FINAL DECISION DOCUMENTATION

for

Timber Sales within the Revised Middle Cow LSR Landscape Planning Project

Environmental Assessment Number OR118-05-022

United States Department of the Interior
Bureau of Land Management
Medford District
Glendale Resource Area
Douglas County, Oregon

INTRODUCTION

An environmental assessment (EA# OR118-05-22), including a Finding of No Significant Impact (FONSI), for the Middle Cow LSR Project was made available for public review from July 5, 2006 to August 4, 2006. Two comment letters were received. The Bureau of Land Management's (BLM) responses to the comments in those letters are found in the attached *Public Comment to the Revised Middle Cow LSR Landscape Planning Project Environmental Assessment (EA# OR118-05-022) and the BLM Response*. Public comments were considered in reaching a final decision.

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

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

- set aside the 2004 Record of Decision *To Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines in Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern spotted Owl* (March, 2004) (2004 ROD) and

- reinstate the 2001 *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines* (January, 2001) (2001 ROD), including any amendments or modifications in effect as of March 21, 2004.

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

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

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

REVISIONS TO ENVIRONMENTAL ASSESSMENT

The Revised EA replaces and supersedes the original Middle Cow LSR Landscape Planning Project EA (OR118-05-022) previously released on July 5, 2006. Any comments submitted for consideration must be directed to the analysis contained in the Revised Middle Cow Landscape Planning Project EA (OR118-05-022) in order to be considered. The following are changes from the original EA:

1. Appendix 2 has been revised to include migratory birds as Not Affected in the *Migratory Birds (Species of Concern)* section. This revision is in response to public comment.

2. Appendix 11 has been added to include the wildlife biologist's specialist report regarding the rationale for determining migratory birds as Not Affected in Appendix 2.

3. Appendix 2 has been revised to include information explaining why Pacific lamprey and cutthroat trout (Bureau Tracking species) are not affected by the Middle Cow LSR Project and would not lead to listing as a threatened and endangered species. This revision is in response to

public comment.

4. Revisions were made to Chapter 3 to include additional cumulative effect analysis regarding Northern Spotted Owls in Cow-Upper Section 7 Watershed. This revision is in response to public comment.

These modifications are minor and do not change the scope of the project analyzed, nor do the modifications affect the adequacy of the analysis contained in the EA.

DECISION

Based on site-specific analysis, the supporting project record, management recommendations contained in the Middle Cow Creek Watershed Analysis (1999), South Umpqua/Galesville Late Successional Reserve Assessment (2004), as well as the management direction contained in the Record of Decision and Standards and Guidelines of the Northwest Forest Plan (1994), Medford District Resource Management Plan and Record of Decision (1995) and Evaluation of the Medford Resource Management Plan Relative to Four Northern Spotted Owl Reports (2005), I have decided to implement the proposed activities as described in Alternative 2, in two or more separate decisions. The decision rendered below will encompass all actions associated with the density management treatment suitable for timber sales (23 units), riparian thinning, treatment of residual slash from density management thinning (slash/handpile/burn or lop and scatter depending on the fuel loadings after density management), approximately 1.6 miles of temporary road construction, 17 miles of reconstruction, and 45 miles of maintenance necessary to complete the density management treatments, and decommissioning of roads associated with the density management treatments.

Subsequent decisions will be issued at a later date and will encompass the hazardous fuels treatments; riparian restoration; snag and coarse woody debris creation/recruitment; road decommissioning outside of the density management activities; and silvicultural prescriptions to reduce the risk of remnant and large tree loss. Any deferred commercial harvest units or portions of deferred units will be considered for non-commercial density management, small wood removal, or hazardous fuels reduction in the subsequent decisions.

ALTERNATIVES CONSIDERED

The alternatives considered in detail included the No Action Alternative (Alternative 1) which serves as the baseline to compare effects and the Proposed Action (Alternative 2) which initiated the environmental analysis process. A description of both of these alternatives is found on pages 23-30 of the EA.

REASONS FOR THE DECISION

My rationale for the decision is as follows:

1. The Selected Alternative (Alternative 2) addresses the purpose and need of implementing the Medford RMP to manage LSRs “to enhance and/or maintain late-successional forest

conditions" (USDI 1995, pg. 21) and to provide a commodity by-product within the LSR as described in the 2003 O&C Settlement Agreement. This alternative would also meet project objectives for Riparian Reserves to "control stocking, reestablish and manage stands, and acquire desired vegetation characteristics and design prescribed burn projects to attain Aquatic Conservation Strategy and Riparian Reserve objectives" (RMP, p.27).

2. Alternative 1 was not selected because this alternative would not meet the purpose and need of the project (described in Chapter 1 of the EA) to enhance late-successional forest conditions and produce a commodity by-product as described in the 2003 O&C Settlement Agreement.

3. New information regarding the NSO from the following four reports was also considered in this decision.

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

   To summarize these reports, although the agencies anticipated a decline of NSO populations under land and resource management plans during the past decade, the reports identified greater than expected NSO population declines in Washington and northern portions of Oregon, and more stationary populations in southern Oregon and northern California. The reports did not find a direct correlation between habitat conditions and changes in NSO populations, and they were inconclusive as to the cause of the declines. Lag effects from prior harvest of suitable habitat, competition with Barred Owls, and habitat loss due to wildfire were identified as current threats; West Nile Virus and Sudden Oak Death were identified as potential new threats. Complex interactions are likely among the various factors. This information has not been found to be in conflict with either the Northwest Forest Plan or Medford District RMP (*Evaluation of the Medford Resource Management Plan Relative to Four Northern Spotted Owl Reports,* 2005). The Selected Alternative meets the Medford District RMP goal regarding conservation of species while providing a sustainable supply of timber and providing a commodity by-product within the LSR as described in the 2003 O&C Settlement Agreement.

4. Two letters were received in response to the 30-day comment period on the EA and FONSI. Among the comments were several topics which urged the BLM to not log late-successional habitat, to focus density management on young plantations, and to not build temporary roads, along with questions as to the effectiveness of achieving LSR objectives by thinning riparian reserves (refer to Attachment 1 for full disclosure of public comments and BLM's response to those comments).

There are several recent and foreseeable projects on BLM and Forest Service land that have treated or are proposing to treat young plantations within this LSR over the next five to ten years. There are also opportunities to develop and enhance stands within this LSR between the ages of 30-80 years of age, as the Middle Cow LSR Project proposes. The South Umpqua/Galesville LSR Assessment recommends mid-seral thinning for treatment where the following characteristics are missing: multi-level stories, multi-aged stand, diverse stand species, ground vegetation, and a component of hardwoods. Priority areas based on landscape-level criteria notes, "[t]reatment of large areas of mid-seral stands could result in large late-successional blocks within 10-40 years, particularly in the south central portion of the LSR on Medford BLM," (USDA/USDI 2004a, p.54). "Treatments would take advantage of opportunities to optimize habitat for late-successional forest related species in the short term…This will shorten the period of time needed for the creation of large diameter trees," (USDA/USDI 2004a, p.76).

The effects of temporary road construction were adequately analyzed in the EA. The benefit of accessing units to implement a thinning treatment to accelerate the development of late-successional habitat outweighs the impacts to soil productivity on 3.9 acres. Alternate method of access was thoroughly explored during the NEPA process. The placement of proposed temporary road construction has been kept to a minimum and designed to minimize adverse impacts. As stated in RMP (p.34), "Construct roads in late-successional reserves if the potential benefits of silviculture, salvage, and other activities exceed the costs of habitat impairment. If new roads are necessary to implement a practice that is otherwise in accordance with these guidelines, they will be kept to a minimum, be routed through unsuitable habitat where possible, and be designed to minimize adverse impacts. Alternate access methods, such as aerial logging, will be considered to provide access for activities within reserves."

Consideration for entry into Riparian Reserves would be to achieve similar objectives as those stated for the LSR with the addition of a sustainable recruitment of large woody debris (LWD) i.e. multiple size classes. Management activities would include thinning dense stands and thinning around conifers in dense hardwood patches. Treatments would occur in accordance with the Ecological Protection Width Needs chart (NFP ROD, B-15) to ensure protection of streams while restoring stand health. The Northwest Forest Plan anticipated that there would be harvesting in the riparian reserves and states that "Apply silvicultural practices for Riparian Reserves to control stocking, reestablish and manage stands and acquire desired vegetation characteristics" (ROD, p. C-32).

FINDING OF NO SIGNIFIANT IMPACT

Two letters were received during the 30-day review period for the EA and FONSI. Though one letter did ask for additional information, comments did not identify a flaw in assumptions, analysis, or data that would alter the environmental analysis disclosed in the EA or conclusions documented in the FONSI. It is my determination that Alternative 2 will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition for significance in context or

intensity as defined in 40 CFR § 1508.27. Therefore an environmental impact statement will not be prepared.

ADMINISTRATIVE REMEDIES

This decision is a forest management decision. Administrative remedies are available to persons who believe they will be adversely affected by this decision. In accordance with the BLM Forest Management Regulations (43 CFR § 5003.2(1)), the decision for the timber sales will not become effective, or be open to formal protest, until the first Notice of Sale appears in a newspaper of general circulation in the area where the lands affected by the decision are located.

To protest a forest management decision, a person must submit a written and signed protest to Glendale Field Manager 2164 NE Spalding Avenue, Grants Pass, OR 97526 by the close of business (4:00 p.m.) not more than 15 days after publication of the Notice of Sale. The protest must clearly and concisely state which portion or element of the decision is being protested and why it is believed to be in error, as well as cite applicable regulations. Faxed or emailed protests will not be considered.

IMPLEMENTATION DATE

If no protest is received by the close of business (4:00 p.m.) within 15 days after publication of the Notice of Sale, the decision will become final. If a timely protest is received, the decision will be reconsidered in light of the statement of reasons for the protest and other pertinent information available, and a final decision will be issued in accordance with 43 CFR § 5003.3.

CONTACT PERSON

For additional information contact Donni Vogel, Natural Resource Specialist, (541-471-6528) or Katrina Symons, Glendale Field Manager, (541-471-6653) at the Grants Pass Interagency Office, 2164 Spalding Avenue, Grants Pass, OR 97526.

_____ _____

Katrina Symons Date
Field Manager, Glendale Resource Area
Medford District, Bureau of Land Management

ATTACHMENT 1

PUBLIC COMMENT TO THE REVISED MIDDLE COW LSR PLANNING PROJECT ENVIRONMENTAL ASSESSMENT (EA# OR118-05-022) AND BLM RESPONSE

The Middle Cow LSR Planning Project Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) were released for public comment from July 5, 2006 to August 4, 2006. A public notice appeared in the Grants Pass Daily Courier newspaper on July 5. The EA and FONSI were sent to 56 parties that had expressed an interest in the project. A total of two letters were received as a result of this scoping.

Public comments (direct quotes) and Bureau of Land Management's (BLM) responses to those comments are presented in this attachment to the Final Decision Documentation for Timber Sales within the Revised Middle Cow LSR Landscape Planning Project Environmental Assessment (EA# OR118-05-022).

Joseph Vaile, Campaign Director, Klamath Siskiyou Wildlands Center (KS Wild)

Comment 1: *"Our organizations provided extensive scoping comments on the proposal on June 22, 2005. In those comments we specifically requested the development of an alternative that did not build roads but instead reduced overall road density in the LSR. This alternative would have focused management on younger managed stands and prioritized fuel treatments rather than logging older stands or reducing spotted owl habitat in this LSR. This alternative would have best protected the LSR while enhancing late-successional habitat. This alternative would have best met the ecological objectives (Purpose and Need) of the project.*

Unfortunately, many of our comments are not reflected in the proposed action (Alternative 2) for the Middle Cow LSR project. Clearly, the timber managers at the Medford BLM moved ahead with the same plans in the EA that were already drawn up prior to scoping. When the public attempts to offer suggestions to the BLM and is ignored, the public is left to assume that the BLM does not take the NEPA public commenting process seriously. The BLM is forging ahead with predetermined plans to log these forests as aggressively and quickly as possible. It appears that the BLM perceives National Environmental Policy Act as a hurdle to overcome, not a tool for informed decision-making. Clearly the BLM cares somewhere between zero and little about what the public thinks – unless it is considering the comments of large timber corporations or industry trade groups."

BLM Response: KS Wild is incorrect that the Decision Maker did not consider public comments. BLM may disagree with a commenter's position, however, this does not mean that BLM "ignored" those comments or did not consider them. BLM held a public meeting in April 2005 after mailing over 1,200 invitations to members of the interested public, including KS Wild. KS Wild chose not to attend the meeting, but did provide eight pages of scoping comments that BLM responded to in 13 pages in Appendix 3 of the EA. BLM expressly considered KS Wild's, and others', comments along with the

recommendations of an interdisciplinary team consisting of professionals experienced in soils, hydrology, fire, wildlife, silviculture, and other natural resources in analyzing potential impacts of proposed actions. The decision maker considered impacts analyzed in the EA and from public comments and then issued her Finding of No Significant Impact for Alternative 2. None of the effects identified, including direct, indirect and cumulative effects, were considered to be significant and do not exceed those effects described in the *Medford District Resource Management Plan/Final Environmental Impact Statement* (June 1995).

This alternative recommendation was acknowledged in the Middle Cow LSR EA in Appendix 1 – Alternative Development Summary (pp. 125-126) but was eliminated from further consideration for the following reasons:

"There are several recent and foreseeable projects on BLM and Forest Service land that have treated or are proposing to treat young plantations within this LSR. Pursuant to the purpose and need for action identified for the Middle Cow LSR Project, the proposed action focuses treatment on stands between the ages of 40-80 years of age consistent with guidance contained in the South Umpqua/Galesville Late-Successional Reserve Assessment (LSRA, 2004). Specifically, the LSRA supports treating stands of 40-80 years of age where key late-successional characteristics are missing such as: multi-level stories, multi-aged stand, diverse stand species, ground vegetation, and a component of hardwoods. This LSRA notes treating stands of this age class would optimize habitat for late-successional forest related species in a shorter time frame than stands of a younger age class that would take several more decades to achieve late-successional habitat characteristics after treatment (USDA/USDI 2004a, p.76).

