United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Eugene District Office
P.O. Box 10226
Eugene, Oregon 97440-2226

IN REPLY REFER TO:

1736A
LSR 267

Dear Reader:

Thank you for your interest in the proposed Upper Siuslaw Late-Successional Reserve Restoration Plan. In August, 2003, you received a copy of the Draft Environmental Impact Statement (EIS) analyzing the impacts of alternative restoration plans. Enclosed please find the "abbreviated" Final EIS, consisting of a new cover sheet, Appendix F (Errata), and Appendix G (Public Comments and Agency Responses).

We received 12 comments on the Draft EIS. We received comments that pointed out specific errors or omissions (for example, road segments that were mapped incorrectly) and comments that supported or opposed adoption of a particular alternative. We did not receive comments that suggested a new alternative outside the range we examined or that pointed out flaws or deficiencies in our analysis.

As a result, we did not make major changes to the Draft EIS. We are publishing an abbreviated Final EIS for the Upper Siuslaw Late-Successional Reserve Restoration Plan. We can choose to publish an abbreviated Final EIS when only minor changes of the Draft EIS are necessary and consist of technical, editorial, or non-substantive factual corrections (40 CFR 1503.4).

The Environmental Protection Agency (EPA) is required to publish a "Notice of Availability of the Final EIS" in the Federal Register. This is anticipated to occur on April 9, 2004. No decision on the proposed action will be made until at least 30 days after the Notice of Availability is published by the EPA.

Questions concerning this abbreviated Final EIS may be directed to Rick Colvin, LSR Restoration Team leader, at the address above, by telephone at (541) 683-6600 or 1-888-442-3061, or by e-mail at or090mb@or.blm.gov Attn: Rick Colvin. I appreciate your interest in the management of these public lands.

Sincerely,

Steven A. Calish
Field Manager

FEIS

Final

Final
Environmental Impact Statement

APRIL 2004

BLM
EUGENE DISTRICT

Upper Siuslaw Late-Successional Reserve Restoration Plan

Lane and Douglas Counties, Oregon

Public Lands USA: Use, Share, Appreciate

APPENDIX F
Errata

This section provides specific corrections and modifications to the draft EIS. The only modifications to the draft EIS based on comments are the three minor changes to the design features of Alternative D on p. 239. These minor changes are explained in the response to comments. The other modifications are typographical or other minor corrections.

In the following locations, add "≤" before " 80 years old."

p. 64, para. 5, sent. 1
p. 67, para. 3, sent. 1
p. 89, para. 5, sent. 1
p. 89, para. 6, sent. 1
p. 97, para. 3, sent. 1
p. 97, para. 4, sent. 1
p. 103, para. 2, sent. 4
p. 103, para. 3, sent. 1
p. 103, para. 6, sent. 1
p. 110, para. 1, sent. 3
p. 111, para. 1, sent. 1
p. 111, para. 3, sent. 1
p. 114, key points
p. 116, para. 4, sent. 4
p. 125, para. 3, sent. 1
p. 125, para. 5, sent. 1
p. 132, key points
p. 135, para. 2, sent. 1
p. 135, para. 2, sent. 2
p. 146, para. 3, sent. 1
p. 159, para. 3, sent. 1
p. 162, key points
p. 166, para. 3, sent. 1
p. 263, para. 4, sent. 1

In the following locations, add "≥" before " 24" dbh."

p. 90, para. 3, sent. 1
p. 104, para. 5, sent. 1
p. 117, para. 3, sent. 1
p. 135, para. 4, sent. 1
p. 151, para. 1, sent. 1
p. 151, para. 1, sent. 2

In the following locations, add "≥" before " 32" dbh."

p. 90, para. 3, sent. 2
p. 91, key points
p. 103, para. 2, sent. 1
p. 103, key points
p. 104, para. 5, sent. 2
p. 105, key points
p. 116, key points
p. 133, key points
p. 149, key points
p. 166, key points

p. 65, para. 2, sent. 5
Change “showed that lower mortality” to “showed lower mortality.”

p. 85, para. 3, sent. 1
Change “≤8.0 years old” to “≤80 years old.”

p. 89, para. 1, sent 4
Delete extra “ ” .”

p. 98, para. 1, sent. 3
Add “≥” before “ 30 years old.”

p. 126, Figure 30
In caption, change “uderstory” to “understory.”

p. 132, para. 2, sent. 5
Add “≤” before “ 20 years old.”

p. 146, Table 6
For the thinning prescription for stands <21 years old, change “30-35” to “35-55.”

p. 149
Key points for Issue 5 should be placed above the title of Issue 6.

p. 184
Change the address at which the EIS is available on the internet to:
“http://stage.edo.or.blm.gov/planning/lsr/index.htm”

p. 189
Add to glossary entry for Best Management Practices (BMP):
“BMPs for timber harvest, yarding, roads, and silviculture can be found in the Eugene District RMP (USDI Bureau of Land Management 1995, pp. 155-167).”

p. 190
Add to glossary:
“**Current owl sites** – sites in which northern spotted owls have been in residence at least one year since 1998. Previously occupied sites which have not been surveyed recently would be considered current sites. New spotted owl sites (defined by a nest tree or two years of consistent use in an activity center) would also be considered as current sites.”

p. 193
Add to glossary:
“**Owl home range** – the area a northern spotted owl traverses in the scope of normal activities. In the planning area, owl home ranges are generally 1.5 miles from owl activity centers but may not be perfect circles to accommodate stand conditions (i.e., include suitable habitat and exclude non-suitable habitat).”

p. 194
Add line before “Site Class” and change “Site Class” to bold-faced type.

p. 234
In the objective for stands that have been pre-commercially thinned, remove the brackets from “{within 10 years}.”

p. 239
Replace the guideline: “Generally avoid thinning within 1.5 miles of owl activity centers that currently have less than 40% suitable habitat” with the mitigation measure: “Do not thin within current owl home ranges that currently have less than 40% suitable habitat.”

p. 239
Delete the guideline: “Generally avoid thinning stands with little or no late-successional forest within approximately one mile.”

pp. 237, 239
Under mitigation measures for thinning upland stands 31-50 and 51-60 years old in Alternative D, add the mitigation measure: “In existing dispersal habitat within current owl home ranges, use thinning prescriptions that would retain at least 40 percent canopy closure.”

p. 276
In Table 13, change Road No. 20-520-6-1 to 20-6-1;
change Road No. 20-5-4.3B to 20-6-4.3B;
change Road No. 20-5-5.3 to 20-6-5.3;
change Road No. 20-5-11E to 20-6-11E;
change Road No. 20-5-11F to 20-6-11F;
change Road No. 20-5-13.3B to 20-6-13.3B.

On Maps 1-6, the following roads should be shown as being passively decommissioned:

Rd No. 19-6-29.3 (east ½ T19S, R6W, section 19)
Rd No. 20-6-12C (north ½ T20S, R5W, section 7)
Rd No. 20-6-13B (southeast ¼ T20S, R6W, section 23)
Rd No. 20-5-18 (west ½ T20S, R5W, section 19)
Rd No. 20-5-19 (south ½ T20S, R5W, section 19)

Delete reference to any of these roads found in Table 14, pp. 277-281.

On Maps 1-6, Rd No. 20-5-18.1 (northwest ¼ of the southwest ¼, T20S, R5W, section 17, adjacent to Fawn Creek) should be shown as “Other Road.”

APPENDIX G
Public Comments and Agency Responses

Introduction

The public comment period for the draft EIS began on August 15, 2003 and closed on October 15, 2003. The draft EIS was mailed to agencies, organizations, and individuals listed in Chapter 5 (DEIS, p. 184), and was made available on the internet. BLM made presentations of the draft EIS during the comment period to the Public Lands Foundation on September 19, 2003, and to the Cooperative Forest Ecosystem Research program on September 26, 2003. BLM also made a presentation of the draft EIS to the U.S. Fish and Wildlife Service on October 22, 2003.

BLM received 11 comment letters during the comment period:

Nancy Nichols, Deadwood OR
Douglas Timber Operators, Roseburg OR
Oregon Department of Forestry, Western Lane District, Veneta OR
Giustina Resources, Eugene OR
Roseburg Resources Company, Reedsport OR
U.S. Fish and Wildlife Service, Portland OR
Oregon Natural Resources Council, Eugene OR
Mel Chase, Oregon Representative, Public Lands Foundation, Rickreall OR
Charles L. Thomas, Greenville NC
Jan Wroncy, Coast Range Guardians and Canaries Who Sing, Eugene OR
Weyerhaeuser Company, South Valley Timberlands, Eugene OR.

A comment letter from the Environmental Protection Agency was received after the comment period, on December 5, 2003. All comment letters are presented in their entirety at the end of this appendix.

BLM reviewed all of the comment letters and summarized the comments. The following section provides comments that are, in most cases, taken directly from the comment letters with editing only for clarity and context. In some cases, the same comment was made in several letters, and the summary comment here paraphrases those comments to avoid redundancy. The following section groups comments by topic and provides the BLM response.

1. ROADS

1.1. **Comment:** *Forest roads are significant contributors to the degradation of the ecosystem because they negatively affect water quality, hydrology, sediment delivery to streams, terrestrial and aquatic habitat and biodiversity.*

Response: The draft EIS acknowledged that forest roads can have adverse environmental effects (DEIS, p. 26, 52, 56-57, 76-77, 269-273). However, to assume that all roads contribute to the degradation of the ecosystem is an oversimplification that does not apply to the planning area and is inconsistent with the analysis in the draft EIS (DEIS, pp. 52, 56). The Siuslaw Watershed Analysis, which was incorporated into the draft EIS by reference, stated "A comprehensive field inventory indicated that over 91 percent (715 miles) of the road network in the Siuslaw drainage does not have the potential to deliver sediment to stream channels" (USDI BLM 1996a, p. II-4).

In identifying issues for analysis, we considered the effects that roads might have on achieving the purpose of the action. We determined that the effects of roads

significant to the action in question are those from chronic and episodic sedimentation, and the presence and spread of noxious weeds (DEIS, pp. 76-77).

1.2. **Comment:** *There is a significant difference between the roads shown on Map 4 and those shown on map 8.*

Response: Maps 2 – 6 were generated from a different transportation database than the roads shown in Maps 8 – 10. Maps 2 – 6 provide a more accurate representation of road location and status. The roads shown in Maps 8 – 10 were a background intended only to provide context and orientation.

1.3. **Comment:** *Verify that the roads shown on Map 4 as passively decommissioned are correct.*

Response: All roads identified as passively decommissioned on Maps 2 – 6 in the draft EIS are correct, but five additional road segments should have been identified as passively decommissioned, as detailed in the errata sheet.

1.4. **Comment:** *The EIS states that some roads would undergo "passive" decommissioning, where they would continue to be in use and eroding sediment until they become impassible due to lack of maintenance and traffic. When roads are "passively" decommissioned or simply closed to access, they would continue to deliver sediment to stream and may be an environmental detriment to ecosystem elements.*

Response: None of the roads that the draft EIS described as passively decommissioned are delivering sediment to streams or contain culverts at risk of failure, based on field examination in the 2002 road inventory (DEIS, pp. 52, 76, 275-276). Therefore, there would be no effect on sedimentation or water quality from continuing to allow these roads to be passively decommissioned.

1.5. **Comment:** *The access that roads provide is an important management tool. Alternative D proposes decommissioning of 27% of the roads. This essentially limits access to over a quarter of the public lands. We favor the passive decommissioning, blocking of roads and dealing with known drainage issues, but not tilling, scarifying, and replanting the road running surfaces.*

Response: While Alternative D would decommission approximately 27% of the roads (DEIS, p. 121), this would not limit access to 27% of the BLM-managed lands, because much of the existing road system is redundant. The roads in the planning area were built over a long period of time, and each road was designed for the logging systems current for the time. As a result, many of the existing roads provide access to the same ground. This is not surprising, considering that there are currently 4.4 miles of road per square mile (DEIS, p. 51).

Many of the roads that would be decommissioned under Alternative D would not be needed for future management. For example, many existing roads in the planning area dead-end in old-growth stands; the last segment of road was constructed in anticipation of an eventual harvest which now will not occur. However, we do recognize that it is difficult to predict future access needs. As a result, each action alternative contains a variety of decommissioning techniques and practices (e.g., DEIS, pp. 233-234, 242-243). Where there are no compaction, sedimentation, or

drainage concerns, and the road surface could naturally revegetate, it may be sufficient simply to block the road. In other cases, in may be necessary to rip or subsoil the road surface to break up soil compaction to allow tree establishment and growth. Revegetation of decommissioned road surfaces would be important to limit the establishment and spread of noxious weeds in the planning area (e.g., DEIS, p. 233) and reduce fragmentation of forest habitat (USDA Forest Service and USDI BLM 1997, pp. 42-46; USDI BLM 1996a, p. III-8). Road decommissioning practices would be selected based on site-specific conditions and would consider the likelihood of future access needs.

1.6. **Comment:** *The design features for road decommissioning look good. In our experience, making the road appear completely impassable at the road entrance is the most critical action to keep the road from being used. In some cases, it may not be appropriate or necessary to rip the road surface if the road is already being reclaimed.*

Response: As described above, each action alternative contains a variety of decommissioning methodologies and practices, and it may be sufficient simply to block the road in many cases. Road decommissioning practices would be selected based on site-specific conditions.

1.7. **Comment:** *The EIS does not appear to specify how many roads being decommissioned would simply be closed to vehicle access, and how many road miles would be obliterated and restored to natural conditions. The EIS should specify for each alternative how many road miles are being 1) obliterated; [2) decommissioned by being closed to vehicle access; and 3) passively decommissioned.*

Response: The action alternatives do not prescribe specific decommissioning practices to specific road segments. Rather, a variety of methodologies and practices are provided so that the specific decommissioning technique can be determined to fit the site-specific conditions at the time of decommissioning. In this way, the best decommissioning practices for achieving the objectives can be determined based on site-specific conditions. However, the objectives for road decommissioning are explicit. For example, objectives for decommissioning roads under Alternative D are to “decommission all non-shared, BLM-controlled roads within or adjacent to late-successional stands within 10 years” and to “decommission or improve all roads capable of delivering sediment to streams, as identified in watershed analysis within 10 years” (DEIS, pp. 233, 242). In addition, Appendix E list the specific roads, by road number and length, that each alternative would decommission (DEIS, pp. 275-284).

1.8. **Comment:** *We are opposed to what appears to be a very aggressive road closure program. Roads for management and fire protection are very valuable. The big picture issue is planning for adequate fire protection through adequate access as a responsibility of your management activities. Has this proposal been reviewed and approved by Western Lane?*

Response: BLM sent the draft EIS to the Western Lane District of Oregon Department of Forestry, which is the state agency responsible for wildfire suppression on forested land in western Lane County. They reviewed the draft EIS and concluded that the road decommissioning in Alternative D would not adversely affect their ability to suppress fires. Their letter is presented at the end of this

appendix. (Note that Western Lane incorrectly stated that Alternative D would decommission 90 miles of road. Alternative D would decommission 45 miles of road (DEIS, p. 121)).

None of the roads recommended for decommissioning under any of the action alternatives provide access to private lands. Alternative D would decommission "nonshared" roads that are (a) delivering sediment to a stream; or (b) in or adjacent to late-successional forest (DEIS, p. 40). It is possible that an adjacent landowner might request to "reconstruct" a decommissioned road in the future. This proposed restoration plan would not preclude BLM from considering future requests consistent with the RMP standards and guidelines (RMP, pp. 27, 32, 95-97).

1.9. **Comment:** *BLM should decommission more roads and build less new roads than Alternative D proposes.*

Response: Alternative B would decommission all roads where legally possible and would build no new roads (DEIS, p. 38). The Oregon Department of Forestry concluded that the road decommissioning in Alternative B would pose some problems for fire suppression. The Record of Decision will select an alternative and provide the rationale for selection.

