytical requirements. However, simulation results for the two variants of the model using the same tree list input and model feature settings would be nearly identical since the underlying assumptions on tree and stand growth are the same.

## Botany

### *Special Status Species:*

The analysis in the Upper Umpqua Watershed Plan EA was compared to the analysis contained in the 2008 FEIS. The 2008 FEIS did not offer new information about the botanical Special Status Species within the range of the document. Both the EA (pg. 35) and the 2008 FEIS (Chapter 4 - 609) rely on the BLM Special Status Species Policy (6840) for guidance. Surveys were completed in the spring and summer of 2006 and 2007. None of these species were identified in the proposed timber harvest units. Consequently, there is no information provided by the 2008 FEIS that would indicate any unexpected effects to any special status botanical species.

### *Noxious Weeds and Invasive Plants:*

The Upper Umpqua Watershed Plan EA (p. 35) and the 2008 FEIS (Chapter 4-627 to 637) both acknowledge the risk of weed infestation and/or spread associated with management activities that include road construction and timber harvest. The EA (p. B-6) and the 2008 FEIS (Chapter 4-642) both rely on management practices, such as equipment washing and revegetating with native plants, to mitigate risks associated with these activities. Weed infestations were primarily along roadsides and treated as part of the BLM Weed Management Program before the Basin Arizona Density Management project begins. The 2008 FEIS does not offer any new information or management practices beyond those already identified in the EA. Consequently, the existing analysis in the EA remains valid.

## Soils

The 2008 Final EIS (Chapter 4-837) presents no new information that would alter the conclusions for soil productivity, found in the 1995 ROD/RMP. The PDFs in the Basin Arizona proposal are designed to draw on those of the Upper Umpqua EA which are taken from 1995 ROD/RMP.

## Hydrology

The 2008 FEIS presents no new information that would alter the analysis since the Upper Umpqua Watershed Plan EA was written. It discusses the Rashin et al (2006) reference which was used as the basis for using 35 feet for a minimum buffer distance on all streams on page 765 of the FEIS. The 2008 FEIS also referenced the USDA USDI 2005b document: *Northwest Forest Plan Temperature TMDL Implementation Strategies Evaluation of the Northwest Forest Plan Aquatic Conservation Strategy and Associated Tools to achieve and maintain stream temperature water quality standards* to present the discussion for the minimum 60 foot buffer for perennial streams to maintain effective shade (FEIS, pgs. 336-339). This new information does not invalidate the analysis done in the Upper Umpqua EA. A draft version of the USDA USDI 2005b document was used, but not cited in the Upper Umpqua EA, to help develop some of the logic behind stream buffers used in the Basin Arizona Density Management project. The content and conclusions of the draft document was the same as that presented in the version referenced in the 2008 FEIS.

Upper Umpqua Watershed Plan EA describes (EA, pg. B-4) how the variable width streamside no-harvest buffers would be determined. About 88 percent of the total stream length in the Basin Arizona Density Management project has buffers of 40 feet or greater. This accounts for all perennial streams (which have a 60 foot buffer), plus any intermittent streams that have the potential for summer flow or have a continuously defined channel through most of its entire length through the harvest units. For the remaining 12 percent of the stream length in the Basin Arizona Density Management project, a buffer of less than 35 feet was used. All of these streams have buffers of 20 feet which is most of the distance indicated by Rashin et al (2006) as being effective to intercept and filter sediment. The 2008 FEIS states how this situation was analyzed under Alternatives 2 and 3: “It is possible that timber harvest activities near intermittent streams could result in some fine sediment delivery to streams, but only where application of Best Management Practices (BMP) would not completely prevent sediment delivery.” It goes on to say, “Whether specific timber harvest activities... would result in fine sediment delivery and, if so, how much fine sediment, would depend on site-specific stream and riparian conditions and the specific design of timber harvest activities and BMPs, which cannot be analyzed more precisely at this scale of analysis” (2008 FEIS, pg. 765). In the Basin Arizona Density Management project, buffers of less than 35 feet were only applied site specifically to streams which had a certain set of characteristics (e.g., soils would be reviewed for the presence or absence of steep slopes, etc., hydrology would be reviewed for overland and groundwater flow conditions (perennial, seasonal, etc.), and vegetation would be reviewed for diversity and crown characteristics (ground cover, vegetative composition, etc.)). Page B-4 of the Upper Umpqua EA describes what site specific criteria would need to be met before buffers of less than 40 feet are used. It also lists (EA, pgs. B-4, B-5) all the BMPs which would be used to limit soil disturbance, which further reduces the potential for ground disturbance and sediment delivery.

The 2008 FEIS discusses peak flow on pages 754 through 755. The Basin Arizona Density Management project area would fall under the rain dominated hydroregion as analyzed under the FEIS. According to page 755, none of the sixth-field watersheds in the Upper Umpqua Watershed area are susceptible to increases in peak flow.

The existing analysis for Hydrology is still valid and the new information (or circumstances) would not substantially alter the conclusions made in the EA for this resource.

#### Aquatic Habitat and Fisheries

Large woody debris is a key component of aquatic habitat and fisheries resources. The Upper Umpqua Watershed Plan EA states that large woody debris recruitment into streams would increase over time due to the accelerated development of larger trees close to the stream channel (Upper Umpqua Watershed Plan EA, pgs. B-3, D-2, D-3). The 2008 FEIS uses a wood recruitment model to determine that the potential large wood contribution to fish-bearing and non-fish-bearing stream channels would increase over time from BLM-administered lands (2008 FEIS, pg. 781). Aquatic habitat and fisheries can also be affected by water quality or quantity. The conclusions made in the EA would also remain substantially the same for water quality and quantity (Upper Umpqua Watershed Plan EA, pg. B-3). The existing analysis for Aquatic Habitat and Fisheries resource is still valid and the new information would not substantially alter the conclusions made in the EA for this resource.

#### Wildlife

##### Northern Spotted Owl

The newest information available for analysis of effects for this project is found in the Final Recovery Plan for the Northern Spotted Owl (Recovery Plan) (May 2008), its supporting literature, and the Final Rule that *Revised Designation of Critical Habitat for the Northern Spotted Owl* (Fed. Reg.; Vol. 73, No. 157; Aug. 13, 2008; pgs. 47326-47374). New information found in the 2008 Final EIS is based in large part on the Recovery Plan and does not, in itself, provide additional new information which would alter the analysis for this project.

Protocol surveys for the spotted owl have been completed in the Basin Arizona project area since analysis was done for the Upper Umpqua Watershed Plan EA. There are no known spotted owl sites, activity centers, or unsurveyed suitable habitat within a disruption distance of 65 yards of unit boundaries. The closest known activity center (South McGee, MSNO. 22990) is located approximately 120 yards (110 meters) from the west boundary of Unit 2. If an activity center is located within 65 yards of a unit boundary, seasonal restrictions to minimize disruption of nesting birds, would apply from March 1<sup>st</sup> thru July 15<sup>th</sup>, both days inclusive, unless subsequent surveys have determined nesting attempt has failed. Waiver of the seasonal restriction is valid until March 1<sup>st</sup> of the following year.

The 2008 Critical Habitat rule is currently under review by the federal government and its status is the subject of an ongoing court proceeding. All Basin Arizona project units are located in designated Critical Habitat Unit OR-58 for the spotted owl under the 1992 Final Rule for *Determination of Critical Habitat for the Northern Spotted Owl* (Fed. Reg.; Vol. 57, No. 10; Jan. 15, 1992; pgs. 1796-1838). After re-designation of Critical Habitat under the 2008 Final Rule

that *Revised Designation of Critical Habitat for the Northern Spotted Owl*, all Basin Arizona project units fall within Critical Habitat Unit OR-08.

Under the 2008 Critical Habitat rule, treatment of 299 acres of dispersal-only habitat by the Basin Arizona project would modify habitat on approximately 0.1 percent of Critical Habitat Unit OR-08 (212,740 acres). Under the 1992 Critical Habitat rule, treatment of 299 acres of dispersal-only habitat would modify approximately 0.6 percent of Critical Habitat Unit OR-58 (51,466 acres).