Temporary road construction is proposed to access treatment units where no roads exist or road conditions are overgrown/inaccessible without opening up roads. The placement of proposed temporary road construction would be kept to a minimum and designed to minimize adverse impacts. As stated in the Northwest Forest Plan (NFP) (p.C-16) and the Medford District Resource Management Plan (RMP) (pp.34, 87), 'Construct roads in late-successional reserves if the potential benefits of silviculture, salvage, and other activities exceed the costs of habitat impairment.'

Units without current accessibility were first evaluated to determine if helicopter logging would be an economically feasible method to remove commercial timber. (As an example the appraisal cost of helicopter yarding came out to $302/mbf, the cost for cable yarding system came out to $139/mbf on the Willy Slide Timber Sale.) Those proposed treatment units found to be economically feasible were identified for helicopter logging (62 acres) while the units found to be uneconomical for helicopter logging were evaluated for temporary road construction as another means to access suppressed stands in need of thinning. This evaluation resulted in the reduction of temporary road construction from three (3) miles to 1.55 miles. The proposed temporary road construction was designed to reduce impacts through implementation of Best Management Practices such as placement of roads on or near ridgetops; avoiding placement within riparian reserves; and decommissioning after use. The total temporary

road construction is 1.55 miles or approximately four acres of new ground disturbing activity. This is equivalent to 0.1% of the proposed activity acres of the Middle Cow LSR Project.

The no action alternative provides the environmental impact analysis of deferring treatment in mid-seral stands and no new temporary road construction and/or tractor logging."

Comment 2: *"Our organizations want restoration-based forestry to move forward in this and other LSRs. We even want treatments to take place in many of the stands identified for management in this project. However, the aggressive approach that the Glendale Resource Area (GRA) takes to LSRs management and, more tragically, to the old-growth forests it administers, is sad and second to none. In the past we have called on GRA to take a "time out." We repeat that request in these comments. Only the most necessary land maintenance should take place until the GRA can demonstrate an ability to responsibly manage public forests.*

Very similar stands that have been identified for treatment in LSRs, such as the Rum Creek project on the Grants Pass Resource Area, recently received our endorsements. Tens of thousands of acres of fuel treatments, thinning of fire-excluded forests and thinning of plantations have received our endorsement on the Medford BLM over the past several years. We are working to encourage the Forest Service and BLM to work on more of these projects.

The Big Butte Springs project, which will log in older plantations and fire suppressed stands on the Rogue River-Siskiyou National Forest, was also endorsed by our organizations. This project will produce 40 million board feet for the Butte Falls Ranger District. The District Ranger and Forest Service staff took the NEPA process seriously, came up with a good project, and adjusted it according to concerns raised by the public. Conservation organizations did not get every environmental protection we sought, but the product was the result of a process that sought to alleviate environmental impacts and protect older forests. Importantly, the Ranger District is not logging older forests elsewhere.

Literally dozens of plantation thinning projects, many in LSRs, have received our endorsement over the past few years in southern Oregon and northern California. Indeed, Middle Cow is the first plantation thin in years that we are scrutinizing closely, because of the GRA's infamously regressive forest practices."

BLM Response: The BLM appreciates KS Wild's support of the 2,501 acres of hazardous fuel reduction proposed in the Middle Cow LSR Landscape Project EA to treat areas where existing vegetation and fuel loading pose a wildfire hazard.

In regard to the concern of older forests, this project proposes treatment in only one old-growth stand (Unit 30-4; 10 acres). Old-growth as defined by the RMP is, "a forest stand usually at least 180-220 years old with moderate/high canopy closures; a multilayered,

multispecies canopy dominated by large overstory trees; high incidence of large trees, some with broken tops and other indications of old and decaying wood (decadence); numerous large snags; and heavy accumulations of wood, including large logs on the ground". The purpose of treating Unit 30-4 would be risk-reduction, not stand development. Remnants and larger conifers within this unit are at risk from overstocked conditions. The desired future condition resulting from this action would change unit conditions only slightly. Treatment would be to thin from below to maintain large remnant ponderosa pine and Douglas-fir and is dependent on Late-Successional Reserve Working Group approval to ensure such treatments comply with LSR objectives of the Northwest Forest Plan.

The majority of stands within the Middle Cow LSR Project are mixed stands containing previously harvested portions resulting in a mixed age class ranging from 30-80 years of age. See response to Comment 1 for the objectives of entering the proposed stands.

KS Wild has stated that their organization wants treatments to take place in many of the stands identified for management in this project. However, it is unclear which treatments they oppose as only one unit is in old-growth and the proposed treatment would be evaluated by the LSR Working Group to determine if such actions would meet the objectives of attaining late-successional conditions within this LSR.

Comment 3: *"In our scoping comments we urged the BLM to focus active management in the South Umpqua/Galesville LSR on thinning the existing tree plantations and reducing the extreme road density. "Temporary" logging road construction, tractor yarding, and mid-seral logging are not appropriate practices in this LSR. We formally requested development, consideration, and implementation of an alternative that prioritizes the treatment of young plantations (0-40 years old) while avoiding new road construction."*

BLM Response: There are several recent and foreseeable projects on BLM and Forest Service land that have treated or are proposing to treat young plantations within this LSR over the next five to ten years e.g. Galesville Valley Project, Wildcat Thin, Slim Jim Timber Sale, Cow Creek Shaded Fuel Break Project (Forest Service), and a categorical exclusion pre-commercial thinning (PCT) totaling approximately 6,245 acres.

There are also opportunities to develop and enhance stands within this LSR between the ages of 30-80 years of age, as the Middle Cow LSR Project proposes. The South Umpqua/Galesville LSR Assessment recommends mid-seral thinning for treatment where the following characteristics are missing: multi-level stories, multi-aged stand, diverse stand species, ground vegetation, and a component of hardwoods. Priority areas based on landscape-level criteria notes, "[t]reatment of large areas of mid-seral stands could result in large late-successional blocks within 10-40 years, particularly in the south central portion of the LSR on Medford BLM," (USDA/USDI 2004a, p.54). "Treatments would take advantage of opportunities to optimize habitat for late-successional forest related species in the short term…This will shorten the period of time needed for the creation of large diameter trees," (USDA/USDI 2004a, p.76). The Middle Cow LSR is located within this central range of the LSR.

The South Umpqua/Galesville LSR Assessment notes priority should be given first to early seral stands for precommercial thinning, then to mid-seral stands. Currently the Glendale Resource Area is implementing young stand density management through a categorical exclusion.

See response to Comment 1 regarding temporary road construction and evaluation of alternate access to proposed units.

Comment 4: *"The Proposed Action in the Middle Cow LSR EA (Alternative 2) would build nearly 1.6 miles of brand new road, while* ***reconstructing*** *and maintaining 62 miles. Only .86 miles of road would be decommissioned. Thus, there would be a* ***net increase of roads in the LSR*** *and associated watersheds! Clearly our comments were ignored."*

BLM Response: Reconstruction is defined in the EA on page 22 as follows: "would restore a road to its original or modified condition. The road is pre-existing however, the road has been unused for an extended period of time and trees are developing in its path." Thus the approximately 17 miles of road reconstruction as noted in Appendix 5 (Road Hauling Routes and Maintenance for Alternative 2, pp. 205-207) does not constitute a net increase of roads in the LSR. The remaining 45 miles are proposed for road maintenance. The 1.6 miles is temporary road construction to be decommissioned after use. Therefore temporary roads also do not contribute to the net increase in road density. The Middle Cow LSR EA would result in a net reduction of 0.86 miles of roads as a result of decommissioning existing roads.

Comment 5: *"Alternative 2 would also log in older forests that are currently classified as late-successional. It is not clear to us how logging trees up to 20 inches DBH in current LSOG forest would enhance the late-successional characteristics in the project area, LSR and CHU. 36 acres of spotted owl critical habitat would be removed and 780 would be degraded in the CHU. In the entire project 300 acres of suitable NRF northern spotted owl habitat would be downgraded. EA at 30. Nearly 2,500 acres would be degraded, some in CHU. Ibid. Moreover, trees greater than 20 inches could be logged in the course of the timber sale for tractor or cable yarding, road construction, landing construction, or other operational considerations. Ibid. Clearly our comments were ignored.*

> *The project area is entirely located in the South Umpqua/Galesville Late Succesional Reserve (LSR), where the objectives are to "[p]rotect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for latesuccessional and old-growth forest-related species including the northern spotted owl…" (RMP, p. 32). EA at 52."*

BLM Response: Late-successional stands as defined by the Medford District RMP are 80-200 years of age (forest seral stages that include both mature and old-growth classes). Proposed treatments would accelerate the development of late-successional conditions where one or more primary constituent elements for suitable spotted owl habitat are missing. The EA on page 13 describes this criteria, "Stands containing single story structure would benefit from density management to maintain or enhance the following:

adequate spacing for tree growth, forest/stand health, diverse stand structure (large limbs and full crowns), wildlife habitat, and stand characteristics for purposes other than growth and yield. Under the current conditions such stands are more prone to disease, catastrophic fire, and suppressed growth."

The EA on pages 56 and 57 also analyzes the effects of the no action alternative on the spotted owl, "It is estimated by the silvicultural specialist, that stands would eventually develop into late-successional habitat however, it would take twenty to eighty additional years or longer depending on current stand conditions such as percent canopy closure and stand density compared to the Proposed Action. More uniform stands would take approximately eight decades and stands in which large tree dominance is already present would take approximately two decades to reach a late-successional condition. Some stands would continue to shade/crowd out some or most of the hardwood species, leaving the stands with reduced biodiversity of vegetation and, in turn, of owl prey (Lehmkuhl et. al. 2006)."

"As identified by the LSR REO exemption (July 9, 1996), thinning prescriptions within the LSR with short term effects are permissible under the following conditions: 'negative short-term effects to late-successional forest related species are outweighed by the long term benefits to species and will not lessen short-term functionality of the LSR as a whole'" (EA, p.58).

Removing thirty-six acres and degrading 780 acres of spotted owl habitat in the CHU is dispersal habitat. Dispersal habitat is "generally considered the lowest quality of habitat still useable by the species, dispersal habitat that is downgraded is no longer considered habitat. Thus, downgrading dispersal habitat is generally considered equivalent to *removing the dispersal habitat*," (EA, p.52). Dispersal habitat is not used for nesting, roosting, or foraging activities. KS Wild fails to quote the context of this impact to the spotted owl in meaningful terms. The EA states, "In summary, the spotted owl would be affected by the proposed action in the short-term (up to two decades) by downgrading and degrading suitable habitat… In the long term (beyond two decades), development of optimum late-successional habitat would be accelerated and stands within the LSR and Critical Habitat Unit would have a greater likelihood of withstanding a wild fire event."

As KS Wild noted, and as is stated in the EA on page 59, "[t]he proposed action would result in downgrade of 303 acres." This is "approximately 0.9% of the currently available suitable habitat with this CHU. At the local scale, since this amount is relatively small in proportion to the overall CHU, it is expected this action would not appreciably alter the function of this unit. At the provincial scale, the proposed actions are not expected to have a substantial effect on the ability of the CHUs to function as intended since it only impacts 0.07% of the CHU. The downgrading and degrading of suitable habitat, and removal and degrading of dispersal habitat, would likely have a temporary (10-20 years) negative effect. The proposed activities are expected to continue to function as intended, providing an important link between the Coast Range and Cascade/Klamath Provinces, and allowing genetic interchange."

Earlier KS Wild stated their organization's support for hazardous fuels reduction treatments. The 2,500 acres of degraded owl habitat would be a result of this treatment.

The Regional Ecosystem Office (REO) issued an exemption (July 9, 1996) that supports silvicultural treatments within the LSR; however it does not permit harvesting of trees greater than 20 inches in diameter in the Klamath Province except for the purpose of creating openings, providing other habitat structure such as downed logs, eliminate a hazard from a standing danger tree, or cutting minimal yarding corridors. Where trees larger than 20 inches dbh are cut, they will be left in place to contribute toward meeting the overall coarse woody debris objective. Cutting of trees exceeding this diameter, for any purpose, would be the exception not the rule. The Proposed Action is consistent with this REO exemption.

Project Design Features would provide the following for large diameter trees (≥20 inches dbh): "Trees 20 inches dbh and larger would be designated as reserve trees (including in Riparian Reserves) and would not be cut except in the following reasons: yarding corridors, guy line or tailhold trees, logging tower locations, temporary road construction and/or safety reasons. Trees of this diameter and larger felled or accidentally knocked over would be left on site (within the unit) to augment coarse woody debris levels. Lateral yarding would be required on all units to protect residual leave trees and existing conifer regeneration. Yarding carriages would be required to maintain a fixed position during lateral yarding to reduce damage to the residual stand. Minimize yarding corridor widths where crowns of trees greater than 20 inches diameter at breast height (dbh) could be damaged during yarding operations" (EA, p.30).