1.10. **Comment:** *Why is it that more road is decommissioned in Alternative B than Alternative D? Couldn't BLM decommission the same roads under alternative D?*

Response: The draft EIS explained that the components of the alternatives are somewhat separable, and that we constructed the alternatives with the intent of including components most consistent with the overall management approach of the alternative. It is possible that the decision-maker could select a new combination of components in an eventual Record of Decision, such as combining the silviculture and in-stream restoration of Alternative D with the road decommissioning of Alternative B (DEIS, p. 33). However, the Oregon Department of Forestry concluded that the road decommissioning in Alternative B would pose some problems for fire suppression.

1.11. **Comment:** *Alternative D should also decommission a variety of specific roads that are not needed for access to private property or are in locations that provide northern spotted owl habitat or anchor habitat in the Siuslaw Watershed Analysis* [see comment letter from Nancy Nichols for specific road locations].

Response: The suggested road decommissioning does not fit with the objectives of Alternative D, which would decommission "nonshared" roads that are (a) delivering sediment to a stream; or (b) in or adjacent to late-successional forest (DEIS, p. 40). Most of the suggested road decommissioning is similar to that proposed for Alternative B, which would decommission all roads where legally possible (DEIS, p. 38). However, some of the road segments suggested for decommissioning are existing "shared use" roads, where adjacent private landowners have certain rights to use the road. As noted in the draft EIS, analysis assumed that only "nonshared" roads would be available for decommissioning (DEIS, p. 63).

The roads that would remain open under Alternative D would not be in conflict with the concept of "anchor habitat" as described in the Siuslaw Watershed Assessment (a document prepared for the Siuslaw Watershed Council, in contrast to the "Siuslaw Watershed Analysis" which is a BLM document, USDI BLM 1996a). The Siuslaw

Watershed Assessment identified “potential anchor habitat” as drainages that have consistently high numbers of adult spawning coho salmon or juveniles, relatively abundant "ecological capital," and relatively few potential threats or passage problems (Siuslaw Watershed Assessment, January 2002, p. 121). Under all action alternatives, all non-shared roads capable of delivering sediment to streams would be decommissioned, and all culverts that are barriers to fish passage or that have a high risk of failure would be removed or replaced (DEIS, pp. 38-42). Therefore, the action alternatives would similarly address the roads that have the potential to affect the aquatic ecosystem. The action alternatives differ in road decommissioning in how they would address non-shared upland roads that would not affect the aquatic ecosystem.

1.12. **Comment:** *EPA recommends maximizing all reasonable opportunities for road decommissioning and obliteration, whatever alternative is selected. We would also strongly discourage selection of the road prescription for alternatives E and F, which call for construction of 15.0 miles and 11.5 miles and of new roads respectively.*

Response: Alternative B would maximize road decommissioning. However, the Oregon Department of Forestry concluded that the road decommissioning in Alternative B would pose some problems for fire suppression. Alternative D, the Preferred Alternative of both BLM and U.S. Fish and Wildlife Service, would decommission those roads that are of environmental concern. Both Alternative E and Alternative F call for more road construction than other action alternatives, but would still be in compliance with the Eugene District Resource Management Plan, which states, “Construct roads in Late-Successional Reserves if the potential benefits of silviculture, salvage, and other activities exceed the costs of habitat impairment” (USDI BLM 1994, p. 30). The analysis demonstrated that Alternatives E and F yield potential benefits from silviculture and identified minimal adverse effects from new road construction (DEIS, pp. 171-177). The Record of Decision will select an alternative and provide the rationale for selection.

1.13. **Comment:** *While we are generally supportive of the idea of thinning in young stands, the sticking point for us usually is about roads. Alternative D would build a total of 3.6 miles of new road to thin (with commercial material removed) approximately 5700 acres. Given the long-term benefits to the stands slated for treatment, we are willing to accept the impacts that even temporary roading has. Alternatives that would not build roads but still treat the stands would be prohibitively expensive.*

Response: Under Alternative D, new road construction would be limited to temporary spurs generally less than 200 feet long, with no construction in Riparian Reserves and no stream crossings (DEIS, p. 240). If part of a stand cannot be reached under these constraints, then that part of the stand would likely not be treated with timber harvest (although in some instances, helicopter yarding may be possible).

The other action alternatives mitigate effects of road construction in different ways. Alternative B would construct no new road whatsoever. Alternatives C, E, and F would construct new roads as needed to access areas selected for thinning (DEIS, pp. 38-42). Alternative C would generally avoid new stream crossings, and would limit new roads with stream crossings to temporary, single-season roads (DEIS, p. 229). Alternative E would limit new roads with stream crossings to temporary, single-season roads (DEIS, p. 249). Alternative F would generally construct only temporary

roads (DEIS, p. 257). In addition, the amount of new road construction would vary substantially under the different action alternatives (DEIS, p. 44).

1.14. **Comment:** *We are pleased to see that the BLM is committed to remove or replace all fish-barrier and high risk culverts under alternative D (page 40). Does this mean that all 73 culverts mentioned on page 76 and detailed on pages 272-3 are to be replaced or removed? In order to recover populations of listed fish as well as to promote healthy aquatic environments, stream crossings that bleed sediment or have the high risk of failure should be amongst the highest priority for the BLM to repair.*

Response: All action alternatives would replace or remove the 73 culverts that the 2002 road inventory identified as a high risk of failure (DEIS, pp. 52, 104).

1.15. **Comment:** *The comparison of sediment production from roads in the Upper Siuslaw (Graph 43 in Chapter 4) predicts that all alternatives would result in an equal reduction in sediment production by existing roads from the no action alternative. There is little discussion how this result was arrived at or whether this is a significant beneficial impact that would include water quality conditions in project area streams. The EIS should make such a determination.*

Response: The DEIS explained the analytical methodology (DEIS, pp. 76-77, 269-273) and provided a quantified analysis of the effects of the alternatives on sedimentation from a variety of sources (DEIS, pp. 76-77, 90-91, 104-105, 117-118, 136, 151, 168, 176-177). The effect of action alternatives on fine sediment delivery show the same results in Graph 43 because all action alternatives would (1) decommission all non-shared, BLM-controlled roads capable of delivering sediment to streams; and (2) remove or replace all culverts identified as high-risk of failure (DEIS, pp. 38-42).

The Siuslaw Watershed Analysis, which the draft EIS incorporated by reference, provides the context for these effects: “the estimated delivered sediment related to road erosion is equivalent to 5 percent of the background level. Due to the winter flows, most of the sediment is flushed from the Siuslaw channel system. Overall, road sediment delivery can be considered to be low and have no significant impact to the Siuslaw stream channel system” (USDI BLM 1996a, pp. II-5 – II-7). Given that the existing sediment delivery from roads is not having a significant adverse effect on water quality, the reduction in sediment delivery under the action alternatives, while beneficial, cannot have a significant effect on water quality.

1.16. **Comment:** *Graph 43 predicts equally very low sediment production from new roads in all of the action alternatives, even though road prescriptions for the alternatives are distinctly different. Again, there is no discussion of how the EIS made these conclusions. The EIS should describe how the results were derived.*

Response: The draft EIS explained the analytical methodology for sedimentation (DEIS, pp. 76-77, 269-273) and the specific analytical assumptions for new road construction (DEIS, pp. 64, 77). The analysis assumed that (1) there would be one stream crossing for every 9,500 feet of new construction; (2) stream crossings would be temporary and removed before the onset of winter rains; and (3) construction and removal would produce 1 cubic yard of sediment per crossing. These assumptions were based on the average new road construction required for past timber sales in the Eugene District and empirical observation of past projects (DEIS, pp. 64, 77, 271).

1.17. **Comment:** *The data on sediment production from culvert failures should be explained more fully. Graph 43 states that 7,028 cubic yards of sediment are presently produced from failed culverts. The graph also predicts that by comparison, all action alternatives would produce an extremely low temporary sediment pulse. The EIS should explain how the conclusions for the production of a temporary sediment pulse was arrived at for all of the alternatives.*

Response: Graph 43 does not show that 7,028 cubic yards of sediment are presently produced from failed culverts; it shows that this amount of sediment would be produced if high risk culverts were to fail (DEIS, p. 176). The draft EIS stated, "We calculated the amount of sediment that would be delivered from these culverts if they fail based on estimated average values for the depth of fill, the active channel width, and the road prism width" (DEIS, p. 76). The draft EIS explained the analytical methodology for episodic sediment delivery from the variety of sources related to the proposed restoration plan (DEIS, pp. 76-77, 269-273).

2. SILVICULTURE

2.1. **Comment:** *Traditional thin from below commercial thinning may retain crown and release leave trees as well as maintain options for the future, but the research by Carey, Spies and others seem to indicate that thinning for the development of late-successional habitat should promote spacing diversity between and among stands. Alternative D appears to accomplish this goal better than any of the other alternatives.*

Response: The analysis concluded that proportional thinning to variable spacing was generally more effective than thinning from below at fostering the development of late-successional forest structural characteristics (DEIS, pp. 146, 171-173). Alternative D was specifically designed to create variability in tree density both within stands and among stands (DEIS, pp. 40, 129-132), and this was a factor in the identification of Alternative D as the preferred alternative (DEIS, p. 43). The Record of Decision will select an alternative and provide the rationale for selection.

2.2. **Comment:** *The developing science on young stand thinning suggests when thinning dense stands for diversity, the youngest stands will benefit the most.*

Response: The analysis indicated that thinning in younger stands does offer opportunities for fostering the development of late-successional forest structural characteristics with less short-term, adverse effects than thinning in older stands (DEIS, pp. 171-175). However, it should be noted that the analysis found that some thinning prescriptions would be effective at fostering the development of late-successional forest structural characteristics in older stands (e.g., proportional thinning of stands 61-70 years old under Alternative E, DEIS, p. 146).

2.3. **Comment:** *Although it pains us severely to see high site Douglas-fir stands in the 40+ year age classes entered with unorthodox proportional and other variant commercial thinning prescriptions to develop LSR, we reluctantly agree that this prescription will probably be effective in the planning horizon.*

Response: We agree that the proportional thinning would be somewhat effective in stands greater than 40 years old, but it would be more effective in younger stands (DEIS, pp. 98-101; 126-132; 144-147). The analysis found that proportional thinning to low densities was the most effective treatment for fostering the development of late-successional forest structural characteristics.

2.4. **Comment:** *Aggressive one-entry proportional thinning prescriptions in the younger age classes will result in initially reduced vigor (shock); and poor tree form (wolf dominant).*

Response: Most young stands in the planning area have been pre-commercially thinned, many to wide tree spacing (DEIS, p. 54), which makes it likely that each tree in the young stand is a well-formed, vigorous tree with adequate growing space, reducing the likelihood of shock from additional thinning. The preferred alternative (Alternative D) acknowledges that some stands were not pre-commercially thinned or otherwise would not respond well to proportional thinning to low densities, and provides the option of thinning from below to moderate densities (DEIS, pp. 237-238) or proportional thinning to moderate densities (DEIS, p. 236). Site-specific project decisions would select among the described thinning prescriptions in response to site-specific factors, including stand conditions (DEIS, pp. 234-240).

Proportional thinning to low densities would indeed result in "wolf trees" – large trees with deep, wide crowns that occupy a large growing space. This is an intended result of such thinning and will help speed the development of late-successional forest structural characteristics (DEIS, pp. 66-67; LSR Assessment pp. 43, 57; Northwest Forest Plan, pp. B-3, B-6).

2.5. **Comment:** *Heavy thinning in younger age classes will result in native and often non-native brush infestation. These wide spacings will leave much of the site unproductive for tree growth. You will create a lot of nice big brush fields.*

Response: Thinning to low densities, as would be used to some extent in young stands in Alternatives B, D, and E, would result in release of deciduous shrubs and trees, such as oceanspray, hazel, vine maple, and bigleaf maple. This "brush infestation" is an intended result of such thinning and will help speed the development of late-successional forest structural characteristics (LSR Assessment p. 42; Northwest Forest Plan, p. B-6). However, these "brush infestations" would be limited in extent. Openings created by these thinning prescriptions would generally be considerably less than ¼-acre in size, even in the heaviest thinning prescriptions. Subsequent snag and coarse woody debris creation would be required to create larger openings. In many locations, underplanting of shade-tolerant conifers would eventually limit the development of deciduous shrubs and trees.

The DEIS analyzed the effect of restoration actions on the spread of non-native "brush," such as scotch broom. The analysis stated that the Siuslaw Watershed Analysis and the LSR Assessment highlight the importance of roads as the primary vector for the spread of noxious weeds in the planning area (USDI BLM 1996a, p. II-40; USDA and USDI 1997, p. 28). The alternatives that would thin young stands to low densities include actions to remove noxious weeds and mitigation measures to limit the spread of noxious weeds into thinned stands (DEIS, pp. 222-223, 233-234, 246-247)

2.6. **Comment:** *We recommend less aggressive traditional initial thinning entries in the younger age classes anticipating and planning for future moderate to high volume removal commercial entries.*

Response: The DEIS analyzed alternatives that would use "traditional" thinning approaches in young stands (even tree spacing at moderate to high densities) in anticipation of future commercial thinning (Alternatives C and F) (DEIS, pp. 39, 42). The Record of Decision will select an alternative and provide the rationale for selection.

2.7. **Comment:** *We recommend less aggressive, multiple entry thinning.*

Response: The DEIS analyzed an alternative that would employ multiple-entry thinning to a range of densities (Alternative F). The Record of Decision will select an alternative and provide the rationale for selection.

2.8. **Comment:** *In order to identify one of the differences between Alternative D and Alternative F, it would be helpful to include in the thinning description that some proportional thinning would occur in Alternative D, as opposed to thinning from below proposed in Alternative F.*

Response: The descriptions of the alternatives noted that most stands would be thinned to variable spacing in Alternative D and thinned from below in Alternative F (DEIS, pp. 34-35, 40, 42). The more detailed descriptions of thinning prescriptions in the Chapter 4 and Appendix A further explained that most stands would be proportionally thinned to variable spacing in Alternative D and thinned from below in Alternative F (DEIS, pp. 127-132, 160-162, 234-240, 255-257).

2.9. **Comment:** *Although the summary table on page 35 describes the thinning in all age classes in Alternative D as "variable spacing", much the thinning described in Appendix A is "thin from below" prescriptions with "approximate even spacing."*

Response: Under Alternative D, riparian stands that are 21-60 years old would be thinned from below to approximately even spacing (DEIS, pp. 236-240), as explained below. In upland stands, all thinning would be done to variable spacing, except for stands that were not pre-commercially thinned or otherwise would not be expected to respond to proportional thinning (DEIS, p. 234, 236, 237-238). In these stands as well as riparian stands, future coarse woody debris and snag creation would be anticipated to increase the variability in tree spacing, as explained below.

Under Alternative D, approximately 300 acres of upland stands 21-60 years old would be thinned from below regardless of spacing, compared to approximately 4,000 acres that would be proportionally thinned to variable spacing. Site-specific project decisions would select among the described thinning prescriptions in response to site-specific factors, including stand conditions (DEIS, pp. 234-240)

2.10. **Comment:** *It is interesting to note that the understory depicted in Alternative E (Figure 61), seems quite small and sparse compared to Alternative D (Figure 60). Do these figures represent a typical thinning regime and time scale for comparative purposes? With Alternative E, one would think under a typical scenario, the understory growth would be better developed and as least as robust as the understory depicted in Alternative D.*

Response: These figures do represent typical thinning regimes and the same time scale, presenting stand conditions at the end of the 100-year modeling period (as do all of the figures showing future stand structure). The small understory depicted in Figure 61 for Alternative E is a third canopy layer that is beginning to develop (DEIS, p. 173). The second canopy layer of shade-tolerant conifers has developed so well that it has reached the bottom of the Douglas-fir overstory. This can be seen more clearly in the cross-sectional view in Figure 43 (DEIS, p. 148). In contrast, Alternative D has two canopy layers, and the development of the shade-tolerant understory is slower than in Alternative E, so it appears more distinct from the Douglas-fir overstory in Figure 60 (DEIS, p. 173).