#### Marbled Murrelet

Protocol surveys for the marbled murrelet have been completed in the Basin Arizona project area since analysis was done for the Upper Umpqua EA. Suitable habitat was surveyed within and adjacent to the proposed project area in 2007-2009 and no occupied murrelet sites were located. The closest known occupied marbled murrelet site, Rader Creek, is located 2.5 miles west of the proposed project area.

All Basin Arizona project units are located within designated Critical Habitat Unit OR-04-*e* for the marbled murrelet. The proposed project plans to modify recruitment habitat on approximately 0.6 percent of Critical Habitat unit OR-04-*e* (53,096 acres).

#### Special Status Species

The 1995 ROD / RMP and the Upper Umpqua Watershed Analysis EA rely on the implementation of the BLM Special Status Species Policy (6840) for management of special status wildlife species. On July 26, 2007, the Oregon/Washington BLM revised the special status species list and policy in IM-OR-2007-072. Updates to Oregon/Washington 6840 Policy include: the removal of the previous categories of Bureau Assessment and Bureau Tracking, the addition of the category of "Strategic Species", updates to the criteria for the creation of Bureau Sensitive species, and changes to the list of species that are included as Sensitive or Strategic. Bureau Sensitive species will continue to be managed in compliance with the BLM National Manual and OR/WA State Policy (BLM 6840). Sensitive species policy from BLM 6840 does not apply to Bureau Strategic species (IM-OR-2007-072). If Strategic Species sites are located, occurrence data would be collected and recorded in a corporate database.

Analysis of the effects to Sensitive and Strategic species suspected to be in the Basin Arizona project area is included in Table 1.

**Table 1. Bureau Sensitive & Strategic Wildlife Species.**

Species	General Habitat Requirements	Present in Project Area?	Impacts to Species
<b>BUREAU SENSITIVE</b>			
American Peregrine Falcon <i>Falco peregrinus anatum</i>	Cliffs, rock outcrops; open habitats for hunting birds	No Nesting Habitat	No effects to foraging habitat.
Bald Eagle <i>Haleaetus leucocephalus</i>	Late successional forests with multi-canopies, generally within two miles of a major water source; 1.8 miles to nearest known site.	Documented	No disruption effects to nesting bald eagles would occur and suitable nesting habitat would not be modified.
Fisher <i>Martes pennanti</i>	Natal and foraging habitat consists of structurally complex forests; mature open forests with large live trees, snags, and down wood; nearest sighting is more than 13 miles southwest of the proposed units, observed in 2000 (ORNHIC, 2009).	Documented	The action would not affect natal or foraging habitat in a measurable way.
Fringed Myotis <i>Myotis thysanodes</i>	Late-successional forest features (e.g. snags or trees with deeply furrowed bark, loose bark, cavities), caves, mines, bridges, rock crevices.	Suspected	Adjacent suitable habitat would not be modified or removed. Retained large snags would maintain suitable roosting habitat within unit boundaries. The action would not affect the foraging opportunities in a measurable way.
Green Sideband <i>Monadenia fidelis beryllica</i>	Coast Range, riparian forests at low elevations; deciduous trees & shrubs in wet, undisturbed forest.	Suspected	No measurable impact would occur since the post-treatment stand condition (i.e. maintaining hardwoods and down woody debris) appears to fall within the range of suitability for this species and its con-specific.
Northwestern Pond Turtle <i>Clemmys marmorata marmorata</i>	Ponds, low gradient rivers; upland over-wintering habitat, CWD.	Suspected	The action would not affect upland overwintering habitat in a measurable way.
Purple Martin <i>Progne subis</i>	Snags cavities in open habitats (e.g. grasslands, brushlands, open woodlands); foraging habitat in units.	Suspected	The action would not affect the forage opportunities or quality for purple martins in a measurable way.
Spotted Tail-dropper <i>Prophyaon vannattae pardalis</i>	Mature conifer forests in the Coast Range; associated with significant deciduous tree/shrub component.	Suspected	No measurable impact would occur since the post-treatment stand condition (i.e. maintaining hardwoods and down woody debris) appears to fall within the range of suitability for this species and its con-specific.
Townsend's Big-eared Bat <i>Corynorhinus townsendii</i>	Late-successional forest features (e.g. snags or trees with deeply furrowed bark, loose bark, cavities), caves, mines, buildings, bridges, tunnels.	Documented	The action would not affect the forage opportunities or quality for Townsend's big-eared bats in a measurable way. Large snags would be retained.
<b>BUREAU STRATEGIC</b>			
There are no detections of Strategic Species, including broadwhorl tightcoil, pristine springsnail, Klamath tail-dropper, Merlin, or giant earthworm within or near the project area (Oregon Natural Heritage Program database, 2008).			

**Fire and Fuels Management**

The existing analysis in the Upper Umpqua Watershed Plan EA remains valid in light of the new 2008 FEIS. The 2008 FEIS did not identify any new methodology for evaluating fuels conditions that differs from that used in the Upper Umpqua Watershed Plan EA, nor did it provide any new direction on how or when to treat activity fuels. The boundary and extent of the Wildland Urban Interface did not change in the 2008 FEIS. This boundary dictates the analytical approach used to determine additional treatment of activity fuels. The analytical approach used in the Upper Umpqua Watershed Plan EA is consistent with the approach used in the FEIS, which relied on the Wildland Urban Interface to define the need for treatment of activity fuels.

**4. Are the direct, indirect, and cumulative effects that would result from implementation of the new proposed action similar (both quantitatively and qualitatively) to those analyzed in the existing NEPA document?**

Yes. The action proposed is the implementation of the Basin Arizona Density Management project as generally described in the Upper Umpqua Watershed Plan EA as Alternative 3 (pgs. 3-10). The new information was compared to the original analysis and found to present no information which would alter the conclusions of the original analysis.

The Basin Arizona Density Management project proposed to density manage 297 acres of mid-seral forest, construct 2,790 feet of new road, and decommission the natural surface roads upon completion of the project. There would be approximately two acres cleared for the development of spur roads and/or rights-of-way to access the harvest units for a total of 299 acres within this action.

**5. Are the public involvement and interagency review associated with existing NEPA document(s) adequate for the current proposed action?**

Yes. The public was notified of the status of the EA through the Winter 2003, Fall 2003, Winter 2003, and the Winter 2009 (for Basin Arizona specifically) *Roseburg District Quarterly Planning Updates* and a period for informal scoping was provided. Written notice specific to the Basin Arizona project was provided on April 2008, 2008 to adjacent landowners, landowners along the haul route, holders of downstream water rights, and local tribal governments.

A 30-day period for public review and comment was provided upon completion of the EA (June 17, 2003 through August 15, 2003), consistent with OR/WA BLM policy/practice to provide the public a review opportunity prior to issuance of any decision(s). The comment period was extended an additional 45 days, due to the scope of the assessment. Notification was made to state and Federal resource management and regulatory agencies. Local tribal and county government, trade groups, and other interested parties were also notified.

**E. Persons/Agencies /BLM Staff Consulted**

**Core Interdisciplinary Team**

Project Lead	Cary Swain
Management Rep.	Al James
Botany/Noxious Weeds	Julie Knurowski
Engineering	Terrie King
Fisheries	Jeff McEnroe
Fuels Management	Krisann Kosel
Hydrology	Dan Dammann
Hydrology	Keith Karoglanian
Layout	Cary Swain
NEPA Writer/Editor	Jeffrey Wall
Silviculture	Trixy Moser
Soils	Dan Cressy
Timber Cruising	Jeremy Bochart
Wildlife	Elizabeth Gayner
Wildlife	Melanie Roan

**Expanded Team (Consulted)**

Cultural Resources	Isaac Barner
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**Conclusion**

Based on the review documented above, I conclude that this proposal conforms to the applicable land use plan and that the NEPA documentation fully covers the proposed action and constitute BLM’s compliance with the requirements of the NEPA.