Comment 6: *"A backdoor legal settlement with the timber industry in which the BLM failed to defend itself is an inappropriate catalyst for this project. EA at 12-13 and 14. These forests should be managed for their late-successional values, according to the Standards and Guides of the Northwest Forest Plan (NFP) and the Medford Resource Management Plan (RMP). Citing the need to manage them for timber because of a narrow interpretation of the O&C Act and a backdoor legal settlement not only belittles the management activities it also calls the motives of the BLM into question. Is the BLM so aggressive in its LSR treatment that it is failing to meet the S&Gs of the NFP? We think so. Getting "the cut out" of the LSRs almost always runs counter to enhancing late-successional characteristics, as required by the NFP.*

We bring your attention to the following finding from FEMAT:

> *Late-successional forest communities are the result of a unique interaction of disturbance, regeneration, succession and climate that probably can never be created with management. At present, we do not even fully understand the structure, species composition, and function of these forests. The best we can hope to accomplish through silviculture is to at least partially restore or accelerate the development of some of the structural and compositional features of such forests. Because they will be regenerated by different processes during a different period from that of the existing late-successional forests, it is highly likely that silviculturally created stand will look and function differently from current old stands that developed over the last*

1,000 years. ***Consequently, conserving a network of natural old-growth stands is imperative for preserving biodiversity into the future****.*
-FEMAT IV-31,32.

In the settlement agreement AFRC v. Clarke the BLM promised its friends in the timber industry it would offer 300 mmbf of commercial thinning timber sales a year in reserves such as the riparian reserves and the LSR in the Middle Cow timber sale. The overt statement that the BLM is doing this project to get the cut out pursuant to AFRCs sweetheart deal with the BLM is evidence enough that the BLM timber managers are concerned with timber volume, not late-successional habitat, fuels reduction or community stability.

The BLM is pursuing this project as a way to meet the settlement agreement AFRC v. Clarke, to try and offer 300 mmbf of timber per year out of the LSRs. However, there has never been an Environmental Impact Statement that analyzed logging that much volume out of late-successional reserves. Is this sustainable? Can the reserves continue to function with that much thinning per year? What are the other biological and hydrological impacts that logging that much of the reserves could produce? We don't know, and neither does the BLM, because it never analyzed the impacts of its program to produce that much volume out of the reserves per year. If the BLM is going to plan projects like the Westside timber sale, and then not analyze the segmented timber sales that are a part of its program (see purpose and need statement) to offer 300 mmbf of timber per year out of the reserves, it needs to analyze the impacts of this program in an EIS."

BLM Response: The 2003 O&C Settlement Agreement notes the following and is stated on pages 12 and 13 of the EA: "Agencies [Forest Service and BLM] will use their best efforts every year beginning in Fiscal Year 2005:...to offer thinning sales [where development of late-successional or riparian habitat is the primary objective]…" (*American Forest Resource Council et al. v. Clarke,* Civil No.94-1031 TPJ (D.D.C.), appeal pending No. 02-5024 (D.C. Cir). This ruling merely directs agencies to implement the Northwest Forest Plan, not to do away with it, and offer **by-product** thinning sales as a result.

KS Wild has not identified how the BLM is failing to meet the Standards & Guidelines of the NFP.

The offering of 300 mmbf in reserves (riparian and late-successional) is an estimate of all agencies' reserves, not a promise. The commercial product from the Middle Cow LSR Project is a by-product result of treatment proposals that would promote attainment of late-successional characteristics. The volume estimate for this sale is approximately 1% of the 300 mmbf estimate. The proposed activities in the EA do not exceed the effects analyzed in the *Medford* RMP/ROD and higher level EISs to which the analysis is tiered.

The EA on page 19 specifically states: "The objective of the treatment would be however, the development of stands with characteristics of older forests rather than yield. For this proposal, density management treatments would be designed to enhance and

promote desired stand characteristics for wildlife. Treatments would reduce stand densities so that the competition for light, water, nutrients and growing space is decreased on desired leave trees. Long-term stand vigor and growth (forest health) would be promoted. While wood volume would result from the treatment, production of wood volume at the present time or for the future is not a primary objective."

The recommendations provided by the Forest Ecosystem Management Assessment Team (FEMAT), written in 1993, is a precursor document to the development of the Northwest Forest Plan (1994). The meaning of the quotation KS Wild noted from FEMAT, p.IV-31 and 32, is that it is difficult to create the characteristics present within late-successional forests that have successfully developed over a thousand years. The proposed activities within the Middle Cow LSR Project EA would enter stands where some or most of these late-successional characteristics are absent and under current conditions are prone to disease, catastrophic fire, and suppressed growth without some form of density management activity. Many of the stands within the Project Area have developed under less than natural conditions. Decades of fire suppression has altered the natural fire regime. Low ground creeping fires may have been absent from these stands for decades that would have contributed to the development of late-successional characteristics by thinning portions of the understory for larger tree development. Other portions of stands proposed for treatment have been previously harvested and the stands are not developing towards late-successional conditions as they are increasingly becoming dense with regenerating trees.

KS Wild's comment fails to recognize that two EISs have already been prepared for the Westside Project, including EISs for the Northwest Forest Plan, and the Medford District RMP, which both envisioned this type of activity occurring on these lands, and analyzed the associated impacts. KS Wild has not identified any impacts that have not already been anticipated and analyzed under the RMP and NFP that are significant. As detailed below, KS Wild's comments present merely a disagreement with the agency's conclusion regarding the non-significance of this project's effects; KS Wild's disagreement presents no basis or information that would support an opposite finding.

Comment 7: *"The proposed treatments in the Middle Cow LSR project could increase short-term (and possibly long-term) fire severity in the project area. This is especially true if you look at this project in the context of adjacent land management practices (industrial forestry). Indeed, 45% of the Planning Area that is held in private ownership. EA at 59. Moreover, BLM's massive Westside old-growth to plantation conversion project is being planned just next door. "On approximately 11,648 acres within the planning area, regeneration harvest (RH, OR) on federal lands, and clearcutting on non-federal lands has converted generally more fire resistant mature stands into young plantations that are typically more prone to fire due to their horizontal continuity." Westside EA at 91.*

In the short and long terms there will be an increase in fire hazard that may result from the Westside timber sale. This clearly has the potential to impact public health and safety. The added increase in at least short term fire hazard from the Middle Cow project – and

the consistent large-scale increase in fire hazard from adjacent land management practices – would surely trigger an impact that could be significant.

The Westside EA (56) and Middle Cow EA (5) acknowledges fire hazard impacts from commercial thinning units due to canopy removal; "Opening canopies can increase wind speeds and lower fuel moistures in the stand, which tends to exacerbate fire behavior. Also, opening canopies allows brush to grow in the understory, which may increase surface and ladder fuels…" The Westside EA (56) also acknowledges short term impacts from slash creation from commercial thinning; "In summary, the short term effect of commercial thinning treatments may be an increased fire hazard on 1,859 acres under Alternative 2 and 1,671 acres under Alternative 3 due to the presence of slash on site." The Middle Cow EA at 5 admits an increase in fire hazard, "There would be a short term cumulative effect increase in fire hazard due to implementing the commercial density management prescriptions on approximately 3,095 acres (including proposed thinning treatments in the Westside Project)."

BLM Response: The following statements are also present on page 5 of the EA regarding an increase in fire hazard: "This increase is considered short term until the slash is mitigated which generally occurs within six months to two years after the harvest activity takes place. Although hazardous fuel treatments also produce slash, **this does not necessarily result in increased fire behavior**, in terms of flame length, compared to the current conditions of the stands proposed for these treatments. The action alternative proposes 2,501 acres of hazardous fuel treatments in the Middle Cow LSR Planning Area. The Westside project proposes similar treatments on approximately 988 acres and approximately 250 acres of fuel treatments have already been implemented within the fire analysis area since implementation of the National Fire Plan in 2000. **The cumulative effect of these combined activities may be a long term *decrease* in fire hazard on approximately 3,740 acres under Alternative 2.** The long term cumulative effect would be a decrease in fire hazard on approximately 3,489 acres of hazardous fuel treatment units under either action alternative (Westside Project). **Conversely, the fire hazard is expected to increase in the long term** due to the trends discussed in the current conditions section and the continued exclusion of fire **on up to 8,099 acres under the No Action Alternatives of Westside and Middle Cow Creek LSR Project**."

As such, the proposed activities do not trigger a significant impact.

As the Ninth Circuit has held, "simply because a challenger can cherry pick information and data out of the administrative record to support its position does not mean that a project is highly controversial or highly uncertain." Native Ecosystems Council v. U.S. Forest Service, 428 F.3d 1233, 1240 (9th Cir. 2005).

KS Wild has taken quotations from the EA out of context to support its position that a level of significance has been reached that triggers the preparation of an EIS. When taken in context however, the language in the EA clearly demonstrates that the action does not result in significant impacts.

With respect to public health and safety concerns from the EA's disclosure of project effects on fire behavior, KS Wild's comment is overly broad; merely expressing a belief that project effects on fire behavior will impact public health and safety does not provide BLM any specific information by which to address KS Wild's expressed concerns in any meaningful way. For BLM to guess at which, if any, specific aspects of "public health and safety" KS Wild believes would be impacted by project effects on fire behavior would require an exercise in speculation that NEPA does not require. NEPA requires that public participation be focused to allow the agencies to respond in a meaningful way. KS Wild's comment simply is not sufficiently specific, and as such the comment presents no information that could lead the Decision Maker to reach anything other than a FONSI.

Comment 8: *"Models run in the confines of the Medford BLM are hardly conclusive, as they lack rigor, control or peer review. Further. The same employee has equivocal statements regarding the effects of both Westside and Middle Cow.*

> *Scientific evidence exists supporting the notion that plantations are vulnerable to fire and may exacerbate fire behavior, particularly during times of dry conditions and in stands that have received slash-producing maintenance treatments (such as pre-commercial thinning) where the slash remains on site and is not mitigated (Martin, 2006). EA at 237*

There is a large body of scientific literature that concludes the very practices that the BLM is engaging in will increase fuels, fire hazard and fire behavior in the project area. One thread that runs through the fire effects analysis is that short-term fire hazards will increase, and they will increase on thousands of acres. Indeed, between the two projects, fire hazard could increase on about 8,000 acres. There is a significant impact of Middle Cow on increasing fire hazards, when analyzed in the context of past, present and reasonable foreseeable future actions."

BLM Response: In the EA, BLM used accepted research methods and the professional knowledge and experience of the Medford District Fire Ecologist who is an author of Fire Regime Condition Class information and the foremost expert on the District in regard to Firemon, a published and peer-reviewed monitoring system developed by the Joint Fire Sciences Program at the National Interagency Fire Center and the standard monitoring system used by the wildland fire community to determine stand characteristics and related fire behavior. The Fire Ecologist used his professional knowledge of the local area in conjunction with his professional experience with Firemon plots taken locally to form his professional judgment referenced in the EA. The BLM is aware of the body of scientific literature regarding fire behavior, much of which is not pertinent to the local area. Where information is not specific to southwestern Oregon, the BLM reasonably relied on its agency expert who utilized data collection methods and computer models commonly accepted by the wildland fire community.

It is not accurate to state that 8,000 acres of increased fire hazard would result between Middle Cow LSR and Westside Projects. KS Wild erroneously arrived at this figure by simply adding all the acres together where slash may be present without taking into account the fact that fire hazard must be analyzed relative to pre and post stand conditions and in the context of specific types of treatments. As the EA explains at great

length and detail, slash present on site *does not* necessarily equate to an increase in fire hazard. The EA clearly and thoroughly compares the effects of the presence of slash on fire behavior in hazardous fuel treatments units, commercial thinning units, and regeneration harvest units:

"Also, the presence of slash does not translate directly into an increased fire hazard on all of these acres because the [hazardous fuels treatments] HFT units and regeneration harvest units have the potential to produce flame lengths in their current condition comparable to those produced when slash is on site (1 to 8 feet)….[Although this] is generally not the case in the commercial thinning (CDM, CT, SC) units…, which may have an increased fire hazard due to slash on site (flame lengths over 4 feet) that is not comparable to their current condition (flame lengths under 4 feet). The cumulative effect may be a short term increase in fire hazard due to the presence of slash in the commercial thinning units on approximately 3,095 acres under the action alternative combined with Alternative 2 of the Westside project and approximately 2,907 acres under the action alternative combined with Alternative 3 of the Westside project….It is not expected that all of these acres would have activity slash present concurrently because the commercial harvest activities are proposed to take place through several timber sales over a two to three year period and implementation of the hazardous fuel treatments are contingent upon funding, meaning they may not occur all in the same fiscal year…Hazardous fuel treatments decrease the fire hazard in the long term, once the slash is mitigated, by reducing the surface and ladder fuels. These stands prior to treatment have the potential to produce flame lengths above the 4 foot flame length threshold and after treatment generally resemble fuel models with flame lengths below the threshold. The Middle Cow LSR action alternative proposes 2,501 acres of HFT and the Westside project proposes 988 acres of HFT under either action alternative….Conversely, the fire hazard is expected to increase in the long term due to the trends discussed in the current conditions section and the continued exclusion of fire on up to 8,099 acres under the no action alternatives of both projects." (EA, pp. 51-52).

Comment 9: *"Fire behavior and severity depend on fuel properties and their spatial arrangement. Fuel bed structure plays a key role in fire ignition and spread, and is central to developing an effective fuel management strategy (Graham et al. 2004). The bulk density (weight within a given volume) of surface fuels consisting of grasses, shrubs, litter and dead woody material in contact with the ground are critical frontal surface fire behavior (heat output and spread rate – intensity) compared to simple fuel loading (weight per unit area) (Agee 1996, Sandberg et al. 2001). High surface fire intensity usually increases the likelihood of overstory canopy ignition and torching (Scott and Reinhardt 2001).*

The shrub and small tree fuel stratum also is important to crown fire ignition because it supports surface fire intensity and serves as ladder fuel that facilitates vertical movement of fire from the ground surface into the canopy. The size of the gap between the ground and tree canopies is critical to ignition of crown fire from a surface fire (Van Wagner 1977, Graham et al. 2004). Van Wagner (1977) reports that crown fires are ignited after a surface fire reaches critical fire line intensity relative to the height of the base of aerial

fuels in the crown. This crown ignition can become a running crown fire if its spread rate surpasses a certain canopy density threshold. Agee (1996) suggests a canopy bulk density threshold of 0.1 kg/ha as a general determinant for crown fire activity under extreme weather conditions. However, Keyes and O'Hara (2002) note the incompatibility of such open forest conditions with key forest management objectives including wildlife conservation and prevention of understory initiation and ladder fuel development, especially in the absence of an institutional commitment to stand maintenance.