2.11. **Comment:** *Why are riparian stands thinned from below in Alternative D? Variable density thinning can promote both faster growing trees and more complex forest structure.*

Response: The thinning prescription for riparian stands in Alternative D is designed to maximize the production of moderately large trees to provide future coarse woody debris, while maintaining sufficient canopy closure in the "secondary shade zone" – that portion of the riparian area that provides shading to streams in the morning and afternoon. This treatment scenario would anticipate future killing of approximately 10 trees per acre per decade for coarse woody debris and snags until the stand is 80 years old (DEIS, p. 40). It is reasonably foreseeable that this future coarse woody debris and snag creation would be implemented in patches, which would create variable spacing within the riparian stands (and would provide an opportunity for underplanting shade-tolerant conifers). It is important to note again that these actions beyond the 10-year span of the proposed restoration plan are included for the purpose of cumulative impact analysis, and the plan would not be making any decision in principle to implement such future actions (DEIS, p. 33).

Alternatives B and E would use proportional thinning in young, riparian stands. The analysis concluded that these prescriptions in young stands would generally be effective at fostering the development of late-successional forest structural characteristics and at creating a supply of coarse woody debris for streams, as would the riparian prescription in Alternative D (DEIS, pp. 98-99, 104, 127-129, 135, 145-146, 150). However, the riparian prescription in Alternative D would provide greater assurance that stream shading would be maintained.

2.12. **Comment:** *It would seem as though Alternative E would take a considerably shorter time than the other alternatives to develop a sufficient density of very large trees in riparian areas to provide more stable key pieces. Would Alternative E take a considerably longer time to develop these larger trees?*

Response: The analysis stated that Alternative E would take a considerably longer time to develop trees >32" dbh than trees >24" dbh, not that Alternative E would take considerably longer to develop these trees than the other alternatives. On the contrary, the analysis stated that Alternative E would be faster than all other alternatives to develop these larger trees (DEIS, p. 151).

2.13. **Comment:** *I am not sure that BLM can force hardwood-dominated riparian areas into high densities of conifers without consequences to the environment and to the salmon streams. Just plant conifers, they will eventually replace the hardwoods.*

Response: Conifers planted under dense, riparian hardwood stands would not survive unless the hardwoods are thinned to provide additional light. Therefore, the alternatives vary in the proportion of hardwood stands would be treated, but not in the treatment approach that would be used. The Siuslaw Watershed Analysis and LSR Assessment discuss the use of silviculture in converting hardwood-dominated riparian areas to conifers (USDI BLM 1996a, pp. IV-1; V-1; USDA and USDI 1997, p. 45). However, the planning area has such a small amount of hardwood-dominated riparian areas (approximately 1% of the planning area) that there would be no measurable effect on coho salmon habitat from the different approaches in the alternatives (DEIS, p. 76). The hardwood conversion contemplated in several of the action alternatives would be very limited in area in any particular location (usually approximately one acre in extent) and very limited in scope across the planning area (ranging from approximately 10 to 150 acres across the 24,400-acre planning area (DEIS, pp. 34-42).

3. FIRE

3.1. **Comment:** *Leaving cut trees as coarse woody debris will increase the likelihood of wildfire damaging neighboring private lands.*

Response: The draft EIS analyzed the effect of restoration treatments on fire risk by assessing the acres of stands in specific "fuel models." The analysis characterized the overall risk of severe fire based on how many acres would be in high risk fuel models and for how long. The draft EIS concluded that all of the action alternatives would reduce the overall risk of severe fire from the risk under the No Action Alternative (Alternative A). Leaving stands unthinned would present a substantial and long-lasting risk of severe fire, and all of the thinning prescriptions reduce this risk (DEIS, pp. 84, 96, 110, 124, 142, 158). Alternative D, like all of the action alternatives, would create temporary increases in the acreage in Fuel Model 12, and present a variety of guidelines designed to mitigate fire risk, including removal of cut trees, pulling-back cut trees from road edges, and piling and burning cut trees (e.g., DEIS, p, 237).

3.2. **Comment:** *BLM should burn as much slash as possible to reduce the amount of fuels most likely to burn hot and fast in an uncontrolled situation. This should be done especially near roads and private property with existing developments.*

Response: Burning slash is among the guidelines included in the preferred alternative (Alternative D) to mitigate fire risk, and would likely to be used extensively, especially near roads that would not be decommissioned. Site-specific project decisions would address design features, such as whether to mitigate fire risk by removing cut trees, pulling cut trees back from the road edge, piling and burning cut trees, or by other measures (e.g., DEIS, p. 237).

3.3. **Comment:** *It is not clear what level of down or dead trees will result in an unacceptable risk of fire or insect infestation.*

Response: The Record of Decision for the proposed restoration plan will consider the risk of fire and insect infestation in selecting an alternative. The draft EIS analyzed the level of risk to existing late-successional forests from restoration activities to the extent it could be ascertained (DEIS, pp, 64-67). The analysis quantified the effects where possible (e.g., acres in fuel models, trees per acre killed

by bark beetles within treated stands). Some effects could not be quantified, notably the landscape scale effects on Douglas-fir bark beetle populations. In that case, the analysis relied on qualitative analysis by an expert (DEIS, p. 66). In addition to detailing these specific effects, the analysis summarized these effects to characterize the overall level of risk in terms such as “low” or “high” risk. Determining whether such risks are acceptable or not in a particular alternative will require consideration of how well the alternative meets the purpose and need for the action and responds to the issues.

However, preliminary analysis of an alternative that would employ heavy thinning without timber removal did reveal that the risks of wildfire and bark beetle infestation would be so high as to establish that the alternative would not meet the purpose and need for the action (DEIS, p. 46). Therefore, this alternative was not analyzed in detail.

3.4. **Comment:** *Under Alternatives C and F, and no-action, the EIS predicts an elevated fire risk for the next 40-60 years. While the text implies that the risk may be overstated by the fuels model used in the analysis, it is difficult to conclude whether the risk is unacceptably high or not, and the EIS does not analyze what the effect on late-successional stands might be and whether it meets NWFP standards, or Resource Management Plan standards. The EIS should include this information, and should explain the basis for the choice of restoration treatments, particularly if the more aggressive treatments of Alternative C and F are chosen.*

Response: As explained above, the Record of Decision for the proposed restoration plan will determine whether these risks are acceptable. Whether such risks are acceptable or not in a particular alternative will require consideration of how well the alternative meets the purpose and need for the action and responds to the issues.

There are no specific Northwest Forest Plan or Resource Management Plan standards that would be “met” or “not met” by fuel levels in a given alternative. The Northwest Forest Plan includes guidelines for silviculture and salvage in Late-Successional Reserves to reduce the risks of large-scale disturbance, but these guidelines provide no basis for contrasting the alternatives or characterizing an unacceptable risk (USDA Forest Service and USDI Bureau of Land Management April 1994, pp. C-12 – C-13). The LSR Assessment included a Fire Management Plan, which outlines wildfire strategies and broadly identifies risks and risk reduction treatments (USDA Forest Service and USDI Bureau of Land Management 1997, Appendix A), as noted in the DEIS (DEIS, p. 45). But this discussion also provides no basis for contrasting the alternatives or characterizing an unacceptable risk.

The treatments in Alternatives C and F are in fact less aggressive in most age classes than the other action alternatives, and less aggressive than Alternative E in all age classes. Alternatives C and F create greater acres in Fuel Model 10 than the other action alternatives, because they leave more acres unthinned (DEIS, pp. 110, 158).

4. INSECTS

4.1. **Comment:** *Leaving cut trees as coarse woody debris will cause epidemic populations of bark beetles, which will cause losses to neighboring private lands.*

Response: The draft EIS analyzed the effect of restoration treatments on bark beetle populations. The draft EIS concluded that, under all of the action alternatives, bark beetles would likely cause some individual tree mortality, but would not pose a high risk to existing late-successional forests (DEIS, pp. 97, 110, 125, 142, 158). Because Douglas-fir bark beetles utilize freshly fallen trees, it is the annual level of treatment in which large trees (>12" dbh) are left on the ground that will influence bark beetle populations, not the overall ten-year plan. The analysis described that current bark beetle populations in the planning area appear to be low, and that there has not been extensive tree mortality from bark beetles in the Oregon Coast Range, even under extreme conditions (DEIS, pp. 65-66).

Given that most industrial private timber lands near the planning area are being managed on rotations of 40 years or less, private stands provide little opportunity for bark beetle infestation or damage. As noted in the analysis, Douglas-fir bark beetles usually infest trees >12" dbh (DEIS, p. 65). Subsequent field examinations with the regional entomologist (DEIS, p. 183) confirmed that bark beetles that attack smaller cut trees are not successfully reproducing (i.e., eggs laid in smaller trees do not result in new adults). Restoration treatments on BLM lands are unlikely to result in bark beetle damage to young, vigorously growing stands, such as those on private lands in the planning area.

4.2. **Comment:** *How does the estimate of trees that would be killed by bark beetles compare to the epidemic bark beetle outbreaks seen in the Coast Range in the 1950s? Are these numbers comparable?*

Response: As the draft EIS stated, the most severe bark beetle outbreak in the Oregon Coast Range occurred in the 1950s, yet resulted in an average of less than one tree killed per acre (DEIS, p. 65). The analysis estimated that coarse woody debris creation in the preferred alternative (Alternative D) would result in subsequent mortality of 1-4 trees per acre from bark beetles, and that there would be little risk of substantial mortality outside of the treated stands (DEIS, pp. 124-125). This estimate reflects the average tree mortality only within the treated stands, not across the landscape. If this mortality were averaged across the entire landscape, the level of mortality would be considerably lower than the 1950s bark beetle outbreak. The analysis noted that tree mortality from bark beetles may be altered by a wide range of factors, but that the low intensity of tree mortality following the 1950s outbreak establishes the relatively low risk of widespread or catastrophic tree mortality from bark beetles in the planning area (DEIS, p. 66).

4.3. **Comment:** *The plan appears to discuss snag creation through the use of bark beetles. This seems highly risky. The plan should include the capability to salvage bug infested timber.*

Response: The proposed restoration plan does not intend for Douglas-fir bark beetles to kill trees to create snags, but the analysis acknowledges that it may happen (DEIS, pp. 97, 110, 125, 142, 158). Several of the action alternatives contemplate future actions to create additional snags and coarse woody debris, and the analysis notes that tree mortality by bark beetles may reduce or eliminate the need for future snag and coarse woody debris creation (e.g., DEIS, pp. 124-125). The proposed restoration plan merely intends that BLM use an adaptive management process to evaluate tree mortality from bark beetles or other causes before creating additional snags or coarse woody debris.

The draft EIS stated that the proposed restoration plan does not address salvage and that the need for salvage would be evaluated following a specific disturbance. The Northwest Forest Plan and the Eugene District RMP limit salvage to stand-replacing events that exceed 10 acres in size (Northwest Forest Plan, p. C-14; RMP, p. 30). It is unlikely that Douglas-fir bark beetles would cause tree mortality of such an extent, as explained above. Nevertheless, any future salvage would be analyzed as an action separate from this proposed restoration plan.

4.4. **Comment:** *Gradual opening of stands would reduce the risk of epidemic populations of Ambrosia beetles.*

Response: Ambrosia beetles generally do not kill trees, but infest recently dead or cut trees. Damage from ambrosia beetles may degrade sawlog quality of stored logs, but would not cause damage to live trees (Furniss and Carolin 1977, pp. 343-344; USDA Forest Service, undated, Ambrosia Beetles of Western Conifers, Forest Insect and Disease Leaflet 170). Thus, there is little risk that ambrosia beetles infesting trees cut on BLM lands would lead to damage to adjacent private stands.

4.5. **Comment:** *Risks of insect infestation and fire can be mitigated by slowly reducing stand density through multiple entries over a longer timeframe.*

Response: Alternative F employs a multiple thinning approach, and the analysis did not find that the risk of bark beetle infestation or fire was substantially different from the other action alternatives (DEIS, p. 158).

5. WINDTHROW

5.1. **Comment:** *Heavy thinning will make stands susceptible to windthrow. The cited references are not applicable to the planning area. Windthrow potential is significantly influenced by localized soils, moisture, and geographic/exposure factors in addition to stand/tree characteristics.*

Response: The draft EIS analyzed the effect of restoration treatments on windthrow risk by modeling the tree height : diameter ratios over time (DEIS, p. 67). In addition to analyzing the stand average height : diameter ratios over a 100-year analysis period for each stand trajectory, the analysis characterized the overall stability of stands in each alternative. The analysis concluded that the unthinned stands may be highly unstable if subjected to natural disturbance and that treated stands would likely be stable in some alternatives (DEIS, pp. 114, 132, 147, 162) and unstable in others (DEIS, p. 101). The heavy thinning prescriptions would create stands that, over time, would likely become stable (e.g., DEIS, pp. 132, 147).

The two references cited in the draft EIS (Lohmander and Helles 1987, and Wilson and Oliver 2000) present relevant and recent science pertaining to modeling the effect of thinning prescriptions on windthrow risk. Both studies specifically analyze the risk of windthrow in Douglas-fir plantations.

As with fire risk and bark beetle risk, windthrow risk is influenced by site-specific conditions that cannot be analyzed completely in this programmatic document. Site-specific project decisions would address design features (such as thinning prescription) and define treatment areas in response to site-specific factors and stand conditions that would contribute to windthrow risk.

5.2. **Comment:** *Heavy thinning on BLM lands will cause windthrow on neighboring private lands.*

Response: As explained above, the heavy thinning prescriptions would create stands that, over time, would likely become stable (e.g., DEIS, pp. 132, 147). The least stable stands, over time, would be those that would be unthinned or lightly thinned (e.g., DEIS, pp. 86-87, 100-101). The analysis did not use adjacent ownership as a variable in modeling stand stability.

5.3. **Comment:** *Would multiple thinning entries reduce the risk of windthrow?*

Response: Alternative F employs a multiple thinning approach and would produce stands that would likely be stable, especially compared to unthinned stands (DEIS, pp. 86, 161-162). However, in most age classes, this approach would not produce stands more stable than the thinning approaches in most other alternatives (DEIS, pp. 114, 132, 147, 162). The notable difference in windthrow risk between Alternative F and the other action alternatives would be in the stands 61-80 years old. These stands would not be thinned under Alternatives B and D. Alternative E would thin stands 61-80 years old, but acknowledges that windthrow risk (among other factors) limits the opportunity for proportional thinning in these stands and employs some thinning from below, as do Alternatives C and F. The stands 61-80 years old that are proportionally thinned under Alternative E may be at higher risk of windthrow damage following thinning (DEIS, p. 146). However, over time, the stability of these older stands would not be substantially different under Alternatives C, E, and F (DEIS, pp. 113, 146, 161-162).

6. SNAGS AND COARSE WOODY DEBRIS

6.1. **Comment:** *Why aren't all merchantable trees to be removed? There is a point where there is enough down wood and some of this material could be utilized.*

Response: All action alternatives except Alternative B include leaving some cut trees as coarse woody debris and removing some cut trees for timber. Retaining some cut trees in thinned stands is necessary to help restore coarse woody debris levels more typical of natural stands (LSR Assessment pp. 61-71) and to help build the accumulations of coarse woody debris typical of late-successional forests (Northwest Forest Plan, p. B-5). As described below, the amount of cut trees that would be left as coarse woody debris is consistent with the recommendations in the LSR Assessment.

6.2. **Comment:** *The way the guidelines are written, it infers that you will not remove any of the cut trees unless they pose a risk to fire or insect infestation. Under the Northwest Forest Plan standards and guidelines, trees cut during silvicultural operations that are designed to develop late-successional forest conditions can be removed even if their retention does not pose a risk, as long as the desired amounts of down wood and snags are met.*

Response: There is no clear and broadly applicable threshold for determining how many cut trees left in the stand would "pose a risk." Leaving any cut trees in the stand would contribute in some measure to a risk of fire or insect infestation.

Determining whether such risks are acceptable or not in a particular alternative will require consideration of how well the alternative meets the purpose and need for the action and responds to the issues. As described above, this determination will be made in the Record of Decision for the proposed restoration plan.

Each alternative prescribes coarse woody debris and snag levels, but these levels encompass broad ranges, which is appropriate given the very high variability in coarse woody debris and snag levels in natural stands (LSR Assessment, pp. 58-66). Meeting the "desired amounts" of coarse woody debris and snags is not merely an exercise in satisfying the minimum of these ranges.