\_\_\_\_\_  
Signature of Project Lead

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of NEPA Coordinator

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of the Responsible Official:

\_\_\_\_\_  
Date

# Appendix A. Road & Spur Summary

Roseburg District BLM – Swiftwater Resource Area

**Project Name:** Basin Arizona  
**Project Type:** Density Management  
**Location:** Sections 7 and 18 of T. 24 S., R. 7 W., W.M

**Prepared By:** Terrie King  
**Date:** July 29, 2008

**ISSUE IDENTIFICATION:**

**Table A-1.** Road & Spur Summary Table<sup>1</sup>

Road/Spur #	Length (miles)	Road (miles)			Surface	Decommissioning (miles)	Season of Haul (unless rocked by purchaser)
		New Construction	Renovation	Improvement			
24-7-07.0A	0.46	0	0.46	-	Natural Surface	0.46	Dry
24-7-07.2A	0.40	0	0.40	-	Natural Surface	0.40	Dry
24-7-07.2B	0.07	0	0.07	-	Natural Surface	0.07	Dry
24-7-07.3A	0.40	0	0.40	-	Natural Surface	0.40	Dry
24-7-07.4A	0.30	0	0.30	-	Natural Surface	0.30	Dry
24-7-18.4A	0.25	0	0.25	-	Natural Surface	0.25	Dry
24-8-12.1A	0.01	0	0.01	-	Natural Surface	0.01	Dry
24-8-12.2A	0.10	0.10	0	-	Natural surface	0.10	Dry
Spur # 1	0.18	0.18	0	-	Natural Surface	0.18	Dry
Spur #2	0.09	0.01	0.08	-	Natural Surface	0.09	Dry
Spur #3	0.07	0.07	0	-	Natural Surface	0.07	Dry
Spur #4	0.05	0.05	0	-	Natural Surface	0.05	Dry
Spur #5	0.05	0.05	0	-	Natural Surface	0.05	Dry
Spur #6	0.07	0.07	0	-	Natural Surface	0.07	Dry
Spur #7	0.32	0	0.32	-	Natural Surface	0.32	Dry
<b>TOTAL</b>	<b>2.82</b>	<b>0.53</b>	<b>2.29</b>	<b>-</b>		<b>2.82</b>	

<sup>1</sup>Approximately 27,403 feet of existing roads would be maintained for Basin Arizona Density Management in addition to the roads and spurs described in the table.

Upon completion of timber hauling activities, roads and spurs above shall be decommissioned by, installing water bars, sub-soiling, seeding, fertilizing and mulching or scatter logging debris over roadway and blocking with a trench barrier. The Authorized Officer would direct these operations.

Note – Additionally, sub-soiling will occur on the natural-surfaced portion of the 24-7-7.0 segment B road (natural surface portion) for 0.20 mile; the new extension of the 24-8-12.2 road on BLM surface for 0.04 mile; old, unnumbered roads for 0.34 mile; and on spurs 1 thru 6 for 0.51 miles.

## Appendix B. Botany & Noxious Weed Summary

Roseburg District BLM – Swiftwater Resource Area

**Project Name:** Basin Arizona  
**Project Type:** Density Management  
**Location:** Sections 7 and 18 of T. 24 S., R. 7 W., W.M

**Prepared By:** Julie Knurowski  
**Date:** August 20, 2007

The following two tables include species which are documented or suspected to occur within the Roseburg District BLM. A Determination of NEPA Adequacy (DNA) exercise was performed to assess the adequacy of the Upper Umpqua Watershed Plan EA in light of the new information comparing current species lists with those from August 20, 2007 and it was determined that the species in Table B-1 are in agreement with the current species list. These species lists are derived from the USDI Bureau of Land Management Oregon State Office (IM-OR-2007-072). Sensitive Species (i.e. Federally Threatened and Endangered, State Threatened and Endangered, and Bureau Sensitive botanic species) suspected or documented to occur within the project area are detailed in **Table B-1** and may be further discussed if necessary. Strategic Species are identified in **Table B-2**. Noxious weeds are identified in **Table B-3**.

A species list is available in the Unit Descriptions and Survey Summary that was completed under contract with Wildwood Environmental Consultants, dated July 2007.

BLM districts are responsible to assess and review the effects of a proposed action on Federally Threatened or Endangered species, State Threatened or Endangered species, or Bureau Sensitive species. To comply with Bureau policy, Districts may use one or more of the following techniques:

- a. Evaluation of species-habitat associations and presence of potential habitat.
- b. Application of conservation strategies, plans, and other formalized conservation mechanisms.
- c. Review of existing survey records, inventories, and spatial data.
- d. Utilization of professional research and literature and other technology transfer methods.
- e. Use of expertise, both internal and external, that is based on documented, substantiated professional rationale.
- f. Complete pre-project survey, monitoring, and inventory for species that are based on technically sound and logistically feasible methods while considering staffing and funding constraints.

When Districts determine that additional conservation measures are necessary, options for conservation include, but are not limited to: modifying a project (e.g. timing, placement, and intensity), using buffers to protect sites, or implementing habitat restoration activities (IM-OR-2003-054, IM-OR-2007-072).

**Table B-1: USDI BLM – Oregon State Office State Director’s Sensitive Species List**

Species	Within species range?	Habitat Present?	Species Present?	Reason for concern or no concern	Surveys Completed	Mitigation Measures
<b>Threatened &amp; Endangered Species</b>						
<i>Lupinus sulphureus</i> ssp. <i>kincaidii</i> Kincaid's lupine (T)	Yes	Yes	No	Surveys performed, not detected.	Aug 2007	N/A
<i>Plagiobothrys hirtus</i> Rough popcorn flower (E)	Yes	No	No	No habitat present.	N/A	N/A
<b>Sensitive Species</b>						
<i>Chiloscyphus gemmiparus</i> Liverwort	Yes	No	No	No habitat present.	N/A	N/A
<i>Diplophyllum plicatum</i> Liverwort	Yes	No	No	No habitat present	N/A	N/A
<i>Entosthodon fascicularis</i> Moss	Yes	No	No	No habitat present	N/A	N/A
<i>Gymnomitrium concinnatum</i> Liverwort	Yes	No	No	No habitat present.	N/A	N/A
<i>Helodium blandowii</i>	Yes	No	No	No habitat present	N/A	N/A

Species	Within species range?	Habitat Present?	Species Present?	Reason for concern or no concern	Surveys Completed	Mitigation Measures
Moss						
<i>Meesia uliginosa</i> Moss	Yes	No	No	No habitat present	N/A	N/A
<i>Schistostega pennata</i> Moss	Yes	No	No	No habitat present	N/A	N/A
<i>Tayloria serrata</i> Moss	Yes	Yes	No	Surveys performed, not detected	Aug 2007	N/A
<i>Tetraphis geniculata</i> Moss	Yes	No	No	No habitat present	N/A	N/A
<i>Tetraplodon mnioides</i> Moss	Yes	Yes	No	Surveys performed, not detected	Aug 2007	N/A
<i>Tomentypnum nitens</i> Moss	Yes	No	No	No habitat present	N/A	N/A
<i>Tortula mucronifolia</i> Moss	Yes	No	No	No habitat present	N/A	N/A
<i>Trematodon boasii</i> Moss	Yes	No	No	No habitat present.	N/A	N/A
<i>Bridgeporus nobilissimus</i> Giant polypore fungus	No	No	N/A	No habitat present.	N/A	N/A
<i>Cudonia monticola</i> Fungi	Yes	No	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Dermocybe humboldtensis</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Gomphus kauffmanii</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Helvella crassitunicata</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Leucogaster citrinus</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Otidea smithii</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Phaeocollybia californica</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Phaeocollybia dissiliens</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Phaeocollybia gregaria</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Phaeocollybia olivacea</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Phaeocollybia oregonensis</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Phaeocollybia pseudofestiva</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Phaeocollybia scatesiae</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Phaeocollybia sipei</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Phaeocollybia spacidea</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Pseudorhizina californica</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Ramaria amyloidea</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Ramaria gelatiniaurantia</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Ramaria largentii</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A