Omi and Martinson (2002) sampled wildfire areas to describe the effectiveness of fuel treatments on subsequent fire severity. The strongest correlation they found was that between crown base height and 'stand damage,' which they used as a measure of severity. Importantly, canopy bulk density was not strongly correlated to fire severity. Instead,

> *height to live crown, the variable that determines crown fire initiation rather than propagation, had the strongest correlation to fire severity in the areas we sampled... [W]e also found the more common stand descriptors of stand density and basal area to be important factors. But especially crucial are variables that determine tree resistance to fire damage, such as diameter and height. Thus, 'fuel treatments' that reduce basal area or density from above (i.e., removal of the largest stems) will be ineffective within the context of wildfire management (p. 22).*

The Omi and Martinson (2002) study failed to collect information about fuel profiles before the fires, and the scale of events considered confounds replication. However, the authors claim that their results can be extrapolated widely to other sites. A key implication of the study is the importance of treating fuels 'from below' in order to prevent widespread occurrence of stand replacing wildland fires. Keyes and O'Hara (2002, 107) concur that increasing a stand's crown base height is critical and argue, 'pruning lower dead and live branches yields the most direct and effective impact.'"

BLM Response: KS Wild only provides citations of research but does not demonstrate how these literature citations specifically contradict or provide new research information regarding the EA. In fact the literature cited supports the hazardous fuel reduction activities proposed in the Middle Cow LSR Project because these treatments are designed to reduce surface and ladder fuels by thinning the understory which … "increas(es) a stand's crown base height…."

If the citations are intended to relate to commercial thinning, the EA clearly states that these treatments "…are not specifically designed to affect fire behavior" (EA, p.49) and they are not considered 'fuel treatments' in the context of this project. Also, as is stated on page 50 of the EA: "...the stands proposed for commercial density management treatments in this Planning Area are managed stands within the LSR land allocation and many are within the WUI, meaning it is expected that these stands will receive fuel treatments to mitigate the slash as well as future treatments, either silvicultural or

hazardous fuel related, that will maintain the stand to prevent overstocking and future accumulation of fuels (BLM, 1995)."

Comment 10: *"The direction of fire spread (backing, flanking, heading) is an important aspect of fire behavior because fires interact with weather, topography and vegetation to back and flank around certain conditions or head through others as they move across a landscape (Rothermel 1983, Graham et al. 2004). Steep topography can facilitate wind-driven convection currents that drive radiant heat upward and bring flames nearer to adjacent, unburned vegetation, thus pre-heating fuels and amplifying fire intensity as it moves upslope (Agee 1993, Whelan 1995). As a result, highly severe fire effects can concentrate at upper slope positions and on ridges, whereas severe fire effects are relatively rare on the lee side of slopes that do not receive frontal wind (Finney 2001, Taylor and Skinner 1998).*

Given the topographic diversity of the Middle Cow, Westside, and Bonny Skull planning areas and the unique acceptance of weather patterns during fire season, fuel treatments should be distributed with spatial patterns of fire spread in mind. Overlapping patterns of fuel treatment that reduce vertical fuel continuity can fragment the most extreme fire effects into smaller patches if they disrupt heading fires and increase the area burned by flanking fires (Finney 2001). Treatments on slope aspects facing away from frontal winds are a lesser priority because backing fires are most likely to exhibit mild behavior and intensity.

Implement fuel reduction first in areas where relatively little resource investment may be able to create relatively fire resilient stand conditions. This may include low-productivity sites with little encroachment of small trees (e.g., dry southerly aspects) and open stands dominated by large conifers or hardwoods (e.g., existing fuel breaks). Targeting initial work in these areas will maximize the area to be treated with available funds and personnel, and thereby provide the greatest opportunity to quickly reduce fuels and restore ecosystem function at larger spatial scales."

BLM Response: Although not expressly addressed in the EA, the goal of the Fire and Fuels program of the Medford District BLM is to strategically situate hazardous fuels reduction units on the landscape to allow for maximum effectiveness of the treatments. This strategic planning inherently involves prioritization and consideration of local fuel, weather, and topographical characteristics.

Comment 11: *"Mechanical thinning is widely preferred over other means to manage wildland fuels because tree harvest can be profitable. Projects that utilize wood products derived from thinning are more likely to pay for themselves (Allen et al. 2002). Most federal thinning projects in the Siskiyous with a stated purpose of fire hazard reduction propose moderate-to-heavy low thinning or crown thinning (see Graham et al. 1999 for definitions) because removal and utilization of commercially valuable intermediate, co-dominant and dominant trees can determine a project's financial efficiency (Reed 2002).*

Thinning in the context of commercial forestry is not new, but its usefulness as a tool to reduce fire behavior is scientifically controversial and experimental (Carey and Schumann 2003, DellaSala and Frost 2001, FEMAT 1993). The Congressional Research Service tried but failed to locate research documenting a positive relationship between timber harvest and decreased fire intensity or severity, even though the idea is "logical and widely accepted" (Gorte 2000a). It found that "other independent variables" such as weather and topography "are critical factors in determining the extent and severity of any particular fire," confirming similar findings by fire ecologists (Beaty and Taylor 2001, Odion et al. 2004).

In a mixed conifer forest in the South Fork Trinity River watershed in northwest California, partially thinned stands burned more intensely and suffered higher levels of tree mortality than unlogged areas after wildland fires burned them (Weatherspoon and Skinner 1995). In eastern Washington, thinning that was intended to reduce fire hazard had the opposite effect, as logged areas showed increased rates of fire spread and greater flame lengths (Huff et al. 1995). Thinning treatments in the Rocky Mountain Front Range failed to prevent high intensity fire from overwhelming suppression forces and threatening residential communities outside Denver, Colorado (USDA 2002). Those anecdotal findings confirm other research indicating that tree thinning and biomass removal alone are unlikely to effectively reduce fire severity in dense forest stands (Graham et al. 2004, van Wagtendonk 1996).

Thinning may reduce total fuel loads (i.e., biomass weight per unit area), but it also opens forest canopies and allows increased solar radiation and wind to reach the forest floor (Agee 1996, Countryman 1956). The net effect is to reduce subcanopy moisture and increase the flammability of surface fuels:

In the open, solar radiation impinges directly on the earth's surface. Because both the earth and the air above it are poor conductors, heat is concentrated at the surface and in the layer of air next to it. Ground fuels can thus become superheated … A mature, closed stand has a fireclimate strikingly different from that in the open. Here nearly all of the solar radiation is intercepted by the crowns … Because of the lower temperature and higher humidity, fuels within closed stands are more moist than those in the open under ordinary weather conditions … [F]irebrands that do not contain enough heat to start a fire in a closed stand may readily start one in the open. Fires starting in the open also burn more intensely and build up to conflagration proportions more quickly since less of the heat produced by the fire is used in evaporating water from the drier fuels (Countryman 1956, 15-16).

To the extent that uneven-age management in the form of commercial thinning and group selection cutting strives to create relatively open forest stand conditions, changes to fire climate and intensified fire behavior are likely to occur after timber harvest. The EA should have better addressed the potential for reduced canopy closure to increase solar radiation, ground level wind speed, surface fuel moisture and flammability to result from proposed timber harvest. Implications for fire suppression effectiveness and worker safety also should be addressed.

Mechanical thinning also generates large quantities of flammable slash by transferring branches, twigs and needles from the canopy to the ground (Allen et al. 2002, Graham et al. 2004, Stephens 1998, van Wagtendonk 1996, Weatherspoon 1996). The CRS noted:

Timber harvesting removes the relatively large diameter wood that can be converted into wood products, but leaves behind the small material, especially twigs and needles. The concentration of these "fine fuels" on the forest floor increases the rate of spread of wildfires. Thus, one might expect acres burned to be positively correlated with timber harvest volume (Gorte 2000b).

Federal land managers working in the Siskiyou Mountains routinely report that mechanical thinning projects increase fine surface fuels in the form of logging slash by 3 to 15 tons per acre, which can create faster rates of fire spread and greater flame lengths, resulting in intensified fire behavior and extended fire duration (USDI 2002a, 2002b). Indeed, the 2002 Squires Peak fire in the Middle Applegate watershed exploded past containment lines when it spread into logging slash left behind after the Spencer Lomas timber sale accomplished significantly reduced forest stand canopy bulk density (Kettler 2002a, 2002b). Ironically, the Medford District BLM framed the purpose and need for Spencer Lomas as fire hazard reduction (USDI 2001).

BLM Response: "Commercial density management (CDM) and non-commercial density management (NDNM) treatments within Late-Successional Reserves are proposed so that desired late-successional stand characteristics can develop, desired stand components may be retained, and stand growth/vigor is promoted" (EA, p.15). These density management activities are proposed to receive activity fuel reduction treatments specifically designed to mitigate the slash.

Page 50 of the EA states that: "Opening canopies can increase wind speeds and lower fuel moistures in the stand, which tends to exacerbate fire behavior. Also, opening canopies allows brush to grow in the understory, which may increase surface and ladder fuels, depending on stand condition prior to commercial density management. The probability of these concerns occurring is heavily dependant on site-specific variables such as slope, aspect, elevation, position on slope, adjacent stand conditions, and many others.

Regardless of these variables, fuels are the critical factor in influencing fire behavior. Surface fuels may be increased in the short term due to the creation of slash, as discussed above, but once the slash is mitigated the stand experiences an overall reduction in surface fuels. Ladder fuels are reduced when the limbs and branches are removed from the site as trees are removed during the commercial density management process. Aerial fuels are removed as a function of opening the canopy during commercial density management. If no subsequent treatment occurs in the stand after commercial density management, such as fuel treatments to mitigate the slash or future density management or brushing treatments to maintain the open stand conditions, the concerns listed above could lead to increased fire behavior. However, the stands proposed for commercial

density management treatments in this Planning Area are managed stands within the LSR land allocation and many are within the WUI, meaning it is expected that these stands will receive fuel treatments to mitigate the slash as well as future treatments, either silvicultural or hazardous fuel related, that will maintain the stand to prevent overstocking and future accumulation of fuels (BLM, 1995). Also, studies show that thinning followed by sufficient treatment of surface fuels reduce the overall expected fire behavior, outweighing the changes in fire weather factors such as wind speed and fuel moisture (Weatherspoon, 1996)."

Comment 12: *"The Northwest Forest Plan, the Middle Cow Watershed Analysis and the South Umpqua/Galesville LSR Assessment all indicate that younger stands (rather than native mid-seral forests) should be the focus of silvicultural manipulation in the LSR. Page 64 of the LSRA states that, '**Silvicultural activities to reduce risk will generally focus on younger stands within the LSR**.' Page 64 and 65 of the LSRA direct the agency to consider the connectivity function of mid-seral forests in the LSRA before authorizing activities that may reduce connectivity values. However, the EA calls for primarily entering older stands and reducing canopy closures down to 30%. See EA*

Page 59 of the LSRA identifies stands from 0-40 years-old as 'high' priority for density management while indicating that mid-seral stands are a 'low' priority for treatment. B-7 of the Northwest Forest Plan states that, 'Stand management in Late-Successional Reserves should focus on stands that have been regenerated following timber harvest or stands that have been thinned.'

Page 36 of the WA indicates that 45% of the LSR is in younger seral stages due to past BLM logging activity; these are the stands that would most benefit from thinning, and that currently provide little value to late-successional associate species."

BLM Response: The present connectivity function of mid-seral forests has been evaluated in the development of treatment selection. Activities proposed within LSR mid-seral stands are being developed to enhance the present connectivity function. The LSRA notes, "The age classes for dispersal habitat (41-80 years) also approximate where density management could occur depending on stand characteristics," (p.61). Stands are being selected, as explained in the response to Comment 1, where multi-level stories, ground vegetation, and a component of hardwoods are missing and entry is needed to develop absent late-successional characteristics.

"It will take more than 40 years for these young stands to grow into late-successional habitat and reach the desired condition of at least 60% of the LSR in late-successional habitat. Treatments to accelerate stand conditions to late-successional characteristics should occur while balancing the need to maintain connectivity," (USDA/USDI 2004a, p. 59).

Thus, mid-seral stands that would achieve late-successional characteristics within 10-40 years after treatment and currently do not contain the structural or species composition to

continue towards late-successional development without entry were also considered for treatment.

KS Wild's statement that "the EA calls for primarily entering older stands and reducing canopy closures down to 30%" is an inaccurate representation of the project. Pages 25 through 28 disclose the percent canopy closure retention for each proposed unit. There are two units (3-1 and 3-2, totaling 119 acres out of 1,236 acres of commercial density management) that propose retaining 30% canopy closure after treatment. These stands are young plantations (see Appendix 4, p. 164 and 194 of the EA). Unit 3-1 does not contain the necessary structure or tree size to support spotted owl habitat and "the current stand development trajectory [for dispersal habitat unit 3-2] will result in a loss of desired late-successional stand characteristics such as: long crowns; large diameter branches; a mix of conifers, hardwoods, and shrubs; and canopy gaps. Height diameter ratios on some trees are approaching a point where some instability in the stand (collapse of individual trees or small groups of trees) is anticipated. Retaining a higher level of canopy cover was considered but was not proposed as it was desirable to move the stand to one with characteristics of older forests as quickly as possible," (EA, p. 194). The majority of stands proposed for treatment are mixed stands containing portions previously harvested for timber resulting in a mixed age class ranging from 30-80 years of age.