Site-specific project decisions would address how many cut trees would be left as coarse woody debris in response to site-specific factors, but within the broad ranges described for the selected alternative (DEIS, Appendix A).

6.3. **Comment:** *Do the down wood and snag retention levels meet coarse wood requirements in the Late-Successional Reserve Assessment?*

Response: All action alternatives would create snags and coarse woody debris in thinned stands consistent with the recommendations of the LSR Assessment (DEIS, pp. 225, 229, 241, 250, 257-258). The LSR Assessment describes four coarse woody debris "alternative prescriptions," each of which recommends a wide range of coarse woody debris levels (LSR Assessment, pp. 66-69). Within thinned stands, Alternatives B, D, and E would meet at least the coarse woody debris levels in "alternative #2," and Alternatives C and F would meet at least the coarse woody debris levels in "alternative #3."

6.4. **Comment:** *Is individual tree damage (which creates some desired late-successional structural characteristics) more likely with one alternative than another?*

Response: Individual tree damage, like the natural production of large snags and logs, is difficult to model, in part because the damage is usually the result of density-independent causes, such as lightning, wind snap, or ice damage (DEIS, p. 67). Some individual tree damage is likely to occur in thinning operations (from falling, yarding, and machinery operation). However, such damage is usually minor, especially in thinning young plantations. While there are a variety of factors that might affect individual tree damage, there is no apparent reason why individual tree damage rates would differ among the alternatives, and there is little basis for analysis.

6.5. **Comment:** *Creating small, hard snags cannot mitigate loss of any large snags, soft or hard. The agency must do away with the caveat that they will protect snags "except for safety or operational reasons."*

Response: Large snags are generally absent from the young stands proposed for treatment. In the exceptional instance where there is a large snag that might pose a safety concern, it is likely that the area around the snag would be left untreated. However, given the importance of maintaining a safe working environment and the danger inherent in logging near large snags, BLM must retain the flexibility to fall a snag in exceptional circumstances. However, as stated in all of the action alternatives, any snags cut for safety or operational reasons would be retained in the stand as coarse woody debris (e.g., DEIS, p. 239).

6.6. **Comment:** *A pulse of created snags now is a sound idea, followed up by creation of more in the future (as BLM plans to do). Snags and CWD generally have patchy distribution, and it appears that BLM has recognized this in their plans to create snags and CWD.*

Response: All of the action alternatives have provisions for creating coarse woody debris and snags as part of the proposed 10-year restoration plan. Several of the alternatives, including the preferred alternative (Alternative D), also anticipate future creation of coarse woody debris and snags as part of the reasonably foreseeable treatment scenarios (DEIS, pp. 38-42, 263). It is important to note however that these actions beyond the 10-year span of the proposed restoration plan are included for the purpose of cumulative impact analysis, and the plan would not be making any decision in principle to implement such future actions (DEIS, p. 33).

7. MARBLED MURRELET

7.1. **Comment:** *How many acres of suitable murrelet habitat occur in the planning area?*

Response: Stands currently over 80 years old -- approximately 10,600 acres (43% of the planning area) -- are considered suitable marbled murrelet habitat (DEIS, pp. 24, 53, 54).

7.2. **Comment:** *How far away is the closest occupied marbled murrelet site?*

Response: The closest known occupied marbled murrelet sites are in T. 18S, R. 8W, sections 35 and 36 and in T. 19S, R. 8W, sections 9 and 17. These sites are approximately 7 miles west of the western boundary of the planning area.

7.3. **Comment:** *The North Coast Level 1 team is in the process of proposing new guidelines to determine when and if potential marbled murrelet habitat needs to be surveyed within LSR land allocations. Depending on the outcome of this process, the wording in this document could be updated to reflect any final recommendations.*

Response: The Record of Decision would address any changes that are made to survey requirements for marbled murrelets that affect the actions and mitigation measures in the selected alternative.

7.4. **Comment:** *The analysis of effects on marbled murrelets assumes that branch size is a result of the overall lifespan of the branch. Is this assumption valid and how predictable is this variable? It may be there are many more variables involved than just age (e.g. genetics, tree damage) and it is difficult to predict this.*

Response: The analysis assumes that branch size is determined solely by the age and lifespan of the branch. The branch growth rate assumed in the analysis is a coarse approximation, and branch diameter growth would probably slow somewhat in older branches. But empirical examination of a sample of branches confirmed that this growth rate is a reasonable approximation, particularly in young stands.

Branch age is the most important determinant of branch size, but it is possible that other factors affect branch size. However, there is no basis other than speculation as

to the role of other factors, such as genetics and tree damage, and no means of analyzing such factors. The analysis acknowledged that branch size estimates should be used only for demonstrating the comparative outcomes of the alternatives, and absolute values should be interpreted with caution, given the simplifying assumptions needed for analysis (DEIS, p. 73).

8. NORTHERN SPOTTED OWL

8.1. **Comment:** *The short-term impacts to spotted owl dispersal habitat are well worth the long term benefits to late seral habitat. Given all the private land in the vicinity, mid-seral stands that can serve as dispersal habitat are not going to be in short supply. With only one of the nine spotted owl sites in the project area with more than 40% suitable habitat within its home range, it is absolutely essential to develop more habitat.*

Response: The DEIS noted that Alternative E, and to a lesser extent Alternative D, would speed the development of owl suitable habitat. However, Alternative D would maintain the current amount of owl dispersal habitat across the landscape, whereas Alternative E would reduce it below the current amount for about 10 years (DEIS, pp. 134, 149, 171, 174.). Much of the private industrial land near the planning area is being managed on 40-year rotations, which will limit the amount of dispersal habitat provided outside of BLM lands. Balancing the short-term effects on dispersal habitat and the long-term effects on suitable habitat was a factor in the identification of the preferred alternative (DEIS, p. 43), and will be considered in the selection of an alternative in the Record of Decision.

8.2. **Comment:** *The provision in Alternative D to not thin within stands over 50 years old in current owl home ranges which currently do not support at least 40 percent suitable habitat is conservative, but we believe a necessary measure to reduce potential impacts of thinning in the short term. In this section, it would be helpful to define what a current owl home range is.*

Response: Owl home ranges are generally 1.5 miles from owl activity centers but may not be perfect circles to accommodate stand conditions (i.e., include suitable habitat and exclude non-suitable habitat). The provision under Alternative D would be applied within the home ranges around current owl sites, which would be those in which spotted owls have been in residence at least one year since 1998. Previously occupied sites which have not been surveyed recently would be considered current sites. New spotted owl sites (defined by a nest tree or two years of consistent use in an activity center) would also be considered as current sites under Alternative D.

8.3. **Comment:** *The analysis of Alternative D states, "Within current owl home ranges that currently have less than 40 percent suitable habitat, Alternative D would not thin stands >50 years old." We recommend identifying this as a standard for Alternative D in Appendix A.*

Response: Alternative D includes the following guideline for stands 51-60 years old: "Generally avoid thinning within 1.5 miles of owl activity centers that currently have less than 40% suitable habitat" (DEIS, p. 239). To maintain consistent wording with the analysis in Chapter 4 (DEIS, p. 134), this guideline will be replaced with the following mitigation measure for stands 51-60 years old in Alternative D: "Do not thin within current owl home ranges that currently have less than 40% suitable habitat."

Owl home ranges are generally 1.5 miles from owl activity centers but may not be perfect circles to accommodate stand conditions (i.e., include suitable habitat and exclude non-suitable habitat).

8.4. **Comment:** *The analysis of Alternative D states, "In existing dispersal habitat within current owl home ranges, thinning would retain at least 40 percent canopy closure." We recommend identifying this as a standard for Alternative D in Appendix A.*

Response: To maintain consistent wording with the analysis in Chapter 4 (DEIS, p. 134), this mitigation measure will be added for stands 31-50 and 51-60 years old in Alternative D: "In existing dispersal habitat within current owl home ranges, use thinning prescriptions that would retain at least 40 percent canopy closure." This constraint was assumed in the analysis, but was not described as a mitigation measure in the description of Alternative D.

8.5. **Comment:** *Why is there a guideline that states, "Generally avoid thinning stands with little or no late-successional forest within approximately one mile?"*

Response: This guideline was developed to avoid thinning 51-60-year-old stands in areas where these stands represent the best available spotted owl habitat. However, further analysis revealed that there are no 51-60-year-old stands in the planning area that have little or no late-successional forest within approximately one mile. Therefore, this guideline will be deleted.

9. COHO SALMON AND AQUATIC RESTORATION

9.1. **Comment:** *What is the relative importance of this watershed to coho compared to the Siuslaw basin? Does this watershed provide a proportionately higher percentage of spawning habitat compared to the entire basin? How many miles of spawning habitat is available for coho? Is the best remaining coho habitat in the planning area on BLM?*

Response: Coho salmon populations and habitat in the planning area and in the river basin are discussed in detail in the Siuslaw Watershed Analysis and the Upper Siuslaw Aquatic Habitat Restoration Plan (EA OR090-98-17), both of which are incorporated in the draft EIS by reference (DEIS, pp. 51, 55). As summarized in the draft EIS, salmon spawning and rearing habitat is limited in the planning area (DEIS, p. 55), but the planning area is no less important than other sub-watersheds in the Siuslaw river basin (USDI BLM 1996a, Chapter II).

The draft EIS noted opportunities to make additional spawning and rearing habitats available for salmonid use here by addressing passage barriers (DEIS, pp. 56, 176-177). If all passage barriers were removed, approximately 120 miles of salmonid spawning and or rearing habitat would be available in the planning area. In addition, there are approximately 35 miles of salmon habitat within the mainstem of the Siuslaw River.

The best remaining coho salmon habitat in the planning area is mostly found on BLM-managed lands in the western portion of the planning area, in Haight, Bear, and Oxbow Creeks (DEIS, p. 55).

9.2. **Comment:** *How effective are the six "cascades"? Is there monitoring data that show these structures are effective at recovering stream processes without causing negative impacts?*

Response: None of the alternatives include in-stream restoration in the main-stem of the Siuslaw River, which is where the existing cascades in the planning area have been constructed (DEIS, p. 56). Alternatives C, D, and F would construct in-stream structures on 3rd-5th-order streams (DEIS, pp. 231, 243, 259), but rock structures would not be necessary in these streams. Instead, in-stream structures under Alternatives C, D, and F would be primarily wood, but may include large rocks as needed to stabilize the structure, as described below.

Although the cascade structures in the planning area have been in place for only a few years, annual observations have shown that the cascades have established back-water areas, recharged a reclaimed wetland, and created complex in-stream habitat. Every year since the installation of these projects, BLM has monitored the movement of migrating salmon at these sites, and coho, chinook and steelhead have never been impeded by these cascades. BLM is continuing to monitor fish movement, water temperature, and groundwater recharging at test cascade sites.

Any future construction of cascades in the main-stem of the Siuslaw River would be addressed under the decision for the Upper Siuslaw Aquatic Habitat Restoration Plan (EA OR090-98-17) or with a separate decision.

9.3. **Comment:** *Rock structures, such as weirs, cascades, jetties, and/or ramp logs (p. 39) are presented in Alternative C but are not discussed in any detail in any other part of the document. Are the "structures" referred to in other alternatives also including these rock structures? It is inferred from the other alternatives that the structures are made entirely of wood, so it is unclear how these rock structures fit within the other alternatives.*

Response: Alternatives C, D, and F would construct in-stream structures which may be stabilized with off-site materials and cabling (DEIS, pp. 39, 40, 42). These off-site materials may include large rocks as needed to stabilize the structure. These structures are described in detail in the Upper Siuslaw Aquatic Habitat Restoration Plan (EA OR090-98-17), which is incorporated in the draft EIS by reference (DEIS, p. 39). In-stream structures under Alternatives C, D, and F would be primarily wood, mostly in the form of weirs and ramp logs as described in the Upper Siuslaw Aquatic Habitat Restoration Plan.

9.4. **Comment:** *General design philosophy for culvert replacement, such as the stream simulation approach versus hydraulic design, should be indicated since this will affect the stream systems into the foreseeable future.*

Response: The design criteria for culvert replacement includes:

- general size standards – i.e., stream simulation - to meet (at a minimum) the 100-year storm event and current fish passage standards; and
- width standard – as related to the Oregon Road/Stream Crossing Restoration Guide (Spring 1999), wider than the active stream width or the Washington State guidelines of 1.2 + 2.

All barrier culverts in the planning area have been surveyed and assessed using protocol developed by the U.S. Forest Service. This method includes filters that assess passage of life stages of fish species at all ages. The protocol also incorporates the new Fish Xing computer model which assists in further culvert

passage assessment if needed. The survey includes physical and visual observations, which include channel gradient and bankful width measurements beyond the influence of the culvert. These measurements help to determine the potential of channel down-cutting and the need for upstream and or downstream mitigation. The culvert mitigation process when used for channel stabilization after installing a new passage culvert may include the placement of roughness elements such as logs and or boulders or other channel stabilizing material. These natural materials are placed in configurations that form pools, velocity breaks, and structure which maintain natural substrates within the newly installed culvert and mimic natural processes above and below the passage structure.

9.5. **Comment:** *For Alternative D, will 8.2 or 3.8 miles of stable instream structures be created on 3rd to 5th-order streams? Table 2 (p. 44) and Table 8 (p. 177) indicates 8.2 miles of instream structures, while Table 1, pages 34 to 35 indicates 3.8 miles of instream structures.*

Response: Both numbers are correct. Alternative D would install stream structures on 3.8 miles of streams (using machinery and cabling if needed), as shown in Table 1. In addition, Alternative D would also create stable, in-stream habitat structure on another 4.4 miles of streams by falling trees into streams without installing structures. Considered together, installing structures and falling trees would result in the creation of stable in-stream habitat structure on a total of 8.2 miles of 3rd-5th-order streams under Alternative D, as shown in Table 2 (DEIS, p. 135).

9.6. **Comment:** *Is the additional number of miles of coho habitat 7 or 8? It is unclear in the document (except for Table 8) which of the alternatives except for Alternative A will create 7 or 8 miles of fish habitat.*

Response: Table 8 presents the additional miles of fish habitat created by the removal of barriers: all of the action alternatives would remove fish barriers and create 7.0 miles of additional habitat (DEIS, p. 177). Alternative D would create stable in-stream habitat structure on 8.2 miles of 3rd-5th-order streams by installing stream structures and by falling trees.

9.7. **Comment:** *We prefer the Alternative E stream structure approach over Alternative D because Alternative E achieves almost the same level of recovery (205.3 miles versus 207.7 miles) without the use of artificial anchoring (cable and pins). If the Alternative D stream structure approach is chosen, we recommend that the cabled structures be located in areas with adequate access for maintenance and inspection, and that the structures in more remote locations designed to be stable without the use of artificial anchoring devices.*

Response: Alternative D would only cable in-stream structures in areas with adequate access for maintenance and inspection, because it would only install structures in locations accessible to heavy machinery. In more remote locations, trees would be felled into streams without installing structures.

9.8. **Comment:** *EPA supports the in-stream habitat treatments proposed for Alternative D, and would prefer the riparian area prescriptions for this Alternative that maximize shade and leave all standing trees in place over those proposed for the other alternatives.*

Response: The riparian stand treatment in Alternative D would maintain sufficient stream shading so as to avoid contributing to increased water temperature (DEIS, pp. 236, 238, 240). In many circumstances, this would mean leaving the immediate riparian zone unthinned. Otherwise, Alternative D would thin riparian stands (<100' from streams) from below and leave cut trees in the stand (DEIS, pp. 236, 238, 240). The approach to riparian thinning varies considerably among the action alternatives, but Alternative C would leave the most riparian area unthinned (DEIS, pp. 117, 228).