Species	Within species range?	Habitat Present?	Species Present?	Reason for concern or no concern	Surveys Completed	Mitigation Measures
<i>Ramaria spinulosa</i> var. <i>diminutiva</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Rhizopogon chamalelotinus</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Rhizopogon exiguus</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Sowerbyella rhenana</i> Fungus	Yes	Yes	N/A	Surveys Not Practical. <sup>1</sup>	N/A	N/A
<i>Adiantum jordanii</i> California maiden-hair	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Arabis koehleri</i> var. <i>koehleri</i> Koehler's rockcress	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Arctostaphylos hispidula</i> Hairy manzanita	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Asplenium septentrionale</i> Grass-fern	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Bensoniella oregana</i> Bensonia	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Botrychium minganense</i> Gray moonwort	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Calochortus coxii</i> Crinite mariposa-lily	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Calochortus umpquaensis</i> Umpqua mariposa-lily	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Camassia howellii</i> Howell's camas	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Carex brevicaulis</i> Short stemmed sedge	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Carex comosa</i> Bristly sedge	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Carex gynodynamis</i> Hairy sedge	Yes	Yes	No	Surveys performed, not detected.	Aug 2007	N/A
<i>Carex serratodens</i> Saw-tooth sedge	Yes	No	No	No habitat present.	N/A	N/A
<i>Cimicifuga elata</i> Tall bugbane	Yes	Yes	No	Surveys performed, not detected.	Aug 2007	N/A
<i>Cypripedium fasciculatum</i> Clustered lady slipper	Yes	Yes	No	Surveys performed, not detected.	Aug 2007	N/A
<i>Delphinium nudicaule</i> Red larkspur	Yes	Yes	No	Surveys performed, not detected.	Aug 2007	N/A
<i>Epilobium oreganum</i> Oregon willow-herb	Yes	Yes	No	Surveys performed, not detected.	Aug 2007	N/A
<i>Eschscholzia caespitosa</i> Gold poppy	Yes	No	No	No habitat present.	N/A	N/A
<i>Eucephalus vialis</i> Wayside aster	Yes	Yes	No	Surveys performed, not detected.	Aug 2007	N/A
<i>Horkelia congesta</i> ssp. <i>congesta</i> Shaggy horkelia	Yes	Yes	No	Surveys performed, not detected.	Aug 2007	N/A
<i>Horkelia tridentata</i> ssp. <i>tridentata</i> Three-toothed horkelia	Yes	Yes	No	Surveys performed, not detected.	Aug 2007	N/A
<i>Iliamna latibracteata</i> California globe-mallow	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Kalmiopsis fragrans</i> Fragrant kalmiopsis	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Lathyrus holochlorus</i> Thin-leaved peavine	Yes	No	N/A	No habitat present.	N/A	N/A

Species	Within species range?	Habitat Present?	Species Present?	Reason for concern or no concern	Surveys Completed	Mitigation Measures
<i>Lewisia leana</i> Lee's lewisia	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Limnanthes gracilis</i> var. <i>gracilis</i> Slender meadow-foam	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Lotus stipularis</i> Stipuled trefoil	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Meconella oregana</i> White fairpoppy	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Pellaea andromedifolia</i> Coffee fern	Yes	No	No	No habitat present.	N/A	N/A
<i>Perideridia erythrorhiza</i> Red-rooted yampah	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Polystichum californicum</i> California sword-fern	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Romanzoffia thompsonii</i> Thompson's mistmaiden	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Schoenoplectus subterminalis</i> Water clubrush	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Scirpus pendulus</i> Drooping rush	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Sisyrinchium hitchcockii</i> Hitchcock's blue-eyed grass	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Utricularia gibba</i> Humped bladderwort	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Utricularia minor</i> Lesser bladderwort	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Wolffia borealis</i> Dotted water-meal	Yes	No	N/A	No habitat present.	N/A	N/A
<i>Wolffia columbiana</i> Columbia water-meal	Yes	No	N/A	No habitat present.	N/A	N/A

<sup>1</sup> Surveys are considered not practical for these species (Category B) or their status is undetermined (Category E or F) based on the 2003 Annual Species Review (IM-OR-2004-034).

Surveys were conducted for species on the Oregon State Office State Director’s Strategic Species List. To enable an early warning for species which may become Threatened or Endangered in the future, Districts are encouraged to collect occurrence data on species for which more information is needed to determine status within the state. Until the status of such species changes, Oregon State Office State Director’s Strategic Species List species will not be considered as Special Status Species for management purposes (IM-OR-2003-054, IM-OR-2007-072)

**Table B-2. USDI BLM – Oregon State Office State Director’s Strategic Species List**

Scientific Name	Roseburg Occurrence?	Occurrence in the Project Area?
<b>Bryophytes</b>		
<i>Cephaloziella spinigera</i>	Suspected	None Observed
<i>Grimmia anomala</i>	Suspected	None Observed
<i>Scouleria marginata</i>	Suspected	None Observed
<b>Fungi</b>		
<i>Cazia flexiascus</i>	Suspected	None Observed
<i>Choiromyces alveolatus</i>	Suspected	None Observed
<i>Clavariadelphus subfastigiatus</i>	Documented	None Observed
<i>Gymnomyces monosporus</i>	Documented	None Observed
<i>Helvella elastica</i>	Documented	None Observed
<i>Hygrophorus albicarneus</i>	Suspected	None Observed
<i>Mycena quinaultensis</i>	Suspected	None Observed
<i>Nolanea verna</i> var. <i>isodiametrica</i>	Suspected	None Observed
<i>Plectania milleri</i>	Suspected	None Observed
<i>Psathyrella quercicola</i>	Suspected	None Observed
<i>Ramaria abietina</i>	Documented	None Observed
<i>Ramaria rubribrunnescens</i>	Suspected	None Observed
<i>Ramaria suecica</i>	Documented	None Observed
<i>Ramaria thiersii</i>	Suspected	None Observed
<i>Rhizopogon brunneiniger</i>	Suspected	None Observed
<i>Rhizopogon clavitisporus</i>	Suspected	None Observed
<i>Rhizopogon flavofibrillosus</i>	Documented	None Observed
<i>Rhizopogon variabilisporus</i>	Suspected	None Observed
<i>Sarcodon fuscoindicus</i>	Documented	None Observed
<b>Lichens</b>		
<i>Buellia oidalea</i>	Suspected	None Observed
<i>Lecanora pringlei</i>	Suspected	None Observed
<i>Lecidea dolodes</i>	Suspected	None Observed
<i>Leptogium rivale</i>	Documented	None Observed
<i>Leptogium teretiusculum</i>	Documented	None Observed
<i>Peltula euploca</i>	Suspected	None Observed
<i>Vezeadaea stipitata</i>	Documented	None Observed
<b>Vascular Plants</b>		
<i>Camissonia ovata</i>	Suspected	None Observed
<i>Frasera umpquaensis</i>	Suspected	None Observed

Infestations of noxious weeds would be treated following guidelines in the Roseburg District Integrated Weed Control Plan Environmental Assessment EA, March 1995.