Comment 13: *"The BLM should focus on protecting existing late-successional forests in this LSR, not logging them. While it is true that some mid-late-successional stands could benefit from careful thinning from below, the BLM's proposal to take stands down to 30% canopy closure is far too aggressive.*

The BLM is entering stands that have already achieved late-successional characteristics. EA at 13. We are skeptical that logging in these older forests would maintain or enhance late-successional characteristics. 'Silvicultural activities aimed at reducing risk ***shall*** *focus on younger stands in Late-Successional Reserves.' Northwest Forest Plan C-13, emphasis added."*

BLM Response: See response to Comment 12 regarding the scope of treatments that would result in 30% canopy closure.

KS Wild has misinterpreted the following statement in the EA on page 13: "Although much of the federally managed forests within the Planning Area can be categorized as late-successional habitat, or progressing towards late-successional conditions, overstocked stands are also present within this area." Instead the above quotation from the EA is acknowledging the variety of stand conditions within the entire Planning Area boundary. The BLM is not proposing commercial density management act ivies in stands that have already achieved late-successional characteristics, as KS Wild incorrectly stated. Treatments are proposed, however, in the latter-mentioned overstocked stands under the following criteria: "Stands containing single story structure would benefit from density management to maintain or enhance the following: adequate spacing for tree growth, forest/stand health, diverse stand structure (large limbs and full crowns), wildlife habitat, and stand characteristics for purposes other than growth and yield. Under the

current conditions such stands are more prone to disease, catastrophic fire, and suppressed growth."

Although the Northwest Forest Plan (p. C-13) notes "Silvicultural activities aimed at reducing risk shall focus on younger stands in Late-Successional Reserves," it also provides the following guidance: "While risk-reduction efforts should generally be focused on young stands, activities in older stands may be appropriate if: (1) the proposed management activities will clearly result in greater assurance of long-term maintenance of habitat, (2) the activities are clearly needed to reduce risks, and (3) the activities will not prevent the Late-Successional Reserves from playing an effective role in the objectives for which they were established." The proposed activities are consistent with the latter NFP guideline as is explained in the EA.

Page 13 of the EA explains why the proposed management activities will result in greater assurance of long-term maintenance of habitat:

> "Stands containing single story structure would benefit from density management to maintain or enhance the following: adequate spacing for tree growth, forest/stand health, diverse stand structure (large limbs and full crowns), wildlife habitat, and stand characteristics for purposes other than growth and yield. Under the current conditions such stands are more prone to disease, catastrophic fire, and suppressed growth."

Also, as is explained on page 57:

> The no action alternative analyzes the effects to the spotted owl. "It is estimated by the silvicultural specialist, that stands would eventually develop into late-successional habitat however, it would take twenty to eighty additional years or longer depending on current stand conditions such as percent canopy closure and stand density compared to the Proposed Action. More uniform stands would take approximately eight decades and stands in which large tree dominance is already present would take approximately two decades to reach a late-successional condition. Some stands would continue to shade/crowd out some or most of the hardwood species, leaving the stands with reduced biodiversity of vegetation and, in turn, of owl prey (Lehmkuhl et. al. 2006)."

The EA explains why the activities are needed to reduce risks on p.13:

> "The primary purpose of risk reduction activities in this LSR is to reduce the probability that large-scale late-successional habitat loss would occur and to reduce the risk of remnant and large tree loss due to competing surrounding smaller trees. Fire suppression has allowed many areas to develop a higher stocking of small Douglas-fir, hardwoods or brush. The high density of small trees and brush could result in large, intense fires or widespread disease or insect damage. Hazardous fuel treatments are needed where existing vegetation and fuel loading pose a wildfire hazard."

Page 109 of the EA explains why the activities will not prevent the Late-Successional Reserves from playing an effective role in the objectives for which they were established:

"Hazardous fuel treatments prescriptions to reduce long term risks and the silvicultural prescription for unit 30-4 to reduce the risk of remnant and large tree loss will be submitted to LSR Working Group via the Middle Cow LSR Project EA (EA#OR118-05-022) for review and concurrence that such treatments comply with the objectives of the Northwest Forest Plan (USDA/USDI 2004a, p. S-3)."

Comment 14: *"Essential Fish Habitat (EFH) exists in the project are and should be protected. A total of 31.5 miles of stream within this Planning Area are considered Essential Fish Habitat (EFH). We are skeptical of the proposals to log in riparian reserves. While it may be beneficial to thin riparian reserves in some instances, we are not convinced that the GRA can do this without further harming watershed function and logging large trees, removing shade providing canopy or preventing sediment delivery to the streamcourse.*

Road construction and related logging activities would harm EFH as well. 'Because of the close proximity of the road maintenance and reconstruction within the Planning Area some sediment would reach EFH.' EA at 104

Moreover, the riparian reserve logging would require entry into the EPZ. The EA states that in at least two units logging and yarding would occur in the EPZ: 'The exception to the rule is for units 21-2 and 10-1. The adjacent roads and a portion of the units are located within the ecological protection zone (EPZ) of streams. Removing material out of these units, via cable or tractor yarding, requires access through the EPZ from the road.' EA at 21. The BLM should consider, in a comprehensive cumulative effects analysis, the impacts of past, present and future management on EFH, aquatic health and salmon and steelhead."

BLM Response: See response to Comment 5 (seventh paragraph) regarding protection measures for trees greater than 20 inches in diameter during logging operations.

As stated in the EFH Assessment Summary section (EA, p.106 & 107), "Riparian Reserve protections would maintain primary shade and not cause an increase in stream temperatures. The treatments within the riparian reserves would not result in a reduction in shade or LWD. Riparian reserve protections would also protect stream bank stability and filter out most sediment derived from harvest and yarding activities. Harvest and fuels reduction treatments within riparian reserves would promote growth of large trees faster, increasing potential LWD, maintaining stream temperatures, and increasing quality and quantity of pools. Road maintenance would reduce chronic erosion problems."

KS Wild fails to provide the context of the statement quoted from page 104, which is followed by: "Because of the PDFs and the BMPs within the RMP the amount of

sediment reaching EFH road activities would be minimal. Sediment input would not cause a substantial change in the quality of EFH. For example changes in embeddedness, interstitial spaces, and pool depth would not be measurable. Following the first winter and thereafter sediment entering EFH would decrease to the point of being immeasurable. Because of the above explanation the effects from proposed road activities would be minimal and short term to EFH. Road maintenance and reconstruction would reduce chronic sedimentation input by improving surface drainage, rocking or spot rocking natural surface and deteriorating roads, and by replacing and upgrading cross drains and culverts. Road maintenance and reconstruction would generally reduce erosion problems and, thus, have the overall effect of improving EFH."

Project Design Features were specifically created to minimize impacts to hydrology and fisheries for units 21-2 and 10-1 (EA, p.36):

- Specific to the treatment of unit 21-2: The non-tractor portion of this unit would limit the total sum width of all corridors to 24 feet and would not occur side-by-side. Corridors would be constructed and used in a manner that minimizes ground disturbance. No new landings would be constructed for the support of cable yarding. The existing road prism below the corridors would be used as the landing site for those corridors.

- Specific to the treatment of unit 10-1: There would be no landings constructed within the EPZ. The portion of the road below the EPZ (that falls within the unit) would not be used as a landing site. Should the stand need to be accessed through a portion of the EPZ that falls within the unit, there would be a maximum of one access point (i.e. skid road). The skid road would be constructed, used, and rehabilitated in the same year the stand is treated. No other ground based equipment, with the exception of the skid road, would be allowed within the EPZ.

"For unit 21-2 a maximum of 24 feet (average of 2 corridor widths) would be opened up in the non-tractor portion of the unit within the EPZ for access. Treatment would require full suspension within the EPZ and would not result in any ground disturbance or compaction...Should entry through the EPZ be needed in a portion of unit 10-1, access would be limited to one corridor (i.e. skid road), and skid road would be ripped and rehabilitated following use" (EA, p. 76).

"Since there would not be any ground disturbance within the EPZ any sediment mobilized from upland treatments that was not redirected via waterbars within the unit would most likely be filtered by the vegetation within the EPZ. Any sediment reaching the road would be redirected into a vegetated buffer strip by waterdips" (EA, p.82).

The Middle Cow LSR Project EA discloses the cumulative effects past, present and future management on EFH, aquatic health, salmon and steelhead, (EA, p.100): "The minimal effects expected from the actions proposed within this EA along with the concurrent Westside BLM project would be short term and in some cases would result in beneficial effects in the short and long term. Beneficial effects to fish habitat would

result from actions proposed under the Middle Cow EA and the Westside EA such as road maintenance, road decommissioning, culvert replacement, riparian reserve vegetation management (fuels reduction and thinning), and the stream habitat improvement in Tennessee Gulch…Because of management practices on federal land and the laws under the Oregon Forest Practices Act on private land, fish habitat within the Planning Area is expected to remain at current conditions in some areas. Other areas, such as those on federal land, are expected to improve over time. Therefore, the cumulative effects of ongoing and future federal projects combined with private actions within the HUC 6 or HUC 5 would not result in a downward trend in fish habitat. The cumulative effects would not contribute to the need to list the Bureau Sensitive Oregon Coast Coho and Oregon Coast Steelhead on the Endangered Species Act. These cumulative effects are within the scope of anticipated effects to aquatic resources determined in the RMP EIS (pp. 4-66)."

The cumulative effects analysis to EFH is also disclosed in the EA, "The proposed actions when added to past, present, and reasonably foreseeable future actions would result in no cumulative impacts on EFH at the HUC 6 or HUC 5 levels. Road maintenance and decommissioning would reduce some chronic sediment sources. Harvest and fuels reduction treatments within the riparian reserves would help reduce the potential of large scale disease or fire and increase potential LWD in the long term and thus positively affect EFH" (EA, p. 106).

Comment 15: *"As stated earlier in these comments, this project would have impacts on the northern spotted owl, in the very area that was set aside for this species in the NFP (a LSR).*

Critical habitat for the northern spotted owl also occurs in the project area. The proposal to remove and downgrade 1,019 acres of CHU OR-32 through the Westside, Bonny Skull and Middle Cow projects clearly will result in significant environmental impacts to ecologically critical areas.

> *Critical Habitat Unit OR-32 coincides with the Rogue-Umpqua Area of Concern (also referred to as the Galesville Area of Concern), which provides an essential link in connecting the Western Cascades Province with southern portion (sic) of the Coast Ranges and the northern end of the Klamath Mountains Province…The land ownership patterns elevate the importance of maintaining owl nesting habitat to link the Western Cascades, Coast Ranges and the Klamath Provinces. -Westside EA 72.*
>
> *Regeneration harvest within the GFMA connectivity bands on the north and south ridges should be avoided in the next decade or two to allow more contiguous forest stands to develop. -Middle Cow WA at 67.*

While the Glendale timber planners have already elected to ignore our scoping comments and the findings of your own WA in this matter, we once again bring to your attention that the Watershed Analysis found that 'A higher level of connectivity should be maintained along the north and south ridges to promote east-west movement of species.'

WA page 69. Yet the EA proposes logging ancient forests and building roads along the ridges in question.

'Providing for east-west connectivity should be a major consideration for management plans in this watershed' WA at 37. The EA does not reflect the 'major consideration' for east-west connectivity expressed in the WA.

'Middle Cow Creek plays a key role in connecting three LSR's again, largely providing east-west connections' (WA 69). This larger area has been identified as a very important corridor for mature and old-growth dependant wildlife movements in the greater region. The Westside project will further sever this larger corridor. Moreover, 'At a smaller scale, connectivity within the watershed is also problematic' Ibid. So the BLM must maintain this connectivity both within the watershed and in the larger province as well as between provinces. Failure to do so will lead to a trend toward listing species such as the Pacific fisher and the Northern Spotted Owl under the Endangered Species Act. The EA does nothing to ensure connectivity as recommended by the WA.

The BLM has not analyzed the impacts of its proposal to remove/downgrade 1,019 acres of suitable habitat from this CHU via the Westside, Middle Cow and Boney Skull timber sales. In Middle Cow the BLM claims that, 'The cumulative effect of harvesting from private lands and BLM federal lands are less than what was anticipated in the RMP/ROD for matrix land. The USFWS Section 7 Cow-Upper watershed baseline suitable habitat is 43,242 acres (USDA/USDI 2006, App. A). BLM administered lands assumed average annual harvest of 1,140 acres of regeneration harvest and overstory removal the first decade on matrix lands (ROD/RMP. p, 9-11).' EA at 60. But this is not true for the Middle Cow watershed that plays a "key role in connecting three LSR's again, largely providing east-west connections."

BLM Response: The proposed activities would maintain connectivity both within the watershed and in the larger province as well as between provinces. See page 59 of the EA: "The downgrading and degrading of suitable habitat, and removal and degrading of dispersal habitat would likely have a temporary (10-20 years) negative effect. The proposed activities are expected to continue to function as intended, providing an important link between the Coast Range and Cascade/Klamath Provinces, and allowing genetic interchange."

The role of watershed analysis is not to prescribe new requirements with which BLM must achieve consistency or even attempt to attain. The Middle Cow Creek Watershed Analysis states that:

> these recommendations are not to be considered for future management actions…They should not be viewed by the public, BLM staff or managers as a commitment or as binding on future management. Watershed analysis is clearly not a decision document" (WA, p.65). Any specialist recommendation in the watershed analysis is considered with the larger landscape analysis done through the Northwest Forest Plan and consultation with the US Fish and Wildlife Service and the subsequent Biological Opinion.