9.9. **Comment:** *We strongly recommend that the EIS include both a more complete characterization of existing water quality conditions, including past and present sources of impairment in project area watersheds, and the effects of each alternative on these parameters.*

Response: Existing water quality conditions, including past and present sources of impairment in the watershed are detailed in Chapter II of the Siuslaw Watershed Analysis, which the DEIS incorporated by reference (DEIS, p. 51). The DEIS considered which water quality parameters are significant to the action in question, and chose to analyze sedimentation (DEIS, pp. 76-77). The DEIS explained the analytical methodology (DEIS, pp. 76-77, 269-273) and provided a quantified analysis of the effects of the alternatives on sedimentation from a variety of sources (DEIS, pp. 76-77, 90-91, 104-105, 117-118, 136, 151, 168, 176-177). The DEIS explained that effects on stream temperature, dissolved oxygen in streams, and peak flows in streams were considered, but that the action would have little or no measurable effect on these parameters (DEIS, pp. 28-29).

10. GUIDELINES, MITIGATION MEASURES, AND BEST MANAGEMENT PRACTICES

10.1. **Comment:** *Guidelines are defined on page 221 as optional or "may be used." The EIS should provide an assurance to the public that substantive sideboards will be incorporated into project design criteria, and not identified as an option to consider. For instance, guidelines such as, "Do not select trees >20 inches dbh for cutting. Leave in the stand any trees >20 inches dbh felled for safety or operational reasons," should be stated as a mitigation measure implemented in timber sales within this LSR.*

Response: Guidelines are used to provide some operational flexibility to accommodate site-specific conditions. The guidelines are expected to be applicable to most (or all) site-specific projects. Site-specific project decisions would identify if any guidelines would not be applied in response to site-specific factors and would provide the rationale for not applying the guideline. Not applying guidelines in a project would increase the likelihood that a project would need additional NEPA analysis prior to reaching a decision (DEIS, p. 27).

10.2. **Comment:** *Why is there a guideline for thinning 51-60-year-old stands under Alternative D that states, "Generally avoid thinning stands with little or no late-successional forest within approximately one mile?"*

Response: This guideline is unnecessary and will be dropped from Alternative D, because all 51-60-year-old stands in the planning area are within one mile of late-successional forest.

10.3. **Comment:** *Why does Alternative F not include the guideline "Leave in the stand any trees >20 inches dbh felled for safety or operational reasons" like the other action alternatives?*

Response: Alternative F might occasionally remove trees >20" dbh as part of the thinning prescriptions. This would be extremely rare in the first thinning that would occur as part of the 10-year restoration plan, but would be more likely in the anticipated future rethinning of these stands. Multiple thinning from below in these stands would dramatically increase the average stand diameter (DEIS, pp. 160, 162), and future thinning would necessarily include larger diameter trees.

10.4. **Comment:** *The DEIS identifies that application of BMPs would eliminate the potential for sedimentation to streams from yarding of timber. It would be helpful for the reader to identify in this section the document and page numbers where these BMPs can be found.*

Response: Best Management Practices (BMPs) for timber harvest, roads, and silviculture are presented in the Eugene District RMP (USDI Bureau of Land Management 1995, pp. 155-167). BMPs for yarding can be found on pages 157-158. For Alternatives B and D, the BMPs for roads would have be limited to those related to road closure and decommissioning, as well as temporary spur construction for Alternative D.

10.5. **Comment:** *Are there specific BMPs the BLM follows for instream projects and new road construction involving roads which intersect streams?*

Response: The Eugene District RMP includes BMPs for design of stream crossings (USDI Bureau of Land Management 1995, p. 161), which would be applicable only to Alternatives C, E, and F (Alternative B would build no roads, and Alternative D would build only temporary spurs outside of Riparian Reserves). The RMP also includes BMPs for road improvement, including culvert replacement, which would be applicable to all action alternatives (USDI Bureau of Land Management 1995, pp. 163-164). Alternatives C, D, and F would create in-stream structures, as described in the Upper Siuslaw Aquatic Habitat Restoration Plan, which is incorporated by reference (DEIS, p. 39). The Upper Siuslaw Aquatic Habitat Restoration Plan includes design features and mitigation measures for construction of in-stream structures (EA OR090-EA-98-17, pp. 9-10, 36).

11. ALTERNATIVE SELECTION

11.1. **Comment:** *We support the preferred alternative (Alternative D).*

Response: The Record of Decision will select an alternative and provide the rationale for selection.

11.2. **Comment:** *We are opposed to the selection and implementation of the preferred alternative (Alternative D).*

Response: The Record of Decision will select an alternative and provide the rationale for selection.

11.3. **Comment:** *If the final Record of Decision changes from the draft preferred alternative, retain components of Alternative D (e.g., forest silvicultural prescriptions and associated guidelines) which have the least potential short term impacts, yet accomplish the most long term benefits for spotted owls, murrelets, and coho salmon. Alternative D and E are considerably more effective than the other alternatives in speeding the development of late-successional forest structure, however, Alternative E focuses on an aggressive thinning regime which may result in negative short term effects to spotted owls. In addition, Alternative E retains few options for changing management direction into the future.*

Response: The DEIS noted in the identification of the preferred alternative and summary of environmental impacts that Alternative D would have fewer short-term adverse effects on owls than Alternative E and would maintain future management options (DEIS, pp. 43-44).

12. MISCELLANEOUS

12.1. **Comment:** *The DEIS states that actions will "address" the recommendations of the LSR Assessment. The intent and proposed actions would be more clear if they were identified to "be consistent with" the recommendations in the LSRA. To "address" the LSRA indicates proposed actions covered under this DEIS will direct efforts to, but will not necessarily comply with, the recommendations in the LSRA.*

Response: The Purpose and Need section stated that the proposed restoration plan will address the recommendations of the LSR Assessment and the Siuslaw Watershed Analysis (DEIS, p. 25). Neither the LSR Assessment nor the watershed analysis is a decision document developed based on NEPA analysis. Thus, the recommendations of these assessments cannot be used, in and of themselves, to limit the range of alternatives considered in the EIS.

However, these assessments include the best available information on the broader landscape in which the planning area is located, and all alternatives in the EIS need to respond to the recommendations in the LSR Assessment and watershed analysis. Most of the alternatives are consistent with the recommendations in the LSR Assessment and the watershed analysis. To adopt an alternative that is not consistent with the recommendations of either of these assessments would require explanation in the Record of Decision, and might prompt an additional iteration of the watershed analysis and/or necessitate additional review prior to reaching project decisions.

12.2. **Comment:** *The EIS should summarize how the proposed restoration would achieve the components of the Northwest Forest Plan's Aquatic Conservation Strategy, and specifically how it would address the strategy objectives.*

Response: The DEIS considered the elements of the environment that make up the Aquatic Conservation Strategy objectives, and analyzed those that are significant to the action in question (see Issue 7, DEIS, pp. 74-77). The Record of Decision will address the consistency of the action with the Aquatic Conservation Strategy objectives.

12.3. **Comment:** *We recommend that Chapter 3 be revised to include a summary of the existing environment to provide a baseline for comparing impacts.*

Response: Most of the analysis of the existing conditions is provided by the LSR Assessment, the Siuslaw Watershed Analysis, and other documents which were incorporated by reference (DEIS, p. 51). Chapter 3 of the DEIS largely summarizes new information since the completion of the analysis and assessment documents that were incorporated by reference. These documents, together with the updated information in Chapter 3, provide a baseline for comparing the impacts of the alternatives.

12.4. **Comment:** *Chapter 3 should identify existing developments within and adjacent to the planning area.*

Response: Existing developments are detailed in Chapters I and II of the Siuslaw Watershed Analysis, which is incorporated by reference in Chapter 3 of the DEIS (p. 51).

12.5. **Comment:** *The final section of Chapter 4, Comparison of the Impacts of the Alternatives, should be expanded to include more explanation of the impacts of alternatives, in addition to describing to what degree the issues for analysis are satisfied by each alternative.*

Response: Chapter 2 of the DEIS provided a summary of the analysis, organized by the issues, in text and graphic form (DEIS, pp. 43-44). Chapter 4 of the DEIS provided detailed analysis of the effects of each of the alternatives. Chapter 4 of the DEIS also provided a summary of this analysis, organized by the purposes of the action, in text and graphic form (DEIS, pp. 171-177). The direct comparisons of alternatives in Chapters 2 and 4 were sufficient to allow the decision-maker and the cooperating agency to identify a preferred alternative and present the rationale for their preferences (DEIS, p. 43). Given that the analysis is presented in detail in the main body of Chapter 4, a longer summary would be redundant.

12.6. **Comment:** *The use of chemical fertilizers and chemical/biological pesticides at the Tyrrell Seed Orchard near Lorane should be replaced with non-chemical means, to prevent impacts on the upper reaches of the Siuslaw in order to aid the restoration of the Late-Successional Reserves farther downstream, and to maximize the benefits to the endangered species.*

Response: Management of the Tyrrell Seed Orchard, which is near the planning area, is outside the scope of this action.

12.7. **Comment:** *Can you cover this much ground (8400 acres)? The cutting prescriptions are not simple, and we recognize that this proposal only covers a portion of the districts' future work load.*

Response: The analysis considered the feasibility of the alternatives by comparing the costs of implementation and the revenue that would be generated. For the preferred alternative (Alternative D), the revenues generated would exceed the total costs, which makes the alternative more feasible and was a factor in the identification of the preferred alternative (DEIS, p. 43-44). While adequate staffing and funding are not assured, they are more likely with a restoration plan such as Alternative D than an alternative for which the costs exceed the revenue generated.

Eugene Mail

08/12/2003 11:17 AM

To: Rick Colvin/EUFO/OR/BLM/DOI@BLM
cc:
Subject: attn: Rick Colvin

----- Forwarded by Eugene Mail/EUFO/OR/BLM/DOI on 08/12/2003 11:17 AM -----

Nancy Nichols
<nancyn@efn.org>

08/11/2003 03:44 PM

To: or090mb@or.blm.gov
cc:
Subject: attn: Rick Colvin

I'm starting to look through the Draft EIS for the Upper Siuslaw LSR restoration plan. I'm trying to figure out the reasoning in the road decommissioning for Alternative D.

I compared the D section to B as some sort of guide to what might be possible since that alternative had the most decommissioning. Here are a several question which pop into my mind right away:

How can you decommission a road R6W, T19S section 18 in alternative B if it is on private land? Are private land roads in the checkerboard on the table for decommissioning?

Why was the road along the east boundary of section 29 of R6W, T19S not proposed for decommissioning in alternative D? While it doesn't show a stream on the map, it has the "look" of a streamside road.

How come in section 21 of R6W, T19S the middle section of the road in the Eastern 1/2 of the section is left intact but the north and south sections are decommissioned.

Thanks you for your attention to my questions.

Nancy Nichols

Comments on Draft EIS for Upper Siuslaw Late-Successional Reserve Restoration Plan

From: Nancy Nichols
93849 Deadwood Creek road
Deadwood, OR 97430
nancyn@efn.org

I have used Alternative D as a base and suggest the following improvements:

R7W, T19S

Section 35: Decommission one of the roads that run along both sides of Haight Creek. Also decommission the road along the creek which drains into Haight Creek from the east.

R6W, T19S

Section 21: Decommission all roads in eastern ¼ of this section. This is part of Dogwood Creek drainage which was identified as having high potential for anchor habitat in the Siuslaw Watershed Assessment

Sections 23 & 27: Decommission all roads not legally required for access to private lands. These sections are part of Dogwood Creek drainage which was identified as having high potential for anchor habitat in the Siuslaw Watershed Assessment.

Section 29: Identify road along east boundary as passively decommissioned if that is the true “on the ground” situation. If not, add it to the list to decommission. Determine that “passive decommission” is adequate in headwall areas.

Section 35: Decommission all roads. There doesn’t appear to be a need for roads in this section to access private property. Part of this section drains into Bottle Creek which is identified as a drainage having potential for consideration as anchor habitat in the Siuslaw Watershed Analysis. In addition, most of this section has been identified as spotted owl habitat. Extra effort should be made to improve habitat here.

5W, T19S

Section 31: Decommission all roads. There doesn’t appear to be a need for roads to access private property. Part of this section drains into Russel Creek which is identified as a drainage having potential for consideration as anchor habitat in the Siuslaw Watershed Analysis. In addition most of this section has been identified as spotted owl habitat. Extra effort should be made to improve habitat here.

Section 33: Has the road along the south border been passively decommissioned or not? Map 8 shows an active road, but map 4 shows a passively decommissioned road. This road appears to have at least 2 stream crossings and run through spotted owl habitat. It should be decommissioned if it is not.

R6W, T20S

Section 1:Decomission the road along the east boundary and one of the two roads running through the northwest corner. This section is in the Russel Creek Drainage that has been identified as having potential for consideration as anchor habitat in the Siuslaw Watershed Assessment. Extra effort should be made to improve habitat in this area.

Section 5: Decommission all roads if not legally required for access to private lands. This area is on the edge of the largest block of spotted owl habitat in the Upper Siuslaw LSR so it is worth the extra effort.

Section 7: Decommission all roads. This area is part of the largest block of spotted owl habitat in the Upper Siuslaw LSR so it is worth the extra effort.

Section 19: Decommission all roads. This area is on the edge of the largest block of spotted owl habitat in the Upper Siuslaw LSR so it is probably worth the extra effort.

Section 23: Close road running along Smith Creek. This is identified for closing in alternative B so I assume it is not required for access to private land. As a creekfront road where the land to the east of the creek has been identified as good spotted owl habitat, there are good reasons to decommission this road.

R5W, T20S

Section 17: Are you really closing the first little bit of the road along Fawn Creek? Assuming so, the road closure should include the whole portion in Section 17

Section 19: There is a significant difference between the roads shown on Map 4 and those shown on map 8. Assuming map 8 is more accurate, close all roads in section 19 as none are needed to access private lands. Of particular importance is the creekfront road running north south through the middle of section 19.

DOUGLAS TIMBER OPERATORS

Serving the Forest Products Industry in Southwestern Oregon

RECEIVED
BUREAU OF
LAND MANAGEMENT
2003 SEP -2 A 10: 12
EUGENE DISTRICT OFFICE
EUGENE, OREGON

August 28, 2003

Mr. Steve Calish, Field Manager
Siuslaw Resource Area
Bureau of Land Management
PO Box 10226
Eugene, OR 97440-2226

Dear Mr. Calish:

This letter is in response to your request for comments on the DEIS for the Upper Siuslaw LSR Restoration Plan. Douglas Timber Operators represents 140 members in the forest products and allied industries in Douglas and Coos Counties who are dependent on federal forests for raw materials. As such we are vitally interested in changes in management direction that can have a negative effect on future timber supplies. Your preferred alternative does exactly that and we are opposed to its selection and implementation.

There are a number of items in the preferred alternative that concern us. First and foremost are the aggressive thinning regimes that you are proposing for young stands. We remain very concerned that thinning to wide spacings will result in serious losses of the reserve trees through bark beetle infestations and the greatly increased risk from windthrow. In spite of your assurances to the contrary, no one can predict with a high degree of certainty that they won't happen.

Second, these wide spacings will leave much of the site unproductive for tree growth. You will create a lot of nice big brush fields. Also depending on how many of the cut trees are logged and removed, the fire hazard is going to be very high for a number of years, and if ignited, all the reprod and years of investment in a new forest will be lost.

Third, as I have commented before and on several occasions, the use of the words "may include removal of some cut trees" is not very comforting. Just why aren't all merchantable trees to be removed? In this day and age wasting a valuable natural resource should not be an option.

Finally, we are opposed to what appears to be a very aggressive road closure program. In spite of what many "ologists" contend, roads for management and fire protection are very valuable. If indeed there are some segments that create water quality problems, then close or fix them. However, destroying 45 miles of road in a basin this size is an ill-conceived idea. I suggest you talk with adjacent landowners before spending much time on this proposal.

Thank you for the opportunity to comment.

Sincerely,

Robert E. Ragon
Executive Director

Copies to:
DTO Board and Steering Committee, Douglas County Commissioners, Rocky McVey, Senator Bill Fisher, Representative Jeff Kruse, Representative Susan Morgan

Douglas Timber Operators, Inc. • 3000 Stewart Parkway • Suite 208 • Roseburg, Oregon 97470
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RECEIVED
BUREAU OF
LAND MANAGEMENT

2003 SEP -2 A 10: 20

EUGENE DISTRICT OFFICE
EUGENE, OREGON

August 29,2003

Re: Draft EIS, Upper Siuslaw LSR

Dear Rick:

As a Unit Supervisor in the Protection from Fire Program here at Western Lane I reviewed your above referenced EIS. My interest was how it impacted our ability to suppress fire(s) in this area. It appears there are six alternatives being considered, with Alternative D being the preferred alternative.