**Table B-3. Noxious Weed Species**

Species	Present in Project Area	Infestation Information		
		Size of Infestation (acres)	Unit(s)	Road Segment(s)
Scotch Broom <i>Cytisus scoparius</i>	Yes	1.0	All	All
Himalayan blackberry <i>Rubus discolor</i>	Yes	1.1	All	All

# Appendix C. Soils

Roseburg District BLM – Swiftwater Field Office

**Project Name:** Basin Arizona  
**Project Type:** Density Management  
**Location:** Sections 7 and 18 of T. 24 S., R. 7 W., W.M

**Prepared By:** Daniel Cressy  
**Date:** July 25, 2007

## ISSUE IDENTIFICATION:

**Table C-1.** Timber Production Capability Classification (TPCC).

Unit EA Unit (Ex. A Unit)	FGR <sup>1</sup> (acres)	FPR <sup>2</sup> (acres)	FSR <sup>3</sup> (acres)	FGNW <sup>4</sup> (acres)	FPNW <sup>5</sup> (acres)	Category 1 <sup>6</sup> (acres)
<b>1</b>	1	0	NA	0	0	NA
<b>2</b>	0	0	NA	0	0	NA
<b>3</b>	3	1	NA	0	0	NA
<b>4</b>	7	1	NA	0	0	NA
<b>5</b>	5	2	NA	0	0	NA
<b>6</b>	2	0	NA	0	0	NA
<b>Total</b>	<b>18</b>	<b>4</b>	<b>NA</b>	<b>0</b>	<b>0</b>	<b>NA</b>

<sup>1</sup> FGR = soils considered fragile due to slope gradient but suitable for forest management with mitigation for surface erosion and landslides.

<sup>2</sup> FPR = soils on moderate slopes that have slump-earth flow topography and are suitable for forest management with mitigation for slump-earth flow movements.

<sup>3</sup> FSR = fragile soils due to moisture deficiencies caused by shallow, rocky soils on but are suitable for timber production with mitigation.

<sup>4</sup> FGNW = soils considered fragile due to slope gradient and unsuitable for forest management even with mitigation for surface erosion and landslides; withdrawn from units.

<sup>5</sup> FPNW = soils on moderate slopes that have slump-earth flow topography and are not suitable for forest management because of active movement; withdrawn from units.

<sup>6</sup> **Category 1** = soils that are highly sensitive to broadcast burning due to shallow soil depths, that have A horizons less than 4 inches in depth and/or that are on slopes over 70 percent.

**Table C-2.** Mass Wasting & Landslides in the Action Area. The action area considered is in the Upper Umpqua Fifth-Field Watershed and covers approximately 1,690 acres. An analysis of mass wasting events for both the BLM and private lands in the vicinity of the proposed activities was done using aerial photo interpretation covering 1955 to 2004 and field reconnaissance.

Timeframe	# Debris Torrents	# Landslides			
	Large (>0.5 acre)	Small (< 0.1 acre)	Medium (0.1-0.5 acre)	Large (> 0.5 acre)	All
<b>In-Unit (1960-2004) <sup>1</sup></b>	<b>0</b>	<b>8 (100%)</b>	<b>0</b>	<b>0</b>	<b>8 (0.4 acres)</b>
<i>Probability of occurrence expected within units:</i>					
<b>No Action Alternative</b>	<b>none-very low</b>	<b>low</b>	<b>low</b>	<b>low</b>	<b>low</b>
<b>Action Alternative (Harvest)</b>	<b>none-low</b>	<b>low-mod</b>	<b>low</b>	<b>low</b>	<b>low</b>
<b>Cumulative Effects</b>	<b>Unchanged<sup>2</sup></b>	<b>Unchanged<sup>2</sup></b>	<b>Unchanged<sup>2</sup></b>	<b>Unchanged<sup>2</sup></b>	<b>Unchanged<sup>2</sup></b>

<sup>1</sup> All of the identified landslides occurred shortly after clearcut harvest. Five were in Unit 4 and three were in Unit 5. Only one of the eight landslides impacted a stream (a first order stream in Unit 5).

<sup>2</sup> “Unchanged” indicates that the current conditions and current probabilities of mass wasting or landslide events are expected to be essentially the same at the 6<sup>th</sup> field watershed scale.

# Appendix D. Hydrology

Roseburg District BLM – Swiftwater Field Office

Project Name: Basin Arizona

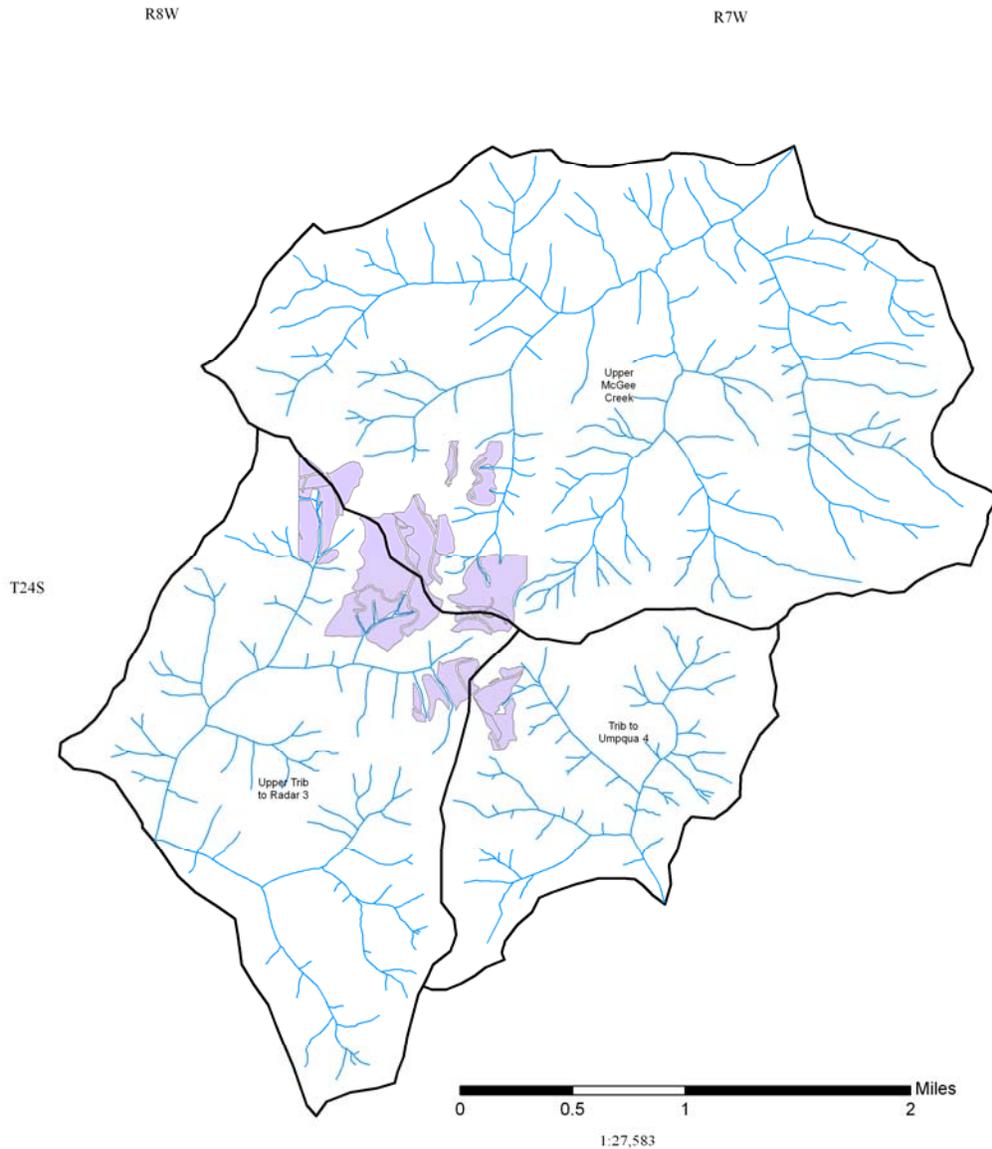
Project Type: Density Management

Location: Sections 7 and 18 of T. 24 S., R. 7 W., W.M

Prepared By: Brooke Shakespeare

Date: July 23, 2008

## Basin Arizona AHU Boundaries



### Legend

- ClippedStreams
- ActionAreaAHUs
- Units\_Harvest\_Area

United States Department of the Interior  
Bureau of Land Management  
Roseburg District  
777 NW Garden Valley Blvd  
Roseburg, Oregon 97470



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**ISSUE IDENTIFICATION:**

**Table D-1. Harvest Acreage Near Streams**

Unit	Non-Fish Streams	Fish Streams
	Harvest Acreage Within 1 Site tree	Harvest Acreage Within 2 site trees
1	5.5	0
2	0	0
3	14.7	0
4	20	0
5	11	0
6	13.9	0

**Table D-2. Changes in Peakflows based on Equivalent Clearcut Area (ECA) Model.** Detectable increases in water yield usually only occur when at least 20 percent of the forest cover within a watershed has been removed (Bosch and Hewlett 1982).