The proposal to remove and downgrade 1,690 acres of CHU OR-32 through the Westside, Boney Skull, and Middle Cow projects would not result in significant environmental impacts to spotted owl critical habitat unit OR-32. See EA pages 62 and 63: "The FY06-08 USFWS Biological Assessment, noted the cumulative present and foreseeable projects in this CHU (such as the concurrent Westside Project and future Boney Skull Project), would remove and downgrade 1,690 acres of suitable habitat or approximately 4.8% of current CHU suitable habitat. The BA (RORSISBLM FY 06-08) states that it has anticipated the removal and downgrade of up to 4,442 acres of suitable habitat from all CHUs over the next three years. The Middle Cow LSR Project is included in this prediction. According to the 2006 environmental baseline, the total acreage of all CHUs in the Klamath Province is 913,954, of which 442,177, or approximately 48% are considered currently suitable habitat (USDA/USDI 2003a, p.62). The cumulative effect of present and foreseeable projects in suitable habitat of the Klamath Province is 1%. Because CHU function is assessed both at the local CHU scale and also at the provincial level, this amount of impact is not expected to alter its function as intended." These effects were analyzed in the Medford Resource Management Plan/Environmental Impact Statement (RMP/EIS).

The federal agencies consulted with the U.S. FWS on the level of timber harvest, including removal of suitable NSO habitat, that was to occur under the plan, and received a biological opinion from the expert federal agency charged with conserving the NSO and its habitat. In short, removing and downgrading suitable NSO habitat was anticipated in two EISs, and does not now trigger the need to prepare yet another EIS when the record shows that the federal agencies have more than taken the necessary "hard" look at these issues. Further, BLM has consulted with the U.S. FWS for this project, in which the Service analyzed incidental take of NSO by considering the removal, downgrading, or degradation of all suitable and dispersal habitat acres at the Cow Upper Section 7 Watershed level (1-15-06-F-0162).

As it did throughout much of its comments, KS Wild merely quotes the EA's disclosure of impacts, and points to these disclosures as evidence that an EIS is needed. As the Ninth Circuit held in Native Ecosystems Council v. U.S. Forest Service, 428 F.3d 1233, 1240 (9th Cir. 2005), "simply because a challenger can cherry pick information and data out of the administrative record to support its position does not mean that a project is highly controversial or highly uncertain." Further, the Court held that NEPA does not require the preparation of an EIS any time that a federal agency discloses adverse impacts or acknowledges information favorable to a party that would prefer a different outcome. "NEPA permits a federal agency to disclose such impacts without automatically triggering the 'substantial questions' threshold." KS Wild's comments present many, if not most, of the EA quotes out of context in order to support its view that this project is significant.

Comment 16: *"The Middle Cow LSR project proposes logging in designated riparian reserves. Many of the riparian reserves in the Planning Area are not functional.*

Within the Middle Cow HUC 5 watershed, of the 154 miles of fish streams, 143 miles (93 percent) are within 330 feet of a road; 120 miles (78 percent) are within 165 feet of a road. In other words, virtually all the fish streams in this HUC 5 watershed have a road in close proximity, which would provide a continuous source of sediment in most cases (USDI 1999). Roads contributing sediment to streams within the Planning Area are BLM, private, state and county owned and maintained. These roads are sources of sediment into nearby streams, reduce potential LWD, and contribute to the degradation of fish habitat (USDI 1999). Timber related impacts, primarily roads, open condition in the TSZ, and yarding, have resulted in increased amounts of fine sediment within stream substrate interstices, lowering primary production and invertebrate abundance, and decreasing the availability of cover for juvenile salmonids.

High sediment loads can potentially fill pool habitat, cause increased width to depth ratios, cover spawning gravels, and cause streambed embeddedness. Sediment also degrades spawning habitat. Redds, the area in the stream bottom in which fish deposit eggs, need a steady flow of cold, clean water to deliver oxygen and remove waste products. EA at 88.

It is not clear how logging, yarding and road construction as planned in this project could maintain the functionality of these already damaged riparian reserves. There will impacts of yarding in the riparian reserves. This would fail to protect or enhance the riparian reserves. The EA should have considered these impacts. The BLM must prepare an EIS, as these impacts are outside the scope of the RMP."

BLM Response: As stated in the EA on pages 11 and 21, no mechanical removal methods (tractor or cable yarding) would be permitted within the Ecological Protection Zone.

Proposed road activities would reduce sedimentation in the long term. "The decommissioning of approximately 0.8 mile existing road and 1.6 miles of temporary new road, as well as the maintenance and reconstruction of up to 62 miles of roads which currently vary in condition and level of deterioration, would be expected to cause some erosion to occur during the implementation of these projects, but would ultimately result in reduced sediment due to erosion. The proposed gating of 3.6 miles of natural surface road, would cause little, if any erosion to occur, and though it would not completely eliminate the erosion from off the site, it would greatly reduce the amount of erosion currently being created by wet season use on these roads" (EA, p.77).

"Ecological protection zones within riparian reserves would further act to keep erosion from entering waterways except in cases where buffers are compromised by hydrologically connected roads. Where hydrologically connected roads occur, other measures such as rocking of the road surface, and seasonal use restrictions would minimize the amount of sedimentation, **keeping** it within ODEQ water quality standards and **levels anticipated within the RMP/EIS**. This would also be expected for road maintenance, reconstruction, and use of roads that do not have a direct hydrologic connection to a stream" (EA, p.76).

"BMPs and PDFs used in this project are expected to keep nearly all erosion resulting

from yarding corridors (maximum of 63 acres of disturbed ground); 2.5 acres of landings; 1.6 acres of temporary road construction; 0.8 miles of existing road decommissioning; 62 miles of road maintenance and reconstruction; and log hauling on 59.3 miles of native and rocked roads, primarily onsite or within adjacent downslope vegetation and Ecological Protection Zones (EPZ)" (EA, p.81).

As concluded in the Essential Fish Habitat Summary section of the EA on page 107: "Harvest and fuels reduction treatments within riparian reserves would promote growth of large trees faster, increasing potential LWD, maintaining stream temperatures, and increasing quality and quantity of pools." Since all impacts are within those anticipated within the RMP/EIS, analysis through an additional EIS is not warranted.

Comment 17: *"The EA admits that 'for units 21-2 and 10-1. The adjacent roads and a portion of the units are located within the ecological protection zone (EPZ) of streams. Removing material out of these units, via cable or tractor yarding, requires access through the EPZ from the road.' EA at 21. This is not allowed by the RMP.*

Road maintenance and reconstruction in the Riparian Reserves is not disclosed in the EA. The BLM needs to inform the public about the impacts of maintaining and especially reconstructing roads in these watersheds.

While the BLM admits it will be logging in riparian reserves, it is not clear if there will be created canopy gaps. Open space created in the riparian reserves could have a negative impact on water quality, peak flows and fish habitat.

Riparian reserves and watershed health generally will be harmed by this project in very significant ways. This is further elaborate in our comments on road construction, transient snow zone openings and the cumulative impacts of this project with past, present and future private and BLM logging. The BLM should consider the professional judgments of John Rhodes in these regards. For example, Rhodes found that the logging (post-fire) has significant ecological impacts to aquatic systems.

BESCHTA, ROBERT L., RHODES, JONATHAN J., KAUFFMAN, J. BOONE, GRESSWELL, ROBERT E., MINSHALL, G. WAYNE, KARR, JAMES R., PERRY, DAVID A., HAUER, F. RICHARD & FRISSELL, CHRISTOPHER A. 2004.
Postfire Management on Forested Public Lands of the Western United States. Conservation Biology 18 (4), 957-967.

Additionally, Rhodes has found that existing management plans failed to protect aquatic habitat. Please review the following article.

AL ESPINOSA F. JR ; RHODES J. J. (2) ; MCCULLOUGH D. A. 1997. The failure of existing plans to protect salmon habitat in the Clearwater National Forest in Idaho. J. environ. manage. vol. 49, no2, pp. 205-230 (1 p.3/4)

The abstract of this article states the following:

> *The examination of the development histories of four typical salmon watersheds in the Snake River Sub-basin of Idaho reveals a consistent failure to adequately protect salmon habitat. Available data and analyses show that the vast majority of watersheds managed for multiple uses have been severely degraded in their watershed and fish habitat conditions. Four tributary watersheds in the Clearwater National Forest are examined in detail with respect to their histories of timber development impacts and subsequent sediment degradation of salmon habitat. In this paper, the reasons why past and existing management plans have not protected salmon habitat are investigated. Management strategies and actions necessary to protect salmon habitat are articulated.*

*Existing management, such as what the BLM and private landowners are implementing in the Middle Cow watershed could have significant deleterious impacts on aquatic ecosystems, salmonids and other species.***"**

BLM Response: See response to Comment 14 (second, fourth through seventh paragraph) regarding riparian reserve protections to maintain the primary shade zone and treatment within the EPZ for units 21-2 and 10-1.

Appendix 4 (Silvicultural Prescription) of the EA (pp.165, 189, and 191) discusses the point of canopy gaps associated with riparian thinning, "Situate openings on stable slopes and a minimum of 180 feet from streams." This distance was created in order to protect shade retention along streams.

Also see EA page 103: "The total width of all the corridors would not exceed 24 feet and would not be continuous…Because of the small amount of space which could be opened and the discontinuous nature of the corridors, a reduction in shade resulting in an increase in temperature would not be expected."

As the EA states on page 20: "Riparian areas proposed for treatment were selected based on the high density and young age (20-80 years) of the stand, or as a result of existing disease pockets or unnaturally low species diversity. Treatments would occur in accordance with the following prescriptions to ensure protection of streams while restoring stand health…Where treatments occur between 25-60 feet of the stream, angular canopy density would remain close to existing levels to protect stream shading. A 60 foot buffer was found to protect nearly all shade characteristics necessary to maintain or improve stream temperatures (NFP Temperature TMDL Implementation Strategies, US Forest Service and BLM, 2005). Understory trees, which are not providing shade, would be treated within this buffer to reduce fire hazard and to improve the vigor of the remaining overstory trees by increasing available growing space, water, and nutrients." See response to Comment 16 regarding effects of thinning within the riparian reserve. Further, KS Wild is correct that the RMP/EIS did not identify what specific stream channel would be crossed in implementing this project, or the site specific canopy desired for each riparian reserve. Again, the RMP anticipated these types of activities and associated impacts as described under stream crossing design and stream crossing construction under Best Management Practices in Appendix D of the RMP (RMP, pp 158-162).

KS Wild provides citations for two papers produced by Rhodes but does not demonstrate how these literature citations specifically contradict or provide new research information for impacts on aquatic ecosystems of the Middle Cow LSR Planning Area analyzed in the EA. Also, the impacts discussed in the second paper regarding the Snake River Sub-basin of Idaho are outside the scope of the Middle Cow LSR Project EA.

Comment 18: *"The incremental effects of disturbance from yarding corridors, roads, and landings would cause up to 46.6 acres (0.12%) of compaction, and productivity losses equaling the equivalent of up to 41 acres (0.09%) within the Planning Area. EA at 6."*

BLM Response: This is correct. As also stated in the EA on pages 6 and 70: "…compaction would remain well below the maximum 12% compaction standard at the Planning Area level (RMP, p. 166)…Medford District [Best Management Practices] BMPs limit the amount of compaction to 12% of the harvested area, and limit productivity reductions to 5%." This is 100 times less than the allowable limit of compaction and approximately 55 times less for productivity loss.

Comment 19: *"The BLM is aware that Thistle, knapweed, blackberry, Scotch Broom and other noxious weeds are very common in the Planning Area. There is no question that the proposed logging and roading activities will contribute to the spread of these, and other, noxious weeds. RMP guidance and standards and guidelines are to be met at the project level. 'Avoid introducing or spreading noxious weed infestations in any areas. Reduce infestations where possible.' RMP at 92. The Middle Cow project would fail to do this. In the short term (approximately 1-5 years), proposed activities within the Planning Area would result in the reasonable probability of spreading noxious weeds. EA at 216.*

The BLM is not adhering to the RMP in regards to weeds, and this is a significant issue and impact that should be considered in an EIS. Noxious weeds in the planning area are already having a detectable effect on the ecosystem and the contention that additional impacts from the proposed action will not result in a detectable effect to the environment is simply not credible."

BLM Response: KS Wild's comment fails to provide any substantive information regarding this Project's potential effects on the spread of noxious weeds, and merely presents KS Wild's disagreement with the RMP and botanist's findings

The Middle Cow LSR EA on page 130 acknowledges the following Medford District RMP guidelines regarding noxious weeds, "…'contain and/or reduce noxious weed infestations on BLM-administered land (p. 92),' and 'survey BLM-administered land for noxious weed infestations…(p. 93).' These RMP directions for weed management are intended to be met at a landscape level. In an effort to continue to contain and/or reduce noxious weeds on federal land, the BLM proposed to treat known weed populations within the Glendale Resource Area.."

As stated in Appendix 2 of the EA, there are three main reasons why potential weed establishment is not expected to result in a detectable effect to overall ecosystem health. First, surveys indicate that a very small percentage - less than 1% of acreage within the Planning Area units - are affected by noxious weeds. Second, these sites located in units proposed for treatment have been reported during pre-disturbance surveys, and are proposed for weed treatment under Medford District's *Integrated Weed Management Plan and Environmental Assessment OR-110-98-14.* Third, Project Design Features (PDFs) have been established to minimize the rate at which project activities might potentially spread noxious weed seed from outside/adjacent sources.