I was primarily interested in the decommissioning of roads. Looking at the map where approximately 90 miles of road would be impacted under alternative D I could not identify any critical areas where this would adversely affect us. The only area of concern I had was under Alternative B, there are three areas where useful roads would have an impact on us. One is located in the SE ¼ of section 7 (20-06), another in the SE ¼ of section 17 (20-06) and the last one is in the SE ¼ of section 23.

Other than the above mentioned comments I did not see any other areas of concern. Thanks for the opportunity to comment, if you have any questions or need further information from me please feel free to contact me.

Sincerely,

Craig Mackey

----- Forwarded by Eugene Mail/EUFO/OR/BLM/DOI on 09/03/2003 03:35 PM -----

PeteS@giustina.com
09/03/2003 03:31 PM

To: or090mb@or.blm.gov
cc:
Subject: Atten: Rick Colvin - EIS Comments

Rick,

I would like to comment on the Draft EIS Upper Siuslaw Late Successional Reserve Restoration Plan. Giustina Resources owns and manages timberlands within one mile of the boundary of the proposed project area. Our concern about the proposed and other alternatives is how the management of these forests may impact the health and survival of our company's forest resources. More specifically, we are concerned about increased risks of fire and epidemic insect populations as a result of leaving cut trees on the ground and predisposing remaining uncut trees to windthrow. Perhaps another alternative could be developed that would allow multiple density reduction entries and would remove a high percentage of the merchantable wood during each entry. This would allow a gradual opening of the stand thereby reducing the magnitude of windthrow damage and would not provide the vector for epidemic populations of Douglas-fir bark beetles or Ambrosia beetles.

I do not think the two references on windthrow risk (Lohmander & Helles.1987 and Wilson & Oliver.2000) are particularly applicable to this part of the Oregon Coast Range. Although the basic concepts may apply, windthrow potential is significantly influenced by localized soil, moisture, and geographic/exposure factors in addition to stand/tree characteristics. In fact, your project could present a great opportunity to study windthrow potential in regard to variable retention levels under varying site and stand factors.

Off-site impacts must also be considered. Not only will heavy thinning expose residual trees in the treated stand to windthrow, but neighboring unthinned stands may be impacted as well. For example, if the BLM were to significantly reduce stocking of a 35 year old stand located near the top, and on the southwest facing slope, of a southeast to northwest running ridge, it is very likely that the stand on the northeast side of the ridge will suffer some windthrow damage. If this neighboring stand is privately owned, the impact in lost value to the owner could be significant. Alternatively, if the resulting windthrow is on BLM the added fuel load will present an even greater hazard as well as further increasing the risk of insect infestation.

Significant accumulations of recently downed wood will increase the likelihood of fire and insect losses to neighboring private lands. This is especially true within the first year or two of treatment. Both of these risks can be mitigated by slowly reducing stand density through multiple entries over a longer timeframe.

I hope that you will consider these comments in your final decision. Also, I would like to recommend that you include all landowning neighbors within one mile of the project area on your distribution list for soliciting comments. We appreciate the opportunity to comment.

Peter Sikora
Lands Manager
Giustina Resources
PO Box 529
Eugene, OR 97440

October 13,2003

Mr. Steve Calish, Field Manager
Siuslaw Resource Area
Bureau of Land Management
P.O. Box 10226
Eugene, OR 97440-2226

RE: DEIS – Upper Siuslaw LSR Restoration Plan

Dear Steve,

Please accept this letter as a response to your request for comments on the Upper Siuslaw LSR Restoration Plan DEIS. As one of the larger adjacent landowners in the LSR 267 area we do have a strong and as you might expect differing perspective on implementation of the preferred alternative. Our emphasis of input focuses on risk management of the preferred alternative road access plan and critique of the stand treatment prescriptions proposed.

We recognize (and encourage you to do the same) that Alternative D represents an intensive silvicultural operation and therefore must conform to intensive silvicultural and land management principles to succeed. The treatment of over 8400 acres through unconventional pre-commercial and unorthodox poor utilization commercial thinning in a 10 year period exposes the basin, your ownership and all adjacent private ownership to risks and opportunity costs that in our opinion are not addressed realistically.

Road Access Discussion- One basic principle of intensive west-side forestry is that upland road access is paramount. During and as importantly after commercial actions of the entry are completed, the retention and maintenance of all upland mainline, primary spur and strategic secondary spur roads is essential to manage for increased fire risk associated with manipulation and resulting stand conditions and fuel loads. This responsibility applies to both industrial landowners practicing even aged management as well as public ownership pursuing this endeavor. Alternative D potentially creates a significant fuel loading and high intensity wildland fire stand condition exposure. The blatant violation of the management access principal through the “decommissioning “ of 45 miles of access road during the same period of treatment is unacceptable and must be addressed. Maybe we miss the reference, but has this proposal been reviewed and approved by Western Lane? It would be a mistake to assume in your analysis that adjacent landowners are not interested in non shared roads. The big picture issue is planning for adequate fire protection through adequate access as a responsibility of your management activities. We recommend reanalysis of this segment of Alternative D and encourage you to follow the lead of public brethren to the south and west of Eugene BLM to aggressively maintain and upgrade existing upland access through increased culvert and surface maintenance and noxious weed control in the right of way. We offer again to be a coordinated partner with Eugene BLM in LSR 267 as well as the remaining areas of the district where our ownership and road control interests are shared to pursue this goal.

Stand Treatment Discussion- Another principle of intensive forestry is that we must operate in biological time not human time to manipulate stands to our desired conditions. West Side

forestry is viable only because we can (with proper planning) operate economically in Douglas fir biological timeframes. From our perspective, prescriptions to accomplish the complex objectives of converting even aged shade intolerant stands to multistoried multispecie stands must be stratified by age classes due to the biology and time frames involved. Prescriptions that maximize wood volume for harvest and revenue are not mutually exclusive in this application. With this in mind, we encourage you to reanalyze prescriptions by age class. Although it pains us severely to see high site Douglas-fir stands in the 40+ year age classes entered with unorthodox proportional and other variant commercial thinning prescriptions to develop LSR, we reluctantly agree that t his prescription will probably be effective in the planning horizon. On the other hand, it is our opinion that thinning prescriptions in stands less than 40 years old (which constitute the majority of LSR 267 acres) should follow conventional intensive forestry methodology. If it is the contention of the LSR biological concept that young timber types regardless of structure offer no T&E habitat, why the fast track approach? It has been our observation that the aggressive one entry proportional TPA and/or relative density reduction thinning prescriptions executed on public ownership in the younger age classes are not producing the desired future effect because they violate silvicultural principals of intensive management. The resulting stand condition of Type 1, 2 and 3 prescriptions is generally an initially reduced vigor (shock); and poor form (wolf dominant) isolated individual susceptible to insect infestation and intense wildfire behavior. Our other observation is native and often non native brush infestation occurs rapidly in these treatments due to extreme site unoccupancy (especially young plantation types) reducing shade intolerant species in growth potentials while spreading seed pool problems to our adjacent ownership! Our input would be to recognize the empirical as well as modeled responses of young Douglas fir stand density treatments and operate within a realistic biological timeframe by expand ing the treatment horizon. The fast track approach here will result in failure and/or unreasonable expense. We recommend less aggressive traditional initial thinning entries in the younger age classes anticipating and planning for future moderate to high volume removal commercial entries on your well maintained road system. The proportional prescription could be used in final entry to achieve residual target goals. Future shade intolerant ingrowth will more freely become associated with the treatment as the type matures. This more traditional density management approach also has the potential to generate an income and wood volume stream and provide future options that are foregone with the “quick fix” approach!

Thank you for the opportunity to comment. Please feel free to call me anytime.

Sincerely,

Phil Adams
Smith River Forester
Roseburg Resources Company
711 Port Dock Road
Reedsport, OR 97467
(541) 271-0159 x.10
phila@rfpco.com

C: Dan Newton, Dave Cramsey

C 1736 A

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oregon Fish and Wildlife Office
2600 SE 98th Avenue, Suite 100
Portland, Oregon 97266
Phone: (503)231-6179 FAX: (503)231-6195

RECEIVED
OCT 16 2003
BUREAU LAND MANAGEMENT
EUGENE, OREGON
TAKE PRIDE IN AMERICA

Reply To: 4310.0022
File Name: LSRDEIScom.doc
TS Number 03-4880

OCT 14 2003

Memorandum

To: Steve Calish, Field Manager for the Siuslaw Resource Area, Eugene Bureau of Land Management, Eugene, Oregon

From: for State Supervisor/Deputy State Supervisor, Oregon Fish & Wildlife Office, Portland, Oregon

Subject: Review and Comment of Draft Environmental Impact Statement for the Upper Siuslaw Late-Successional Reserve Restoration Plan, Siuslaw Resource Area, Eugene Bureau of Land Management

The Fish and Wildlife Service (Service) has reviewed the Draft Environmental Impact Statement (DEIS) for the Upper Siuslaw Late-Successional Reserve Restoration Plan. As a cooperating agency with the Eugene Bureau of Land Management (BLM), the Service is required to comment on this DEIS under Section 1503.3 of the CEQ regulations for implementing NEPA. As you know, the Service has worked closely with the BLM for over two years on the development of this DEIS and in August 2002, the Service agreed to participate as a cooperating agency. The alternatives vary widely in their efficacy toward speeding the development of late-successional forest structure, and Alternatives D and E would be considerably more effective than the other alternatives. The Service and the BLM have both identified Alternative D as their preferred alternative. Alternative D maximizes the development of habitat for northern spotted owls (*Strix occidentalis caurina*) (spotted owls), marbled murrelets (*Brachyramphus marmoratus*) (murrelets), and coho salmon (*Oncorhynchus kisutch*) where possible with minimal impacts to existing habitat. This alternative was chosen because it would: foster the development of late-successional structure; thin stands to a wide range of densities, retain options into the future; maintain current amount of dispersal habitat for spotted owls; decommission the most damaging roads; moderate the risk of wildfire over time; and generate revenue greater than the costs, indicating the feasibility of implementing the overall restoration program (Bureau of Land Management 2003). The following comments are provided for your consideration.

GENERAL COMMENTS

This letter is in response to your request for comments on the DEIS for the Upper Siuslaw Late-Successional Reserve Restoration Plan. The DEIS analyzes several alternatives for a plan for forest and aquatic ecosystem restoration within a Late-Successional Reserve (LSR 267) in the upper

portion of the Siuslaw River watershed in the coast range mountains, west of Eugene, Oregon. The proposed plan would be a 10-year management plan and contain specific actions needed to achieve the LSR goals and Aquatic Conservation Strategy objectives set out in the Northwest Forest Plan.

The preferred alternative proposes actions designed to restore terrestrial and aquatic habitats in the upper Siuslaw watershed, which includes: thinning approximately 8,400 acres (61%) of the 13,800 acres of stands currently ≤80 years old within the 10-year span of the proposed plan; decommission approximately 45 miles of roads (27% of the total 169 miles on BLM-managed land in the planning area); build approximately 3.6 miles of new temporary spur roads; pull or fall trees into all streams adjacent to stands ≤ 80 years old (199.5 miles of 1st-2nd –order streams and 44.6 miles of 3rd-5th –order streams); create instream structures on 8.2 miles of 3rd-5th-order streams; and remove 10 barrier culverts which would open 7.0 miles of new coho habitat. As predicted by the Landscape Management System (LMS), approximately 6,000 acres of stands would develop late-successional structure, 3,800 acres of young stands would achieve target habitat conditions within 100 years for murrelets, and 6,600 acres would achieve target habitat conditions within 100 years for spotted owls.

Concerning murrelets, nearly all of the stands currently ≤80 years old under Alternative D would have at least one tree per acre with at least one branch 5 inches in diameter within the 100-year analysis period (13,600 acres or 98%), faster than all alternatives except Alternative E. Alternative D would develop more suitable habitat and target habitat conditions for spotted owls than any other alternative except E. We are very pleased to see a number of conservation measures incorporated in Alternative D to reduce short term adverse impacts to spotted owls and murrelets. Efforts to minimize short term adverse impacts to spotted owls include maintaining existing dispersal habitat, only stands <60 years old would be treated, and in existing dispersal habitat within current spotted owl home ranges, thinning would retain at least 40 percent canopy closure. Within current owl home ranges that currently have less than 40 percent suitable habitat, Alternative D would not thin stands >50 years old. None of the thinning prescriptions under Alternative D would harvest trees >20 inches diameter at breast height (dbh).

The LMS model is a useful tool to compare the consequences of silvicultural actions through time for each of the alternatives. The real value of the modeling results is in demonstrating the comparative outcomes of the alternatives, and absolute values should be interpreted with caution as pointed out in Chapter 4. The DEIS might want to consider emphasizing other late-successional components that are not covered by the model. Down wood and snags are incorporated through actively killing and falling trees. But other components such as development of hardwood patches, likelihood of stand disturbances such as windthrow or fire should be addressed in each alternative if that alternative may change the likelihood of these events occurring. For example, would the stands that are thinned heavier or entered less frequently be more susceptible to blowdown in a wind event? Is individual tree damage (which creates some desired late-successional structural characteristics) more likely with one alternative than another? Trying to predict the occurrence of many of these structures is sketchy, but is there enough knowledge to provide a reasonable assessment as to how one stand trajectory versus another would provide for these other features that cannot be accounted for in the models?

There are a couple of points regarding Issue 3 (risk to existing late-successional forest) that are unclear. First, the discussion on page 65 regarding the relationship between the amount of recently dead trees and the amount of trees likely to be killed by bark beetle is a bit confusing. How does the estimated 4 beetle-killed trees for every 10 down trees compare with the epidemic beetle outbreaks seen in the Coast Range in the 1950s? Are these numbers comparable? Should they be? If "... the most severe outbreak recorded in the Oregon Coast Range" (last paragraph, p. 65) did not produce mortality levels equivalent to 4 additional green trees killed per every 10 dead trees, then should this estimate be used?

Also, the relationship between the description of Issue 3 in the Chapter 4 introduction, the analysis of Issue 3 among the alternatives, and the guidelines addressing this issue in the alternatives could be improved. For example, the alternative descriptions in Chapter 4 generally describes the fire risk as the number of acres by decade within various fuel models listed in the Chapter 4 introduction; bark beetle risk is generally described as the amount of tree mortality expected from bark beetles. It is not clear whether these are considered acceptable risk levels or not. If they are acceptable, do the down wood and snag retention levels meet coarse wood requirements in the Late-Successional Reserve Assessment for the Oregon Coast Province – Southern Portion – R0267 (LSRA)?

Under Goal 2 in the various alternatives throughout Appendix A, there are guidelines to remove cut trees "... as necessary to reduce risk of fire or insect infestation." It is not clear what level of down or dead trees will result in an unacceptable risk of fire or insect infestation. We encourage this be better defined. Also, the way the guidelines are written, it infers that you will not remove any of the cut trees unless they pose a risk to fire or insect infestation. Under the Northwest Forest Plan standards and guidelines, trees cut during silvicultural operations that are designed to develop late-successional forest conditions can be removed even if their retention does not pose a risk, as long as the desired amounts of down wood and snags are met.

We would like to see more discussion under Issue 5 (suitable nesting habitat) on page 73 pertaining to the assumption that branch size is a result of the overall lifespan of the branch. Is this assumption valid and how predictable is this variable? It may be there are many more variables involved than just age (*e.g.* genetics, tree damage) and it is difficult to predict this. If that is true, it should be pointed out up front.