Drainage Name	Upper McGee Creek	Upper Trib to Rader 3	Trib to Umpqua 4
Size of Analytical Hydrologic Unit <sup>1</sup> (acres)	3484	1959	1000
ECA Existing Condition	18%	6%	20%
ECA No Action Alternative	18%	6%	20%
ECA Action Alternative	21%	12%	31%
Potential Peak Flow Increase? <sup>2</sup>	Yes	No	Yes
Estimated Bankfull Discharge <sup>3</sup> (cfs)	146	n/a	26
Area Upstream of Point of Nearest Coho Habitat (sq. miles)	3628	n/a	3628
Estimated Bankfull Discharge at nearest Coho habitat <sup>4</sup> (cfs)	82995	n/a	82995
Contribution of flow from AHU at PNC <sup>4</sup>	0.18%	n/a	0.03%
Detectable increases in peakflows?	None Predicted	None Predicted	None Predicted

<sup>1</sup> Total area contributing to a stream channel which receives at least some of its drainage from a proposed harvest unit and delineated to the point of nearest Coho salmon habitat.

<sup>2</sup> Potential for Peak Flow Increase occurs only in those drainages which have an ECA of 20 percent or greater.

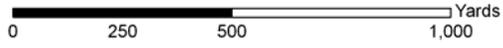
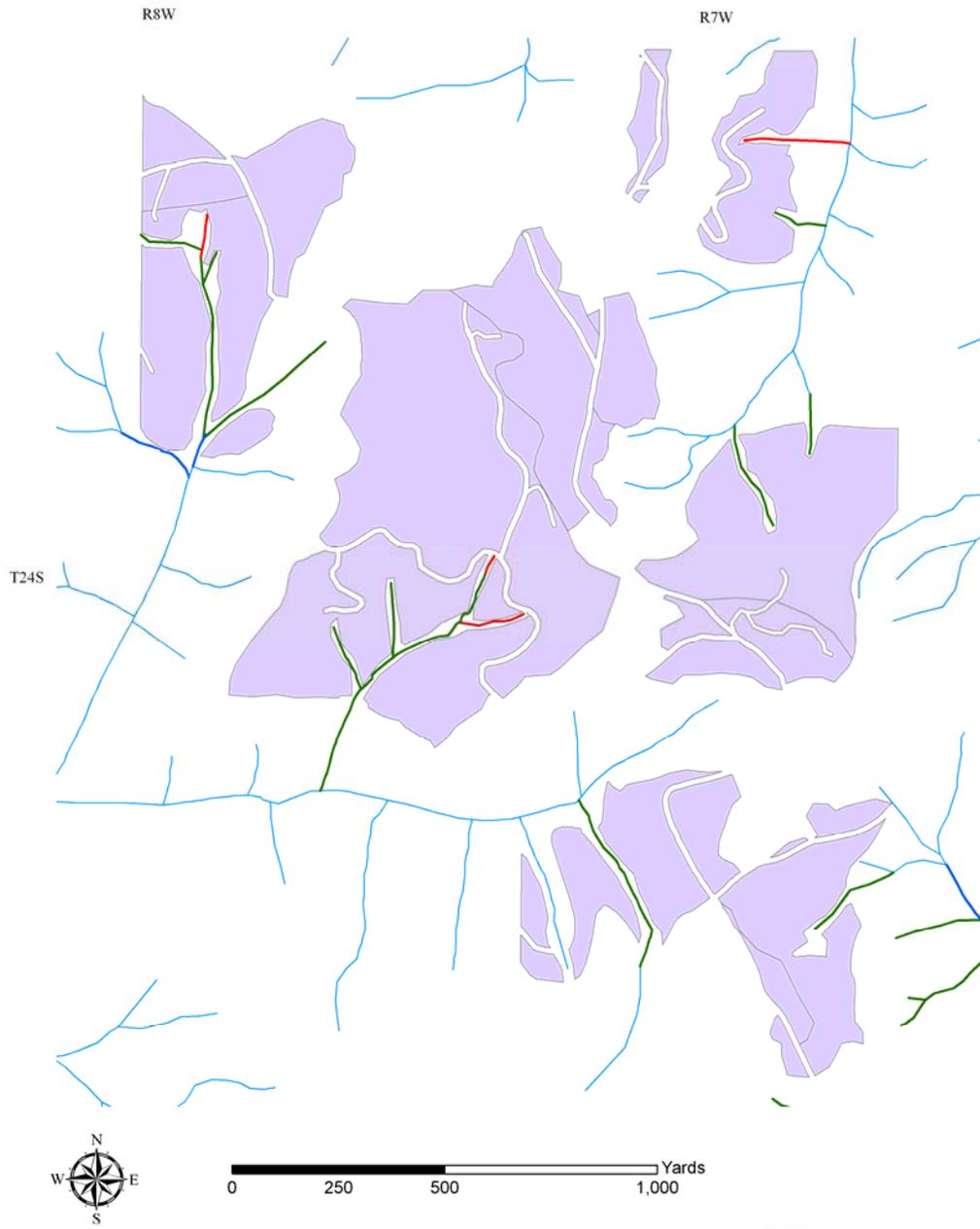
<sup>3</sup> Estimated bankfull in cubic feet per second draining the analytical hydrologic unit based on regional curves of the South Umpqua Area (Kuck 2000)

<sup>4</sup> Estimated bankfull in cubic feet second draining the total area upstream of nearest Coho habitat based on regional curves of the South Umpqua Area (Kuck 2000).

<sup>5</sup> Percent of flow at the point of nearest Coho habitat which is contributed by the analytical hydrologic unit. Based on GIS data.

Those AHUs which had an ECA value of 20 percent or more and contributed more than 5 percent of the flow at the point of nearest coho, were considered to have the potential for increases in peak flow. None of the streams met both these criteria.

# Appendix E. Map of Stream Buffers



1:8,149

- Legend**
- Streams
  - Buffer
    - 20
    - 40
    - 60
  - Harvest Units



United States Department of the Interior  
Bureau of Land Management  
Roseburg District  
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Roseburg, Oregon 97470

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## Appendix F. Fisheries Summary

Roseburg District BLM – Swiftwater Field Office

**Project Name:** Basin Arizona

**Project Type:** Density Management

**Location:** Sections 7 and 18 of T. 24 S., R. 7 W., W.M

**Prepared By:** Jeffrey McEnroe

**Date:** July 25, 2008

### ISSUE IDENTIFICATION:

**Table F-1. Special Status Fish Species within the Project Area.** The project area for fisheries analysis includes the harvest units and associated haul routes where an effect to fisheries may occur.

Species	Present in Project Area?	Source of Detection
<b>FEDERAL THREATENED</b>		
Oregon Coast Coho Salmon (North of Cape Blanco) <i>Oncorhynchus kisutch</i>	Documented	Streamnet 2005 Personal Obs. (McEnroe)
<b>BUREAU SENSITIVE</b>		
Umpqua Oregon Chub <sup>1</sup> <i>Oregonichthys kalawatseti</i>	Suspected <sup>3</sup>	-
Chum Salmon <sup>2</sup> <i>Oncorhynchus keta</i>	Documented	Streamnet 2005
Oregon Coast Steelhead <i>Oncorhynchus mykiss</i>	Documented	Streamnet 2005 Personal Obs. (McEnroe)

<sup>1</sup> Umpqua Chub is documented in the watershed but have not been documented in the Project Area

<sup>2</sup> Chum Salmon are occasionally documented crossing over Winchester Dam in small numbers. These fish are thought to be strays and not part of an independent population.