KS Wild fails to provide the overall scope of the statement cited on page 216 of the EA. The EA on page 127 also states, "Implementing the PDFs that reduce the potential spread of noxious weeds associated with the proposed action, and using native species for seeding/planting newly disturbed openings is expected to result in a similar potential of noxious weed expansion as associated with the No Action Alternative. Project Design Features include washing equipment prior to moving it on-site, operating vehicles/equipment in the dry season, and seeding and/or planting newly created openings with native vegetation to reduce the potential establishment of noxious weeds. These PDFs are widely accepted and utilized as Best Management Practices (BMPs) in noxious weed control strategies across the nation (Thompson, 2006)…In the long term (5-100 years), tree canopies will eventually expand and reduce light levels, which in turn will prevent weeds from growing and expanding within treated areas, because populations decline as the amount of light reaching the plants diminishes. Consequently, in the long term, remaining weed populations would be confined to the road prism and adjoining (private) disturbed land as canopy is re-established in treated areas over time. The effect of implementing Alternative 2 could possibly result in the establishment of new noxious weed populations. Although the *immediate* potential for weed spread would be less with the No-Action Alternative than for the Proposed Action, the potential for the spread of existing noxious weeds and the introduction of new species is considered similar for both alternatives, because of the inclusion of PDFs in Alternative 2, and the fact that under the 'no action' alternative, populations would continue to establish and spread due to seed transport by vehicular traffic, wildlife, and other natural dispersal methods listed in Table 1-2. Indirect effects associated with noxious weed population enlargement are similar to those mentioned in the No Action Alternative ."

KS Wild has not adequately identified how the BLM is not adhering to the RMP guidelines for noxious weeds. The effects were analyzed in the EA and did not substantiate any significant impacts beyond those analyzed in the Medford RMP/ROD and higher level EISs to which the analysis is tiered.

Comment 20: *"This project, in concert with ongoing private land management and the Westside old-growth timber sale would increase peak flows by increasing TSZ openings. While the Middle Cow EA contends that the increases will be insignificant, road construction and reconstruction, tractor logging and cable yarding corridors and taking stands down to 30% canopy closure will increase swift runoff and increase peak flows. Further, the cumulative impacts from past and planned federal activities in the TSZ*

clearly rise to the level of significance requiring completion of an EIS. Indeed, the Westside EA (but not the Middle Cow EA) acknowledged these impacts as a significant unresolved resource conflict.

The EA contends that the small amount of roads and landings would 'only increase the amount of effective open area above current levels by 0.01% (6.3 acres), and therefore, it would not be expected that activity associated with this project would cause a measurable difference in hydrologic timing, magnitude of peak flows, or by extension, in the quantity of ground water storage.' But these watersheds are either at or over maximum open condition before peak flow increases are noticed and can deleteriously impact watershed health. 'Currently, the Whitehorse Creek watershed has approximately 27% in open condition, with 25% open space within the TSZ. A 25% maximum for open condition is recognized in most literature for maintaining an immeasurable effect to hydrologic timing and peak flow increases of small watersheds. When watersheds exceed this trigger point, further analysis should be done to determine if effects MAY be measurable.' EA Appendix 1 at 143."

BLM Response: See response to Comment 12 regarding the scope of stands being reduce to 30% canopy closure.

KS Wild's comment is taken out of context from the full discussion regarding the potential of increased peak flows and hydrologic recovery of open spaces for the Whitehorse Creek HUC6 watershed. The EA also states on page 143: "Since this HUC 6 sub-watershed was right at this trigger point, an assessment was done to determine how many of these open space acres were in an advanced stage of hydrologic recovery. Forest vegetation is generally considered to be in an advanced stage of hydrologic recovery 20 years after disturbance, and substantially complete by age 30 (Harr, 1989; Adams and Ringer, 1994). It is possible the existing amount of open space within the Whitehorse Creek watershed is currently affecting small tributary streams at a HUC 7 level or smaller. However, on a HUC 6 or larger scale, this Planning Area would currently be at a low risk of peak flows or water yields solely as a result of the amount of open acres within the TSZ, and the percentage of TSZ within both of these watersheds (Watershed Professional Network, 1999). Additionally, data from Medford Change Detection shows that approximately 1,330 acres (3.3%) of the Planning Area is 22 years or older, and therefore, it is likely that some acres included in this analysis are partially recovered." As such, the percent of open area would be below the trigger point where effects may be detectable.

Since none of the proposed activities within Middle Cow LSR Project would cause a significant impact, an EIS is not needed. The Westside Project EA acknowledges the impacts of peak flows as an affected element of the environment, but it did not state it was significant. The purpose of critical elements table (Appendix 3 of the EA) mentioned is to define the scope of analysis for the environmental consequences section of the EA (Chapter 3) for further discussion. Identifying an element as 'affected' does not constitute the resource as significantly impacted. It merely identifies the need for further analysis.

Comment 21: *"Pacific lamprey and Oregon coastal cutthroat trout, Bureau Tracking species, are found within the Planning Area. The BLM should not lead to a trend toward listing the Pacific lamprey or any Lampetra subspecies as threatened or endangered under the Endangered Species Act. Logging and road construction is known to harm lamprey. The BLM should consider the cumulative effects of its management activities on lamprey."*

BLM Response: As stated in Appendix 2 of the EA: "Bureau Tracking species are not considered special status species for management purposes. These species do not require management or mitigation (IM OR-2003-054)" (EA, p.137). Also, the proposed action would not adversely affect fish habitat, so it can be assumed that Pacific lamprey and cutthroat trout that use that habitat would not be adversely affected, nor would the proposed action result in the need for these species to be listed under the Endangered Species Act. The cumulative effects section on page 99 of the EA states: "Actions proposed under this EA such as timber harvest activities, road work (including 4 fish bearing culverts and approximately 10 non-fish bearing culverts), and the fish habitat enhancement project in Tennessee Gulch would cause sediment to enter fish habitat. Because of the Project Design Features (PDF) which includes the Best Management Practices (BMP) within the RMP, the amount of sediment reaching fish habitat from these activities would be minimal, short term and localized." Also see response to Comment 14.

Comment 22: *"Page 68 of the LSRA estimates that up to 5,000 acres of the LSR could be treated per decade in order to accomplish risk reduction or habitat manipulation. Please note that the LSRA anticipates that 80% of the treatment areas would be subject to fuels/risk reduction while 20% would be subject to habitat manipulation. The Middle Cow project does not reflect those priorities. Instead the scoping notice proposes 1,236 acres of density management and 2,501 acres of hazardous fuel reduction. Our organizations support proposed hazardous fuels treatment consisting of slash/hand pile/burn methods. We bring to your attention that the 1,236 acres of (predominately mid and late-seral) habitat manipulation would impact more than the acreage anticipated by the LSRA. The current ratio of density management to fuels/risk reduction does not reflect the findings or projections of the LSRA."*

BLM Response: The overall projection in the LSRA is not limited to just the Middle Cow LSR Project, but in consideration of all proposed projects within the South Umpqua/Galesville LSR. As discussed in Appendix 3 (Public Comment to Middle Cow LSR Landscape Planning Project Scoping Report and BLM Response): "The 5,000 acres guideline is referencing hazardous fuels reduction .The LSRA also suggests the following treatment acreages within the next 10 years: 2,000 acres in 40-80 year old stands, 7,000 acres in sapling stands (20-40 years), and 3,000 acres in 10-20 year old planted stands. The total of these acreages is 22,000 acres. The 20% habitat manipulation noted in the comment relates to the use of prescribed fire in hazardous fuels reduction treatments where areas would not be commercially harvested at this time, such as underburning, handpile burning, lop-and-scatter, creation of buffers and fuel breaks, or burning of

meadows. The combined use of hazardous fuels reduction in this LSR approximates at 3,160 acres, from the 2,500 acres proposed under this project and 660 acres of current and foreseeable projects on BLM and Forest Service within this LSR" (EA, p. 149).

Comment 23: *"We are extremely concerned about the proposed 1.8 miles of new 'temporary' road construction, road reconstruction and the creation of landings in the project area. This is not proper management for an LSR. We are not sure how the justification for this – access to stands for treatment – squares with the BLM's ability to manage other stands through other yarding systems that don't harm the watershed, create unnatural openings, and remove late-successional habitat. The BLM has other tools at its disposal and is not required to build or rebuild roads in LSRs to meet project objectives.*

> *Road construction in Late-Successional reserves for silvicultural, salvage, and other activities generally is not recommended unless potential benefits exceed the costs of habitat impairment. If new roads are necessary to implement a practice that is otherwise in accordance with these guidelines, they will be kept to a minimum, be routed through non-late-successional habitat where possible, and be designed to minimize adverse impacts. Alternative access methods, such as aerial logging, should be considered to provide access for activities in reserves." **Northwest Forest Plan C-16.***
>
> *An aggressive effort should be made to reduce open road densities in the watershed through decommissioning, barricading and gating." **Middle Cow Creek Watershed Analysis 67.***
>
> *[T]here are already many miles of roads within Riparian Reserves, which will continue to produce sediment into streams until they are decommissioned. **Middle Cow Creek Watershed Analysis 22.***
>
> *All sub-watersheds have high road densities and all are far above the two miles of road per square mile target established by the National Marine Fisheries Service (NMFS) for proper functioning condition." **Middle Cow Creek Watershed Analysis 20.***

Given the findings above, it is extremely disappointing that the BLM is proposing to build yet more roads into this highly roaded late-successional reserve. The agency should follow the letter, intent and direction of the Northwest Forest Plan and reduce, rather than increase the short-term road density.

While the new road construction is described as 'temporary,' all road construction results in long-term impacts to soil health and productivity. Further, once trees are removed from the roadway, they cannot be put back. The BLM and USFS Biscuit Fire Recovery Project DEIS found that 'Creation of temporary logging roads is an irreversible commitment of the soil resource, as such areas rarely regain their former productivity.'

*The scale of road reconstruction in this LSR is equally alarming. The EA defines road reconstruction as: '**Road reconstruction** would restore a road to its original or modified condition. The road is pre-existing however (sic), the road has been unused for an extended period of time and trees are developing in its path.' EA at 22. 'The road*

maintenance, reconstruction and hauling are proposed for roads which cross intermittent, perennial, and fish bearing streams. ***Some of these roads also parallel fish bearing streams as close as 15 feet.****' EA at 96.*

The EA admits that, 'these actions would lead to areas of exposed soil.' EA at 96. This could lead to sedimentation in streams harming fish habitat. The EA explains away these impacts using Best Management Practices and Project Design Features. 'The amount of sediment moving off the road and into stream channels would be minimized by PDFs and BMPS. Specifically a PDF states the road decommissioning would take place during the dry season. BMPs within the RMP state the roads to be decommissioned would be revegetated with native species and mulch would be applied where appropriate.' Ibid.

In one instance (32-2-20.2), the EA admits that road related activities would harm fish habitat, but relies on PDFs to minimize the impacts. 'There are 3 perennial stream crossings and one intermittent stream crossing on this road. This road ranges from 16 feet to 230 feet from Hogum Creek. Due to the narrow vegetated strips between the road and the stream some mobilized sediment resulting from road activities could reach Hogum Creek. Because of the PDFs and BMPs the amount of sediment entering Hogum Creek would not substantially alter the quality of fish habitat.' EA at 97.

There is no good evidence that the application of BMPs or PDFs can reduce the impacts of logging and road construction at the watershed scale to an ecologically insignificant level, especially in light of existing conditions of the Middle Cow Watershed. John Couburn, a professional hydrologist, states: Such a cumulative effect could occur even if best management practices (BMPs) or the state's forest practice rules were implemented. BMPs, such as streamside protection (equipment exclusion) zones or proper road construction, help reduce but do not always stop cumulative effects. [Journal of Soil and Water Conservation, July-August, 1989, p. 2678.]

We again offer the following statements and citations to the agency regarding the long-term impacts of 'temporary' road construction in this LSR."

BLM Response: See response to Comment 1 (second and third paragraphs) regarding temporary road construction and evaluation of alternate access to proposed units.

The Middle Cow LSR EA would result in a net reduction of 0.86 miles of roads as a result of decommissioning existing roads. Many of the roads within the Middle Cow LSR Landscape Project Planning Area are not public roads and are under reciprocal right-of-way agreements with private landowners because of the checkerboard ownership pattern. The BLM does not have the option to close these roads due to the reciprocal right-of-way agreements.

The EA does not say that proposed activities would harm fish. Rather it states some "mobilized sediment would reach Hogum Creek, but would not exceed ODEQ water quality standards….Since the treatments within this Project Area would not result in large amount of exposed soil in any one area, then generally well established early seral

("pioneer") vegetation would be sufficient to prevent soil movement. Since there would not be any ground disturbance within the EPZ any sediment mobilized from upland treatments that was not redirected via waterbars within the unit would most likely be filtered by the vegetation within the EPZ. Any sediment reaching the road would be redirected into a vegetated buffer strip by waterdips." (EA, p.82).

Comment 24: *"We are very skeptical that ground-based yarding systems will contribute to the attainment of late-successional characteristics. Ground-based logging causes higher incidences of root damage and scarring of residual trees (compared to skyline systems). Kellog, L., Han, H.S., Mayo, J., and J. Sissel, 'Residual Stand Damage from Thinning- Young Stand Diversity Study,' Cascade Center for Ecosystem Management.*

Soil loss with respect to method of harvest is directly related to the amount of soil disturbed and bared by harvest activity, especially the density of skid trails and roads required to access the timber. Megahan (1981) found tractor logging on granitic soils resulted in 28 percent soil disturbance, ground cables with 23 percent, suspended cables with five percent and helicopter logging with two percent. Similarly, Swanston and Dyrness (1973) found tractor yarding in granitics to result in 35.1 percent bare soil, hi-lead in 14.8 percent and skyline in 12.8 percent. In a Trinity County study on mixed soil types, skid trails averaged four to eight percent (6-12 km/sq.km) for clearcut areas (Scott et al., 1980). http://www.krisweb.com/biblio/klamath_srcd_sommarstrometal_1990.pdf

Rice, R.M.; Datzman, P.A. 1981. Erosion associated with cable and tractor logging in northwestern California. In: Davies, T.R.H.; Pearce, A.J., eds. Erosion and sediment transport in Pacific Rim steeplands, Proceedings of the Christchurch Symposium, 1981 January, Christchurch, New Zealand. International Association of Hydrological Sciences Publication No. 132. Wallingford, UK: IAHS; 362-374.