Culvert replacement is included in all action alternatives, yet there is very little detail about how these culverts would be replaced and how their replacement would affect sedimentation rates. General design philosophy for culvert replacement, such as the stream simulation approach versus hydraulic design, should be indicated since this will affect the stream systems into the foreseeable future. Was potential channel incision addressed for culvert replacement where the existing culvert is perched? For perched culverts, there is a high likelihood of continued channel incision upstream of the road crossing once the culvert is replaced. This is especially a problem in lower gradient streams that lack adequate structure. This continued headward migration of channel incision will cause a chronic, and potentially large, source of sediment into the foreseeable future. This process will also cause deepening of the existing channel, causing a disconnection of the stream from its floodplain and a concomitant alteration of riparian vegetation. We would like to see a general discussion of (1) culvert design philosophy, (2) preferred techniques, (3) channel incision potential,

(4) stabilization measures associated with culvert replacements where channel incision is likely, and (5) best management practices (BMPs).

Rock structures, such as weirs, cascades, jetties, and/or ramp logs (p. 39) are presented in Alternative C but are not discussed in any detail in any other part of the document. Are the "structures" referred to in other alternatives also including these rock structures? It is inferred from the other alternatives that the structures are made entirely of wood, so it is unclear how these rock structures fit within the other alternatives. We would like to see the use of rock structures clarified for all of the alternatives and we would also like a description design philosophy, preferred techniques, and BMPs included as well. Appendix A refers to actions which include "Construct woody debris structures with at least 3 key pieces/structure in 3rd, 4th, or 5th-order streams" (p. 231), for example. There is no mention of rock structures.

We prefer the Alternative E stream structure approach over Alternative D because Alternative E achieves almost the same level of recovery (205.3 miles versus 207.7 miles) without the use of artificial anchoring (cable and pins). While artificial anchoring may increase the stability of some structures, there is a long term maintenance component which requires adequate access to structure sites and regular inspection. Also, non-native materials are introduced into the stream system when a failure occurs during a large flood. If the Alternative D stream structure approach is chosen, we recommend that the cabled structures be located in areas with adequate access for maintenance and inspection, and that the structures in more remote locations designed to be stable without the use of artificial anchoring devices.

SPECIFIC COMMENTS

Executive Summary

Page 9, Purpose and Need

This section identifies the actions under this DEIS will be consistent with decisions in the Eugene Resource Management Plan, and will "address" the recommendations of the LRSA. We believe the intent and proposed actions would be more clear if they were identified to "be consistent with" the recommendations in the LSRA. To "address" the LSRA indicates proposed actions covered under this DEIS will direct efforts to, but will not necessarily comply with, the recommendations in the LSRA. Our understanding is the BLM will follow the recommendations in the LSRA, and does not anticipate the need to submit individual projects to the Regional Ecosystem Office for review.

Chapter 1

Page 25, Purpose and Need

See comment above on page 9, Purpose and Need.

Chapter 2

Page 33, Introduction

This section identifies the ability for the decision maker to select a new combination of components in the Record of Decision. Components such as forest silviculture, instream restoration, and road decommissioning are somewhat separable. If the final Record of Decision changes from the draft preferred alternative, the Service would encourage the BLM to retain components of Alternative D (e.g., forest silvicultural prescriptions and associated guidelines) which have the least potential short term impacts, yet accomplish the most long term benefits for spotted owls, murrelets, and coho salmon. Alternative D and E are considerably more effective than the other alternatives in speeding the development of late-successional forest structure, however, Alternative E focuses on an aggressive thinning regime which may result in negative short term effects to spotted owls. In addition, Alternative E retains few options for changing management direction into the future.

Page 40, Alternative D

In order to identify one of the differences between Alternative D and Alternative F, it would be helpful in this section to include in the thinning description that some proportional thinning would occur in Alternative D, as opposed to thinning from below proposed in Alternative F.

Page 44, Table 2

For Alternative D, will 8.2 or 3.8 miles of stable instream structures be created on 3rd to 5th -order streams? Table 2 (p. 44) and Table 8 (p. 177) indicates 8.2 miles of instream structures, while Table 1, pages 34 to 35 indicates 3.8 miles of instream structures.

Chapter 3

Page 55, Northern Spotted Owl and Marbled Murrelet

How many acres of suitable murrelet habitat occur in the planning area? How far away is the closest occupied murrelet site?

Page 55, Coho Salmon and Aquatic Restoration

What is the relative importance of this watershed to coho compared to the Siuslaw basin? Does this watershed provide a proportionately higher percentage of spawning habitat compared to the entire basin? How many miles of spawning habitat is available for coho? Is the best remaining coho habitat in the planning area on BLM?

Page 56, Coho Salmon and Aquatic Restoration

How effective are the six "cascades"? Is there monitoring data that show these structures are effective at recovering stream processes without causing negative impacts? There is some concern about reduced fish passage at these types of structures. A conceptual drawing with a photo of an

existing constructed cascade would be helpful. Are these cascades proposed for all of the action alternatives with instream structures included?

Chapter 4

Page 76, Sedimentation

This section identifies that application of BMPs would eliminate the potential for sedimentation to streams from yarding of timber. It would be helpful for the reader to identify in this section the document and page numbers where these BMPs can be found.

Page 77, Culvert Replacement, Instream Projects, and New Road Construction

Are there specific BMPs the BLM follows for instream projects and new road construction involving roads which intersect streams? It would be helpful for the reader to identify these in this section of the document and page numbers where these BMPs can be found.

Page 116, Issue 5: What are the effects of restoration activities on marbled murrelet habitat?

The North Coast Level 1 team is in the process of proposing new guidelines to determine when and if potential habitat needs to be surveyed within LSR land allocations. The Level 1 team is considering a proposal to the Level 2 team that surveys will not be required in potential habitat (surveys optional) if thinning prescriptions meet certain agreed upon standards. The prescription surrounding this potential habitat would require Level 1 concurrence in order to comply with this revised guidance. Depending on the outcome of this process, the wording in this document could be updated to reflect any final recommendations.

Page 117, Issue 7: What are the effects of restoration activities on coho salmon habitat?

Under Alternative C, how many miles of 3rd to 5th -order streams would have instream work, 3.8 or 8 miles. Table 1 on pages 34 to 35 indicates 3.8 miles of instream structures will be created.

Page 118, Key Points

How many miles of 3rd to 5th -order streams would have instream work, 3.8 or 8?

Page 133, Issue 5: What are the effects of restoration activities on marbled murrelet habitat?

See comment above on page 116, Issue 5: What are the effects of restoration activities on marbled murrelet?

Page 134, Issue 6: What are the effects of restoration activities on northern spotted owl habitat?

This section identifies standards which would be used to reduce short term impacts to spotted owls. Management within late-successional reserves should be protecting currently known owl sites and we believe these standards will accomplish this. Owls will often use younger stands (>50 years

old) when other older forest is not available. The provision to not thin within stands over 50 years old in current owl home ranges which currently do not support at least 40 percent suitable habitat is conservative, but we believe a necessary measure to reduce potential impacts of thinning in the short term. In this section, it would be helpful to define what a current owl home range is. Is this provision for currently known owl sites or known owl sites since 1994? Some of these standards identified in this section are not reiterated under Alternative D in Appendix A and we suggest they should also be included there.

Page 151, Riparian stands

It would seem as though Alternative E would take a considerably shorter time than the other alternatives to develop a sufficient density of very large trees to provide more stable key pieces. Would Alternative E take a considerably longer time to develop these larger trees, or is this sentence misstated?

Page 166, Issue 5: What are the effects of restoration activities on marbled murrelet habitat?

See comment above on page 116, Issue 5: What are the effects of restoration activities on marbled murrelet?

Page 171, Foster development of late-successional forest structure and composition in plantations and young forests

This section references Figures 57 to 62 which illustrate the effectiveness of each alternative in the speed of development of late-successional forest structure. It is interesting to note that the understory depicted in Alternative E (Figure 61), seems quite small and sparse compared to Alternative D (Figure 60). Do these figures represent a typical thinning regime and time scale for comparative purposes? With Alternative E, one would think under a typical scenario, the understory growth would be better developed and as least as robust as the understory depicted in Alternative D. When describing these figures in the text, it may be helpful to define the time period of in-growth post treatment, in order for the reader to make a relative visual distinction between the alternatives.

Page 177, Table 8. Summary of effects on coho salmon habitat

Is the additional number of miles of habitat 7 or 8? It is unclear in the document (except for Table 8) which of the alternatives except for Alternative A will create 7 or 8 miles of fish habitat. Perhaps this could be displayed in Table 1 on page 34.

APPENDIX A

Page 229, Goal 2, mitigation measures, second bullet

See comment above on page 116, Issue 5: What are the effects of restoration activities on marbled murrelet?

Page 231, Objective: Increase stream structure to 56 structures/stream mile along 3.8 miles of streams within 10 years

Is it 3.8 miles of stream or 8 miles of stream?

Page 234, Alternative D, Goal 2, Guidelines

Guidelines are defined on page 221 as optional or "may be used." The EIS should provide an assurance to the public that substantive sideboards will be incorporated into project design criteria, and not identified as an option to consider. For instance, guidelines such as, "Do not select trees >20 inches dbh for cutting. Leave in the stand any trees >20 inches dbh felled for safety or operational reasons," should be stated as a mitigation measure implemented in timber sales within this LSR.

Page 239, Goal 2, Guidelines for thinning in 51-60 age class, bullet 8

The statement, "Generally avoid thinning within 1.5 miles of owl activity centers that currently have less than 40 percent suitable habitat," is a recommendation from the LSR Assessment (1997). However, on page 134, Issue 6, the second sentence states, "Within current owl home ranges that currently have less than 40 percent suitable habitat, Alternative D would not thin stands >50 years old." We recommend identifying this standard under this guideline section. Appendix A would be an appropriate place to list any other restrictions which may have been embodied within the environmental consequences section (Chapter 4). For instance, page 134 states, "In existing dispersal habitat within current owl home ranges, thinning would retain at least 40 percent canopy closure."

Page 239, Goal 2, Guidelines for thinning in 51-60 age class, bullet 10

Why is there a guideline that states, "Generally avoid thinning stands with little or no late-successional forest within approximately one mile?"

Page 239, Goal 2, Guidelines for thinning in 51-60 age class, <100' from streams

Recruitment of large wood within this zone is of particular importance for fish, however, many of the objectives for LSRs are similar to riparian reserve objectives and thus similar treatments are appropriate. The Service recommends a variable spacing thinning regime as well as thinning from below within the riparian reserves, including within the riparian stream zone (<100' from streams).

Page 256, Goal 2, Guidelines to Thinning 40 to 80-year Age Class

All of the alternatives included in Appendix A include the guideline, "Do not select trees >20 inches dbh for cutting. Leave in the stand any trees >20 inches dbh felled for safety or operational reasons." Why are these guidelines not included with thinning the older age classes in alternative F? It would seem this would be a standard for all the alternatives in order to be consistent with the LSRA standards and guidelines.

The Service acknowledges and commends the BLM for their upland and riparian habitat restoration efforts, focusing on management activities within young stands, and actively addressing road issues by decommissioning problem roads and overall reducing road miles within Federal land ownership. We thank you for the opportunity to comment on the DEIS and allowing for our continued involvement in project planning and implementation. If you have any questions regarding these comments, please contact Kathy Roberts or Lee Folliard at (503) 231-6179.

LITERATURE CITED

Bureau of Land Management. 2003. Draft Environmental Impact Statement Upper Siuslaw Late-Successional Reserve Restoration Plan, Eugene District, Eugene, Oregon. 218 pp + appendices.

USDA Forest Service and USDI Bureau of Land Management. June 1997. Late –Successional Reserve Assessment Oregon Coast Province – Southern Portion (RO267, RO268). 86 pp. + appendices.

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10/15/2003 04:20 PM

To: "'or090mb@or.blm.gov'" <or090mb@or.blm.gov>
cc:
Subject: LSR 267 Attn: Rick Colvin

Rick,

Weyerhaeuser has reviewed your Draft EIS for the Upper Siuslaw LSR Restoration Plan (dated July 2003) and we want to comment on the proposed road decommissioning plans under preferred Alternative D.

We have not reviewed each of the individual roads you have proposed for decommissioning in the Siuslaw area, but would want to spend more time considering those roads that exist on Weyerhaeuser property or that provide access to Weyerhaeuser property. I know that you are aware that roads covered under the terms of our existing reciprocal right of way agreements can only be decommissioned with our consent (as detailed in the last paragraph on Page 63 - Issue 1, Chapter 4). As we have been doing historically, Weyerhaeuser will continue to cooperate with the BLM on identifying roads for decommissioning on our adjacent properties.

Thanks for the opportunity to comment,

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10/15/2003 12:35 PM

To: <or090mb@or.blm.gov>
cc:
Subject: Comments on Draft EIS

Attn: Rick Colvin:

I acquired a copy of the Draft EIS for the Upper Siuslaw Late-Successional Reserve Restoration Plan last month during the Public Lands Foundation's annual meeting in Eugene. Based on my reveiw of the Plan and Dr. Hardt's eloquent description of it at the meeting it is obvious that the District has done an outstanding, highly professional job in planning for restoration activities in the planning area. In my opinion the Preferred Alternative is clearly the best and should be implemented as scheduled.

My only concern is with Issue 3 as it relates to the potential for wildfire and possible destruction of private developments within and adjacent to the planning area. Given the intense national discussion about this issue in recent years it seems to me that Chapter 3 should identify existing developments within and adjacent to the planning area and the Preferred Alternative provide for thorough slash disposal (i.e., piling and burning) in thinning areas that lie within a minimum specified distance (e.g., 1/4 mile) of private property containing such developments.

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October 15, 2003

Steven Calish
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Re: Upper Siuslaw Late-Successional Reserve Restoration Plan DEIS

Dear Mr. Calish,

Thank you for this opportunity to comment on this DEIS. As you may know, ONRC is supportive of thinning young stands that is designed to provide some complexity and diversity into dense, uniform stands. While there are many pathways to developing late-successional habitat, clearcut logging flowed by aggressive regeneration efforts of decades past has resulted in millions of acres of dense, uniform mid-seral stands across much of the federal public forestland in the Pacific Northwest. The level of uniformity of these mid-seral stands and the lack of old forests, particularly in the coast range, falls far outside what we would expect given the historic range of variability. Variable density thinning these dense mid-seral stands without constructing significant amount of new roads and otherwise protecting the soil resource will get all of our eggs (mid-seral stands on a very similar trajectory) out of one basket.

We also support large projects that are exclusively young stand thinning and restoration projects like road decommissioning, fish passage improvements, and in-stream structure placement. Large planning areas that focus on non-controversial projects stretch limited agency resources and by accomplishing a lot of labor intensive work, employ a lot of folks on the ground in the mills.

We congratulate you and the ID team for preparing a document with a broad range of alternatives. Young stand thinning designed to restore complexity and diversity is a relatively new branch of forestry. In order to make the right choices and develop tools to effectively and efficiently plan and implement variable density thinning, different approaches should be examined and analyzed. You have looked at five action alternatives with very different objectives. ONRC supports the goals of Alternative D, the preferred alternative.

The developing science on young stand thinning suggests when thinning dense stands for diversity, the youngest stands will benefit the most. In this age of shrinking budgets, it is tempting to do variable density thinning only where the logs can pay their way out of the woods. We appreciate that in all alternatives, you plan to thin 90-100% of the stands less than 20 years old. In the preferred alternative, you plan to thin 90% of the 2900 acres of these stands to low densities at variable spacing in the terrestrial forests.

Given that many of the commercial stands were pre-commercially thinned with high-density, timber producing stands in mind, it seems appropriate to set the next cohort of mid-seral stands on a different trajectory than the dense stands that are currently mid-seral. Retaining deep crowns of these trees should facilitate the development of habitat suitable for murrlets and other species dependent upon large branches.

When commercially removing material in LSRs, it is critical that the trees that end up on trucks are truly bi-products of a project designed to promote diversity. Traditional thin from below commercial thinning may retain crown and release leave trees as well as maintain options for the future, but the research by Carey, Spies and others seem to indicate that thinning for the development of late-successional habitat should promote spacing diversity between and among stands. Alternative D appears to accomplish this goal better than any of the other alternatives. However, although the summary table on page 35 describes the thinning in all age classes as "variable spacing", much the thinning described in Appendix A is "thin from below" prescriptions with "approximate even spacing." While there does appear to be some variability in the prescriptions, we are concerned that traditional commercial thinning more or less designed to capture mortality will not result in promoting late-successional characteristics.