## Appendix G. Wildlife Summary

Project Name: Basin Arizona  
 Project Type: Density Management  
 Location: Sections 7 and 18 of T. 24 S., R. 7 W., W.M

Prepared By: Elizabeth Gayner  
 Date: November 09, 2009  
 SSSP List Date: July 26, 2007  
 (IM-OR-2007-072)

Table G-1

Critical Habitat				Management Concerns				
Species	Present (Y/N)	Concern (Y/N)	Critical Habitat Unit(s) (CHU #)	Habitat Removal or Modification or Both?		Critical Habitat Affected by Project (acres)		
Marbled Murrelet	Yes	Yes	OR-04-e	Modification of Recruitment Habitat		299		
Spotted Owl	Yes	Yes	OR-08	Modification (degradation) of Dispersal-only Habitat		299		
Species	Within Species Range?	Habitat Present?	Species Present? <sup>2</sup>	Wildlife Concern <sup>1</sup> ?	Reason for concern or no concern <sup>1</sup>	Mitigation Measures		
						Seasonal Restriction Required?	Daily Operating Restriction Required?	Buffers Required?
<b>Threatened &amp; Endangered Species</b>								
Canada Lynx	No	No	No	No	Out of species range	No	No	No
Fender's Blue Butterfly	No	No	No	No	No suitable habitat	No	No	No
Marbled Murrelet	Yes	Yes	Documented (presence only)	Yes	Suitable habitat adjacent to units/residual habitat within units	No	No	Residual Habitat Guidelines
Northern Spotted Owl	Yes	Yes	Documented	Yes	Degradation of dispersal-only habitat	No	No	No
<b>Bureau Sensitive Species</b>								
American Peregrine Falcon	Yes	No	Suspected	No	No cliffs/ rock outcrops within units	No	No	No
Bald Eagle	Yes	Yes	Documented	Yes	No Known nest sites within 1.0 mile	No	No	No
Fisher	Yes	Yes	Suspected	No	No removal of natal or foraging habitats	No	No	No
Fringed Myotis	Yes	Yes	Suspected <sup>3</sup>	Yes	No measurable impact to foraging habitat	No	No	Snag PDCs
Purple Martin	Yes	No	Suspected <sup>3</sup>	No	No measurable impact to foraging habitat	No	No	No
Townsend's Big-eared Bat	Yes	Yes	Suspected <sup>3</sup>	No	No measurable impact to foraging habitat	No	No	No
<b>Bureau Strategic Species</b>								
Broadwhorl Tightcoil	Unknown	Yes	Suspected	No	No measurable impact to habitat	No	No	No
Merlin	Yes	Yes	Suspected	No	No measurable impact to foraging or nesting habitat	No	No	No

<sup>1</sup> Wildlife concerns and rationale are discussed more fully in Basin Arizona Decision Record.

<sup>2</sup> Suspected = species has not been documented, however based on literature review, species is expected to occur.

<sup>3</sup> Species would be expected to forage in the area if suitable habitat is present within one mile of the project area.

## Appendix H. Bureau Sensitive and Strategic Species

Roseburg District BLM – Swiftwater Resource Area

**Project Name:** Basin Arizona  
**Project Type:** Density Management  
**Location:** Sections 7 and 18 of T. 24 S., R. 7 W., W.M

**Prepared By:** Elizabeth Gayner  
**Date:** November 5, 2009  
**SSSP List Date:** July 26, 2007  
*(IM-OR-2007-072)*

The following tables include those species which are documented or suspected to occur within the Roseburg District BLM. Those Bureau Sensitive or Bureau Strategic species which are suspected or documented to occur within the project area are detailed below.

**Bureau Sensitive Species.** BLM districts are responsible to assess and review the effects of a proposed action on *Bureau Sensitive* species. To comply with Bureau policy, Districts may use one or more of the following techniques:

- a. Evaluation of species-habitat associations and presence of potential habitat.
- b. Application of conservation strategies, plans, and other formalized conservation mechanisms.
- c. Review of existing survey records, inventories, and spatial data.
- d. Utilization of professional research and literature and other technology transfer methods.
- e. Use of expertise, both internal and external, that is based on documented, substantiated professional rationale.
- f. Complete pre-project survey, monitoring, and inventory for species that are based on technically sound and logistically feasible methods while considering staffing and funding constraints.

When Districts determine that additional conservation measures are necessary, options for conservation include, but are not limited to: modifying a project (e.g. timing, placement, and intensity), using buffers to protect sites, or implementing habitat restoration activities (IM-OR-2003-054).

**Strategic Species.** If sites are located, collect occurrence data and record in corporate database.

**Table H-1. Bureau Sensitive & Strategic Wildlife Species.**

Species	General Habitat Requirements	Present in Project Area?	Impacts to Species	
			No Action	Proposed Action
<b>BUREAU SENSITIVE</b>				
American Peregrine Falcon <i>Falco peregrinus anatum</i>	Cliffs, rock outcrops; open habitats for hunting birds. Foraging activities are expected to occur within the project area. Closest known eyrie is located 4.4 miles northeast of project area. Peregrines have been observed within 1.2 mile of the project area (pers. obs., E. Gayner).	Suspected	No Effects	No effects to foraging habitat.
Bald Eagle <i>Haliaeetus leucocephalus</i>	Late successional forests with multi-canopies, generally within two miles of a major water source; 0.6 miles to nearest known site; 0.9 miles from the Umpqua River.	Documented	No Effect	No effects to suitable nesting or foraging habitat.
Chace Sideband <i>Monadenia chaceana</i>	Rocky, talus habitats in the Klamath Province and southwards.	Out of Range	No Effects	
Columbian White Tailed Deer <i>Odocoileus virginianus leucurus</i>	Bottomlands, oak/hardwood forests; cover for fawning.	Out of Range	No Effects	
Crater Lake Tightcoil <i>Pristiloma arcticum crateris</i>	Perennially wet areas in late seral forests above 2000ft elevation and east of Interstate-5; seeps, springs, riparian areas.	Out of Range	No Effects	
Fisher <i>Martes pennanti</i>	Natal and foraging habitat consists of structurally complex forests; mature open	Suspected	No Effect	No effects to suitable natal and foraging habitat.

Species	General Habitat Requirements	Present in Project Area?	Impacts to Species	
			No Action	Proposed Action
	forests with large live trees, snags, and down wood; nearest sighting in 2000 within 13.2 miles southwest of proposed units (ORNHC, 2009).			
Foothill Yellow-legged Frog <i>Rana boylei</i>	Low gradient streams/ponds; gravel/cobble, bedrock pools. Main tributary (McGee Creek) off the Umpqua River reaches the north portion of the project area. Closest known recorded observation is 9.5 miles north of the project area.	Suspected	No Effect	PDFs (e.g. stream buffers) for riparian habitat would protect micro climate conditions within streams.
Fringed Myotis <i>Myotis thysanodes</i>	Late-successional forest features (e.g. snags or trees with deeply furrowed bark, loose bark, cavities), caves, mines, bridges, rock crevices. Documented 0.5 miles northwest of proposed project area.	Suspected	No Effect	Snags retained in Riparian Reserve and Late-Successional Reserve.
Green Sideband <i>Monadenia fidelis beryllica</i>	Coast Range, riparian forests at low elevations; deciduous trees & shrubs in wet, undisturbed forest.	Suspected	No Effect	PDFs (e.g. stream buffers) for riparian habitat would protect micro climate conditions (i.e. deciduous habitat).
Harlequin Duck <i>Histrionicus histrionicus</i>	Mountain streams in forested areas on west slope of the Cascade Mountains.	Out of Range	No Effects	
Lewis' Woodpecker <i>Melanerpes lewis</i>	Open woodland habitat near water; open woodland canopy and large diameter dead/dying trees, snag cavities.	No Habitat	No Effects	
Northwestern Pond Turtle <i>Clemmys marmorata marmorata</i>	Ponds, low gradient rivers; upland overwintering habitat, CWD. Major tributary (McGee Creek) extends into the north portion of the project area from Umpqua River. Species documented along Umpqua River within 3.4 miles of project area.	Suspected	No Effects	The action will not affect upland overwintering habitat in a measurable way.
Oregon Shoulderband <i>Helminthoglypta hertleini</i>	Talus and rocky substrates, grasslands or other open areas with low-lying vegetation.	No Habitat	No Effects	
Oregon Vesper Sparrow <i>Poocetes gramineus affinis</i>	Open habitats such as grasslands, meadows, farmlands.	No Habitat	No Effects	
Pallid Bat <i>Antrozous pallidus</i>	Usually rocky outcroppings near open, dry open areas; occasionally near evergreen forests.	No Habitat	No Effects	
Purple Martin <i>Progne subis</i>	Snags cavities in open habitats (e.g. grasslands, brushlands, open woodlands); foraging habitat in units. Closest known colony is located approximately 8.0 miles east of project area.	Suspected	No Effect	No measurable effect to foraging habitat.
Rotund Lanx <i>Lanx subrotundata</i>	Major rivers and large tributaries with cold, well-aerated water and rocky substrate.	Out of Range	No Effects	
Scott's Apatanian Caddisfly <i>Allomyia scotti</i>	High-elevation (>4,000ft), cold streams in the mountainous regions of Oregon.	Out of Range	No Effects	
Spotted Tail-dropper <i>Prophyaon vannattae pardalis</i>	Mature conifer forests in the Coast Range; associated with significant deciduous tree/shrub component.	Suspected	No Effects	No effect to mature conifer forests; hardwoods are retained to the extent possible within mid-seral units. PDF for ground disturbance would minimize effects to duff layers.
Townsend's Big-eared Bat <i>Corynorhinus townsendii</i>	Late-successional forest features (e.g. snags or trees with deeply furrowed bark, loose bark, cavities), caves, mines, buildings,	Suspected	No Effect	No measurable effect to foraging habitat.

Species	General Habitat Requirements	Present in Project Area?	Impacts to Species	
			No Action	Proposed Action
	bridges, tunnels. Closest known documentation of species is 6.1 miles northwest of project area.			
Western Ridgemussel <i>Gonidea angulata</i>	Creeks, rivers, coarse substrates; Umpqua R. and possibly major tributaries. Major tributary (McGee Creek) extends into the north portion of the project area.	Suspected	No Effect	PDFs (e.g. stream buffers) for riparian habitat would protect micro climate conditions within streams.
White-Tailed Kite <i>Elanus leucurus</i>	Open grasslands, meadows, emergent wetlands, farmlands, lightly, wooded areas; wooded riparian habitats close to open hunting; tall trees and shrubs.	No Habitat	No Effects	
<b>BUREAU STRATEGIC</b>				
Broadwhorl Tightcoil <i>Pristiloma johnsoni</i>	Moist forest sites, typically with deciduous component; Coast/Cascades in WA, Coast Range in OR, as far south as Lane County.	Out of Range	No Effects	
Klamath Tail-Dropper <i>Prophysaon sp. nov.</i>	Moist, open areas along streams or springs in Ponderosa Pine forests; as far North as Crater Lake.	Out of Range	No Effects	
Merlin <i>Falco columbarius</i>	Coniferous forests adjacent to open habitats, along forest edges; units within winter range.	Suspected	No Effect	No measurable effect to foraging habitat.
Pristine Springsnail <i>Pristinicola hemphilli</i>	Shallow, cold, clear springs/seeps; strongly spring-influenced streams, slow-moderate flow; Umpqua River drainage.	Out of Range	No Effects	
Oregon Giant Earthworm <i>Driloleirus macelfreshi</i>	Deep, moist, undisturbed soils of riparian forests.	Out of Range	No Effects	

## Appendix I. Snags & Coarse Woody Debris (vers. 11-28-2005)

Roseburg District BLM – Swiftwater Resource Area

**Project Name:** Basin Arizona

**Prepared By:** Elizabeth Gayner

**Project Type:** Density Management

**Date:** November 5, 2009

**Location:** Sections 7 and 18 of T. 24 S., R. 7 W., W.M

### Snag Density:

Snag Requirements (from Upper Umpqua Watershed Plan Decision Document [pgs. 6-7; Oct. 8, 2003]):

- Snags greater than 20 inches DBH and 16 feet tall will be located and counted on a stand-by-stand basis.
- Tree marking will be designed to protect existing snags to the extent possible.
- Those that pose a safety concern will be cut and left for coarse woody debris (CWD).
- If there are less than **three snags on north slopes** and **one snag on south slopes** post-harvest, snags will be created from the larger diameter class of existing live trees to meet the minimum interim needs.

**Table I-1.** Snag Density.

Snag DBH	Slope Aspect	Acres	# Snags Required	# Snags Present <sup>1</sup>	Total Snag/Aspect	Snag Surplus/Deficit
North	8-19"	111	333	299	307	-36
	20+			8		
South	8-19"	188	188	176	182	-6
	20+			6		
<b>Total</b>		<b>299</b>	<b>521</b>	<b>489</b>	<b>489</b>	<b>-42</b>

<sup>1</sup> Number of snags present is based on snag surveys completed during platform surveys in April 2007 to comply with Residual Habitat Guidelines.

<sup>2</sup> Snags tallied are equal to or greater than eight inches diameter at breast height.

### Coarse Woody Debris:

Coarse Woody Debris Requirements from the Roseburg District RMP (pg. 34; June, 1995):

- Leave 120 linear feet of logs per acre > 16 inches in diameter and 16 feet long.
- Decay Class 1 and 2 logs will be credited toward the total.
- Down logs will reflect the species mix of the original stand. Where this management action/direction cannot be met with existing coarse woody debris, merchantable material will be used to make up the deficit.
- In areas of partial harvest (e.g. Density Management), apply the same basic management actions/direction as above, but they can be modified to reflect the timing of stand development cycles where partial harvest is practiced.

Line-intercept transects were used to assess the existing amount of coarse woody debris within the project area and calculations were done using *BLM Coarse Woody Debris Program*. Thirty-eight (38) 100-foot long transects were sampled from within the project area (BLM, 2002). The tables below summarize coarse woody debris, based on stand exams in the units.

**Table I-2.** Average Coarse Woody Debris (Linear feet/ acre).

Total Length per Acre (linear feet/acre)						
Large End Diameter (inches)	DC1	DC2	DC3	DC4	DC5	Total
3-8	0	0	292	684	0	976
9-12	0	0	338	412	138	888
13-15	0	0	0	0	137	137
16-19	0	0	0	140	0	140
20-23	0	0	0	0	0	0
24-27	0	0	0	0	0	0
28-31	0	0	0	285	0	285
32+	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>630</b>	<b>1521</b>	<b>275</b>	<b>2426</b>

**Table I-3. Coarse Woody Debris (Volume).**

<b>Volume per Acre (cubic feet/acre)</b>						
<b>Large End Diameter (inches)</b>	<b>DC1</b>	<b>DC2</b>	<b>DC3</b>	<b>DC4</b>	<b>DC5</b>	<b>Total</b>
<b>3-8</b>	0	0	18	14	0	<b>32</b>
<b>9-12</b>	0	30	210	53	0	<b>293</b>
<b>13-15</b>	0	0	44	104	0	<b>148</b>
<b>16-19</b>	0	0	155	310	0	<b>465</b>
<b>20-23</b>	0	0	0	156	0	<b>156</b>
<b>24-27</b>	0	0	0	391	0	<b>391</b>
<b>28-31</b>	0	0	0	608	0	<b>608</b>
<b>32+</b>	0	0	0	0	0	<b>0</b>
<b>Total</b>	<b>0</b>	<b>30</b>	<b>427</b>	<b>1636</b>	<b>0</b>	<b>2093</b>