Why do you feel that the riparian stands in all age classes to be treated should be thinned from below? Although it is important to recruit large trees quickly in riparian areas to promote more CWD in streams, riparian reserves also should provide late-seral habitat corridors for terrestrial species. Variable density thinning can promote both faster growing trees and more complex forest structure.

While we are generally supportive of the idea of thinning in young stands, the sticking point for us usually is about roads. In many cases, we feel that agencies ignore a basic balance of harms argument. In most cases, the cost of building a half-mile of new road construction outweighs the cost of not treating a 30 acre unit, especially if the roading is through LSR or Riparian Reserve. However, BLM has developed a no new roading alternative as well as a 200' cap of each temporary spur road in the preferred alternative. Alternative D would build a total of 3.6 miles of new road to thin (with commercial material removed) approximately 5700 acres. Given the long-term benefits to the stands slated for treatment, we are willing to accept the impacts that even temporary roading has. Alternatives that would not build roads but still treat the stands would be prohibitively expensive.

There may be a small number of situations in which as this projects moves into implementation, that BLM finds a longer road spur needs to be constructed or a road needs to be punched through a sensitive area or over fragile soils. We ask that BLM be flexible in dropping portions of units in which access is more difficult or cause more impacts than expected.

We are pleased to see that the BLM has proposed extensive road decommissioning in all of the action alternatives. Why is it that more road is decommissioned in Alternative B, with thins fewer acres and costs more money than it will produce, than any of the other

action alternatives? Couldn't BLM decommission the same roads under alternative D? With the road densities at 4.4 miles of road per square mile of forest, 65 miles of road capable of delivering sediment into streams, and with 96 miles of roads that do not provide legal public access in the planning, it seems like there is both need and opportunity to decommission many roads.

The design features for road decommissioning look good. In our experience, making the road appear completely impassable at the road entrance is the most critical action to keep the road from being used. In some cases, it may not be appropriate or necessary to rip the road surface if the road is already being reclaimed.

We are also pleased to see that the BLM is committed to remove or replace all fish-barrier and high risk culverts under alternative D (page 40). Does this mean that all 73 culverts mentioned on page 76 and detailed on pages 272-3 are to be replaced or removed? In order to recover populations of listed fish as well as to promote a healthy aquatic environments, stream crossings that bleed sediment or have the high risk of failure should be amongst the highest priority for the BLM to repair.

The entire planning area is in designated critical habitat for the Northern Spotted Owl (NSO). Given the lack of late-seral habitat in the planning area specifically and the coast range in general, it is sound conservation biology to promote the development of roasting and foraging habitat for NSO. The short-term impacts to dispersal habitat are well worth the long term benefits to late seral habitat. Given all the private land in the vicinity, mid-seral stands that can serve as dispersal habitat are not going to be in short supply. With only one of the nine spotted owl sites in the project area with more than 40% suitable habitat within its home range, it is absolutely essential to develop more habitat.

The EA states that escaped slash burns have been the most common source of ignition in the planning area. While obvious care should go into slash disposal, BLM should burn as much slash as possible to reduce the amount of fuels most likely to burn hot and fast in an uncontrolled situation. This should be done especially near roads.

The component of late-successional structure most difficult and longest term to develop is a snag and CWD debris component. We agree with the LSRA (pg 59-60) states while all size classes serve an important ecological function, it is the larger snags (greater than 20" dbh and 20' tall), which are critical for wildlife, such as cavity-dependent species… There is very limited opportunity to create snags >20" in diameter in the 25-50 year old plantations." That is why all valuable large snags that remain in these stands must be retained and protected. Page 54 of the LSRA says that BLM should "maintain existing structure i.e., large trees, wolfy limbs, CWD, snags."

Creating small, hard snags cannot mitigate loss of any large snags, soft or hard. The agency must do away with the caveat that they will protect snags "except for safety or operational reasons." (DEIS, pg. 239). This is based on a false choice between snags and safety. The agency can buffer snags from activities that involve workers, then all ecologically important snags can be protected. Unthinned patches around large snags

will also create more horizontal diversity across the landscape. The BLM must consider this as an alternative to their proposed “management by caveat.” An example of this was the Umpqua National Forest, Cottage Grove Ranger District’s 2001 decision to burn a picnic table near Moon Falls in order to avoid placing the public in a hazardous situation with respect to a nearby snag. Similarly, the agency here should save the snags by avoiding the activity in the hazard zone around the snags.

Variable density thinning should create amble opportunities for killing trees for snags in the future, when released trees grow larger and become more valuable for wildlife. A pulse of created snags now is a sound idea, followed up by creation of more in the future (as the BLM plans to do). Snags and CWD generally have patchy distribution, and it appears that BLM has recognized this in their plans to create snags and CWD.

Sincerely,
/S/ Jeremy Hall
Jeremy Hall

"M.&K. Chase"
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10/15/2003 10:58 AM

To: <or090mb@or.blm.gov>
cc:
Subject: Attn. Rick Colvin--Draft EIS

Dear Field Manager Steve Callish,

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for the Upper Siuslaw Late Successional Reserve Restoration Plan. These comments are in behalf of the Public Lands Foundation. (PLF) is a 501(c)(3) non profit public benifit organization founded in 1987 and headquartered in Arlington Virginia. PLF's mission is to foster the proper use, protection, restoration, conservation and management of BLM administered lands.

We support the districts (preferred alternative) alternative D. However, we have the following observations. The access that roads provide are an important management tool. Professional management of our public lands is enhanced with good physical access. Alternative D proposes decommisioning of 27% of the roads. Although this does not foreclose access by hicking, it essentially limits access to over a quarter of the public lands. We understand that the plan does not envision much, on the ground, action after the first decade. However, we think that as fast as things change, that it is presumptious to think that these roads will not be needed in the second, third or fourth decades. Therefore we think any decommisioning activity should be of the kind that keeps future access options open. The 5% sedimentation environmental consequence seems quite minimal. We favor the passive decommisioning, blocking of roads and dealing with known drainage issues, but not tilling, scarifing and replanting the road running surfaces.

Chapter 4, p.124 discusses what appears like snag creation through the use of bark beetles. This seems highly risky. The plan should include the capability to salvage bug infested timber if this secario gets out of blance. We are also concerned that all trees in the riparian area are left where they fall. It would seem that there is a point where there is enough down wood and some of this material could be utilized.

We have witnessed BLM employees do great amounts of professional work, but can't help but ask...Can you cover this much ground(8400 acres)? The cutting prescriptions are not simple and we recognize that this proposal only covers a portion of the districts future work load.

Thank you for allowing us to comment.

Oregon Representative PLF
Mel Chase
6260 Oak Grove Rd.
Rickreall, OR 97371

Rick Colvin, LSR Restoration Team Leader October 25, 2003
Steven Calish, Field Manager, Siuslaw Resource Area
Eugene District of the Bureau of Land Management
P. O. Box 10226
Eugene, OR 97440-2226

Re: Draft Environmental Impact Statement for the Upper Siuslaw Late-Successional Reserve Restoration Plan for Lane and Douglas Counties, Oregon

Dear Mr. Colvin:

I am submitting these very brief comments on my own behalf, and also on behalf of Coast Range Guardians, and Canaries Who Sing.

I have been hampered by not being able to access the version of the portable document format (pdf) offered by the Bureau of Land Management's website. I did not receive hard copy of this Draft EIS in the mail, so have no hard copy to look at either. However, I would encourage the BLM to choose the preferred alternative, Alternative D – threatened and endangered species recovery. I would further encourage the BLM to decommision more roads than this alternative proposes, and to build less new roads than it proposes.

I am not sure that the BLM can force hardwood-dominated riparian areas into higher densities of conifers without consequences to the environment and to the salmon streams. Hardwoods gradually are replaced with conifers without manipulation. Just plant the conifers, they will eventually replace the hardwoods.

Also, the use of chemical fertilizers and chemical/biological pesticides at the Tyrrell Seed Orchard near Lorane should be replaced with non-chemical means, to prevent impacts on the upper reaches of the Siuslaw in order to aid the restoration of the Late-Successional Reserves farther downstream, and to maximize the benefits to the endangered species (especially Coho, but also to spotted owls, and marbled murrelets).

All actions taken by the BLM, whether in the Late-Successional Reserves Draft EIS, or in the Integrated Pest Management Draft EIS, or in the Tyrrell Seed Orchard Insect Control EA currently scheduled for implementation in February and March of 2004 need to be looked at together for their effects on the efforts proposed to protect Coho, spotted owls, and marbled murrelets in the Upper Siuslaw Late-Successional Reserve area.

Respectfully submitted by,

Jan Wroncy, on my own behalf
and on behalf of Coast Range Guardians,
and Canaries Who Sing
Post Office Box 1101
Eugene, OR 97440

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LAND MANAGEMENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

2003 DEC -5 A 9:33

EUGENE DISTRICT OFFICE
EUGENE, OREGON

DEC 01 2003

Reply To
Attn Of: ECO-088

02-072-BLM

Bureau of Land Management
Eugene District
P.O. Box 10226
Eugene OR 97440-2226
Attn. Rick Colvin

Dear Mr. Colvin:

We have reviewed the draft environmental impact statement (EIS) for the **Upper Siuslaw Late-Successional Reserve Restoration Plan**. We reviewed it in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA). Section 309, independent of NEPA, specifically directs EPA to review and comment in writing on the environmental impacts associated with all major federal actions and the document's adequacy in meeting NEPA requirements.

Based on our review, we have rated the draft EIS, EC-2, Environmental Concerns - Insufficient Information. This rating and a summary of the comments will be published in the Federal Register. A copy of the EPA rating system used in conducting our review is enclosed for your reference.

We generally support your selection of Alternative D as the preferred alternative, but we have some concerns with the lack of information on the existing water quality environment, water quality impacts, sediment delivery to streams, and treatments for existing and proposed roads in the project area. Detailed comments are attached.

We thank you for the opportunity to review and offer comments on this project. If you have questions, please contact me at (206) 553-6911 or Jonathan Freedman at (206) 553-0266.

Sincerely,

Judith Leckrone Lee

Judith Leckrone Lee, Manager
Geographic Implementation Unit

Enclosure

02-072-BLM
CEQ # 030370

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US Environmental Protection Agency (EPA) Detailed Comments on the Upper Siuslaw Late-Successional Reserve Restoration Plan

Format and Alternatives

The format of the EIS is structured around the ten issues for analysis the Bureau of Land Management (BLM) has selected and listed in the Executive Summary. Chapter 3 is tightly focused on explanation of the methodology of analysis of each issue, rather than characterizing the existing environment in the project area. This structure is carried forward into Chapter 4, the analysis of environmental effects. This organization facilitates understanding of the overall effectiveness of each alternative in addressing the issues for analysis and in considering which alternatives meet the management goals of BLM. However, the analysis in Chapter 3 is less successful at the task of presenting "the impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice" (40 CFR Part 1502.14). The format of Chapter 4 makes comparing the impacts of each alternative on the environment less clear, because each alternative is primarily rated on how well it addresses the issues for analysis rather than how it compares to other alternatives, and how the overall environmental impacts of the proposal compare directly to the environmental baseline (existing environment). There is relatively little disclosure of the effects of the action on individual environmental resources (ie., fisheries habitat, water quality, smoke management and air quality, cultural resources). Consequently it is more difficult for reviewers to discern which alternative might be environmentally preferable, or whether there might be opportunities to "mix and match" elements of different alternatives to maximize environmental benefits while still meeting the project purpose and need.

We recommend that Chapter 3 be revised to include a summary of the existing environment to provide a baseline for comparing impacts, and that the final section of Chapter 4, Comparison of the Impacts of the Alternatives, be expanded to include more explanation of the impacts of alternatives, in addition to describing to what degree the issues for analysis are satisfied by each alternative. This will provide the decisionmaker more complete justification for the conclusions which are now presented in very condensed form in Chapters 2 and 4.

Water Quality

One of EPA's key concerns is that the proposed restoration result in improvements in water quality, or not contribute to either short or long term deterioration in water quality, particularly for water quality limited streams, if any, in the project area. The EIS only briefly discusses existing water quality and the effects of the treatments proposed in the EIS. In Chapter 1, the EIS states that BLM has chosen not to analyze the effects of the proposed treatments in the alternatives on water quality parameters such as stream temperatures, dissolved oxygen levels, organic material sediment, peak flows and low flows in the Siuslaw River basin and tributaries. We strongly recommend that the EIS include both a more complete characterization of existing water quality conditions, including past

and present sources of impairment in project area watersheds, and the effects of each alternative on these parameters.

EPA supports the in-stream habitat treatments proposed for Alternative D, and would prefer the riparian area prescriptions for this Alternative that maximize shade and leave all standing trees in place over those proposed for the other alternatives. We encourage BLM to explore all reasonable opportunities for further water quality improvements, even if Alternative D is selected.

Consistency with the Northwest Forest Plan

The main body of the EIS should summarize how the proposed restoration would achieve the components of the Northwest Forest Plan's Aquatic Conservation Strategy, and specifically how it would address the strategy objectives.

Roads and Sediment Delivery to Streams

Forest roads are significant contributors to the degradation of the ecosystem because they negatively affect water quality, hydrology, sediment delivery to streams, terrestrial and aquatic habitat and biodiversity. Federal land management agencies often lack sufficient funding to adequately maintain current road systems on public lands to their own environmental standards. The management of the Upper Siuslaw's road system is a critical element in maintaining or restoring water quality for overall ecosystem health, achieving the goals and objectives of the Northwest Forest Plan for Late Successional Reserves, and meeting the BLM's goal of restoration of coho salmon habitat (Issue for Analysis #8).

Action alternatives presented in the EIS have differing prescriptions for road decommissioning, ranging from 24 miles in Alternatives C and F to 79 miles in Alternative B. Each alternative also includes "passive" road decommissioning. However, the EIS does not appear to specify how many roads being decommissioned would simply be closed to vehicle access, and how many road miles would be obliterated and restored to natural conditions. The EIS also states that some roads would undergo "passive" decommissioning, where they would continue to be in use and eroding sediment until they become impassible due to lack of maintenance and traffic. When roads are "passively" decommissioned or simply closed to access, they would continue to deliver sediment to stream and may be an environmental detriment to ecosystem elements. The EIS should specify for each alternative how many road miles are being 1) obliterated; [2) decommissioned by being closed to vehicle access; and 3) passively decommissioned.

The comparison of sediment production from roads in the Upper Siuslaw (Graph 43 in Chapter 4) predicts that all alternatives would result in an equal reduction sediment production by existing roads from the no action alternative. There is little discussion how this result was arrived at or whether this is a significant beneficial impact that would include water quality conditions in project area streams. The EIS should make such a determination. Graph 43 also predicts equally very low sediment production from new roads in all of the action alternatives, even though road prescriptions for the alternatives are distinctly different. Again, there is no discussion of how the EIS

made these conclusions. The EIS should describe how the results were derived.

EPA recommends maximizing all reasonable opportunities for road decommisioning and obliteration, whatever alternative is selected. We would also strongly discourage selection of the road prescription for alternatives E and F, which call for construction of 15.0 miles and 11.5 miles and of new roads respectively.

The data on sediment production from culvert failures should be explained more fully. Graph 43 states that 7,028 cubic yards of sediment are presently produced from failed culverts. The graph also predicts that by comparison, all action alternatives would produce an extremely low temporary sediment pulse. The EIS should explain how the conclusions for the production of a temporary sediment pulse was arrived at for all of the alternatives.

Effects on Late Successional Forests

Under Alternatives C and F, and no-action, the EIS predicts an elevated fire risk for the next 40-60 years. While the text implies that the risk may be overstated by the fuels model used in the analysis, it is difficult to conclude whether the risk is unacceptably high or not, and the EIS does not analyze what the effect on late-successional stands might be and whether it meets NWFP standards, or Resource Management Plan standards. The EIS should include this information, and should explain the basis for the choice of restoration treatments, particularly if the more aggressive treatments of Alternative C and F are chosen.