The impacts of yarding corridors on late-successional habitat, 'edge' effects, and connectivity were not disclosed or analyzed in the EA. Large diameter trees in the LSR and the riparian reserves should not be logged in order to facilitate yarding."

BLM Response: The effects to soil was determined using Megahan 1980 as the tool of compaction and productivity loss. The EA on page 71 states: "Megahan (1980) found that clearcut tractor logging disturbed 21% of the ground and clearcut cable yarding disturbed 7%....In commercial thinning units disturbance estimates are reduced by almost 40% when compared to clearcuts (for commercial thins tractor disturbance is 13%, cable disturbance is 4%, and helicopter disturbance is 1%) (Megahan, 1980). For estimated harvested acres observed in the field, and known acres that have been recently harvested between 2002-2006, disturbed ground was calculated using a 40% tractor, 55%, cable, and 5% helicopter yarding estimate to more accurately represent modern logging practices." The figures KS Wild mentioned are for logging activities on granitics, which are not present within proposed units. Also, KS Wild's reference to "clearcuts" is misleading as there are no such activities proposed in the Middle Cow LSR project. A combination of helicopter, cable, and tractor yarding is proposed for this project in order to minimize damage and scarring of residual trees.

See response to Comment 5 (eighth paragraph) and Comment 15 regarding project design features to minimize large diameter tree loss and effects to connectivity, respectively.

Comment 25: *"The BLM failed to look for Red tree voles in the project area. There are stands in the project area that could be providing essential habitat for the Red tree vole. This species is likely to be present within project units and the action could potentially remove some habitat trees. EA at 140*

Please refer to current research by Dr. Eric Forsman showing that in watersheds like Middle Cow, the populations of RTV could be "hanging on" in younger stands and these areas are the last place for species persistence. If there is a hope to recover the RTV, and by association, the northern spotted owl in these LSRs, we should consider protecting habitat for the RTV where it occurs. Please see Masters Thesis submitted by James Kerr Swigle on 11/29/05 Daily Activity Patters, Survival, and Movement of Red Tree Vole (Arborimus longicaudus) in Western Oregon.

We do not agree with the BLM that the Annual Species Review process allows removal of the RTV from the Survey and Mange program through a significant portion of its range. The BLM would be remiss in not protecting the RTV if occurs in forested stands in the project area, as the BLM would be remiss in tiering to illegal RODs and ASRs relating to the Survey and Manage program."

BLM Response: The January 9, 2006 U.S. District Court order in Northwest Ecosystem Alliance et al. v. Rey et al. directed the U.S. Forest Service and BLM to:

- set aside the 2004 Record of Decision *To Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines in Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern spotted Owl* (March, 2004) (2004 ROD) and

- reinstate the 2001 *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines* (January, 2001) (2001 ROD), **including any amendments or modifications in effect as of March 21, 2004.**

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

KS Wild's comments concerning the Northwest Forest Plana and Annual Species Reviews (ASR) currently involve matters in litigation, to which KS Wild is a party. The federal district court in Oregon has upheld the ASRs. Klamath Siskiyou Wildlands Ctr. v. BLM, 2006 U.S. Dist. LEXIS 9612 (D. Or. 2006).

The EA notes on page 140: "…this species was removed from the Survey and Manage list for this geographic area (mesic zone) through the 2003 Survey and Manage Annual Species Review (IM OR-2004-034), because the species was found to be more plentiful and widely distributed in the mesic zone. The red tree vole was not re-assigned as a Special Status Species; therefore, surveys, protecting known sites, other management, or mitigation are not required. Potential impacts to the red tree vole from project activities would not affect the persistence of the local subpopulation since density management would be primarily from below and the larger trees retained are more likely to contain red tree vole nests than trees proposed for removal."

Comment 26: *"The BLM should have looked for Del Norte salamander to see if they could find them east of I-5, even if Middle Cow is just outside of the currently known range. This species occurs near the planning area and could be found in these watersheds. These salamanders are extremely susceptible to micro-climatic changes such as those brought about by logging, yarding and road building. Please note that the 2004 ROD eliminating the survey and mange program assumed that LSRs and riparian reserves would provide refugia for this species. If logging practices are authorized that harm this species, the assumptions and findings of the 2004 ROD will not be valid.*

The Middle Cow Creek Watershed Analysis indicates that, 'the exact limit of their distribution is uncertain.' WA 45. It particularly important to avoid impacts to a species that may result in extirpation from a portion of its range.

The WA also concludes that "An extensive inventory of Survey and Manage species should be conducted to better understand habitat requirements, determine the affects of past management actions, determine distributional limits for species and establish baseline conditions for LSR, Riparian Reserves and other areas." WA 71. Rather than follow the advice of the WA, it appears that the agency is proposing to log Del Notre habitat in reserve land-use allocations without conducting surveys to inform your decision-making."

BLM Response: As is stated in the EA on page 141, the EA tiers to the 2001 Survey & Manage ROD, not the 2004 ROD, "This species is listed as a Category D species under the Survey & Manage ROD from 2001 (*Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines*, January 2001). Under this designation 'pre-disturbance surveys are not practical or not necessary to meet objectives for species persistence' (p. 11 of the Standards & Guidelines). The project activities are not expected to affect this species as it is outside the known range of the salamander. Del Norte salamanders are associated with older, closed-canopy forests with rocky substrates dominated by cobble-sized pieces of rock (Welsh and Lind 1995). Since there is very little talus in the Planning Area, and no treatments are planned in this habitat, it is expected that this project would have no effect on Del Norte Salamanders." Therefore the assumption that the BLM is proposing to log Del Notre habitat is incorrect.

The Middle Cow Watershed Analysis was written prior to further field information that supported the removal of the Del Norte salamander from the list of Survey and Manage species. The removal was done through the Annual Species Review as allowed under the Survey and Manage ROD, 2001 (p. 8).

Comment 27: *"The USFWS warranted but precluded findings (referenced in the EA 76) contain a detailed review on the conservation status of the fisher, including a comprehensive analysis of threats to the continued existence of the species. 69 Fed. Reg. 18770, 18770 (April 8, 2004). This information is not reflected in the EA's casual treatment of this species. For example, FWS noted that 'habitat loss and fragmentation appear to be significant threats to the fisher. Forested habitat in the Pacific coast region decreased by about 8.5 million acres between 1953 and 1997.' Id. at 18780. 'Forest cover in the Pacific coast is projected to continue to decrease through 2050, with timberland area projected to be about 6 percent smaller in 2050 than in 1997.' Id. 'Thus fisher habitat is projected to decline in Washington, Oregon, and California in the foreseeable future' Id.*

The FWS status review also discloses that '[v]egetation management activities such as timber harvest and fuels reduction treatments . . . can destroy, alter, or fragment forest habitat suitable for fishers.' Id. at 18778. 'A number of studies have shown that the fisher avoids areas with little forest cover or significant human disturbance and conversely prefers large areas of contiguous interior forest.' Id. at 18773. 'The fisher's need for overhead cover is very well documented. Many researchers report that fishers select stands with continuous canopy cover to provide security cover from predators.' Id. 'Fishers probably avoid open areas because in winter open areas have deeper, less supportive snow which inhibits travel, and because they are more vulnerable to potential predators without forest cover.' Id. 'Furthermore, preferred prey species may be more abundant or vulnerable in areas with higher canopy closure.' Id.

None of this scientific literature was discussed in the analysis of the proposed project. The BLM admits that, 'The largest late-successional blocks are expected to continue to be restricted to LSRs. With the cumulative effects of private harvesting, checkerboard BLM ownership and few large patches of BLM late-successional habitat at low elevations, combined with the fisher's natural rareness, low fecundity and slow re-colonization rates of restored habitats, the species is not expected to be well distributed throughout its range (USDA/USDI 1994a, pp. 53, 470). EA at 10. But then proposes to log older forests in the Westside, Bonny Skull and even the Middle Cow project, along with myriad others. Middle Cow would downgrade 300 acres of habitat for the Pacific fisher.' EA at 30.

The impact of the proposed action on the fisher, in concert with the past present and future actions would lead to a trend toward listing the fisher under the ESA. For middle Cow, the impacts would be the following:

> *The Proposed Action would downgrade approximately 300 acres of late-successional forest from CDM units for one to two decades. Approximately 2,451 acres of suitable habitat and 867 acres of dispersal habitat in CDM units would be degraded and retain*

> *approximately 40% canopy, providing reduced protection and foraging until the understory responds to increased light levels. Large snags and down wood retained in proposed units would be less suitable for denning until covered with regrowth (30-40 years). EA at 63.*

Yet, the EA lacks a true cumulative effects analysis that would offer insight into the impacts on fishers through past present and reasonably foreseeable actions. In the fisher effects analysis the EA states that:

> *The USFWS Section 7 Cow-Upper watershed baseline suitable habitat is 43,242 acres. While this figure represents suitable owl nesting, roosting, or foraging habitat, its late-successional, closed-canopy conditions also act as an indicator of the relative amount of mature forest habitat available for fisher use. The cumulative removal and downgrading of 5,287 acres of suitable habitat combined with other foreseeable projects in this watershed is approximately 13% of the baseline. Private land is not expected to support fisher, given a stand age rotation of 40-60 years. EA at 65.*

How can there be no cumulative effect on a threatened species from the BLM and adjacent land management if it will remove 13% of habitat in a watershed? Surely this project and others nearby will harm the fisher, lead to a need to list and trigger a significant impact on the fisher and other late-successional species."

BLM Response: KS Wild's comments are all hypothetical and neglect to acknowledge wildlife biologist's assessment that "Approximately seventy remote camera surveys were conducted to protocol (Zielinski and Kucera 1995) in 2002-2005 in the Glendale Resource Area, with no fisher detections... Field surveys and incidental road observations from BLM personnel have also failed to detect this species in the Middle Cow Creek watershed or in any of the other 5th field watersheds within the Glendale Resource Area. However, the nearest known sightings, from four incidental visual observations (USDI 2004), are approximately 15 miles southwest." (EA p. 62).

The EA also states on page 63: "While some portions of treated stands that are below 60% canopy closure would be avoided for approximately 10 to 20 years by the fisher (Heinemeyer and Jones 1994), the species would benefit in the long term. This is because such treatments would eventually result in increased canopy complexity; therefore, more robust populations of prey (Carey et al 1999). Also, because fisher are highly dependent on an abundance of snags (for denning) and down logs for travel, prey and subnivean habitat (habitat available below snow) and appear to tolerate small clearings (Heinemeyer and Jones 1994), it is likely that fisher would benefit as soon as large wood and snags are created. Since some of these structures would be created in the first ten years following the commercial density management operation, improvements in fisher habitat would be realized more quickly than that for spotted owl habitat.

Overall, the proposed action would improve the ability of the Planning Area on a landscape level to support fisher. However, this project would not change the assessment predicted in the NFP (p.J2-54), which stated the fisher failed to pass the species viability screens due to its dependence on interior forest habitat and large, down woody debris."

From a cumulative effects standpoint, "late-successional habitat would be maintained throughout the watershed in riparian reserves, 100-acre Known Spotted Owl Activity Centers, connectivity blocks, and 15% late-successional forest retention (RMP, pp.38-40). These reserve areas would continue to provide suitable habitat for fisher and would help maintain future dispersal opportunities throughout the Planning Area and the watershed" (EA, p. 65).

Comment 28: *"NEPA mandates that an agency 'shall to the fullest extent possible: Use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment.' 40 C.F.R. §1500.2(e). The agency must also: 'Study, develop, and describe appropriate alternatives to the recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses available resources as provided by section 102(2)(E) of ... 40 C.F.R. §1501.2(c).' The Middle Cow project, by only proposing ONE alternative (the proposed action) violates CEQ regulations at 40 CFR 1502.14: '(Alternatives shall) rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.'*

The 9th Circuit Court of Appeals has ruled that:

> *The goal of [NEPA] is to ensure 'that federal agencies infuse in project planning a thorough consideration of environmental values ... The consideration of alternatives requirements furthers that goal by guaranteeing that agency decision makers '[have] before [them] and take into proper account all possible approaches to a particular project (including total abandonment of the project) which would alter the environmental impact and the cost-benefit balance. - Bob Marshall Alliance v. Hodel, F.2d 1223 (9th Cir. 1988).*

The Council on Environmental Quality clarified their regulations by announcing that 'Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable ... ' Logically, then, Middle Cow could have analyzed other alternatives that did not build road, log late-successional forests, or harm watersheds by reconstructing roads. Road decommissioning, hazardous fuels reduction and light touch thinning could have been analyzed in an action alternative. The Middle Cow Project fails to give any meaningful evaluation of alternatives to the proposed action. Reasonable and practicable alternatives to the proposed action do exist and have been identified in earlier comments. The public requested that the BLM look at an alternative that would have better met the ecological need for the project and the standards and guidelines of the Medford RMP and Northwest Forest Plan, but the BLM chose not to even consider this alternative.

The one alternative considered, is not meaningful in regards to the purposes of NEPA. The highly restricted range of alternatives evaluated and considered violates the very purpose of NEPA's alternative analysis requirement, to foster informed decision making

and full public involvement. 42 U.S.C. §101; 42 U.S.C. §102(2)(E); 40 C.F.R. §1508.9(b); Robertson v. Methow Valley Citizen's Council, 490 U.S. 332, 349 (1989).”

BLM Response: See response to Comment 1 regarding alternative development.

Parties claiming a NEPA violation involving failure to consider a reasonable alternative must offer a specific, detailed counterproposal that has a chance of success. In the Morongo Band of Mission Indians v. Federal Aviation Admin., parties claiming a NEPA violation involving failure to consider a reasonable alternative must offer a specific, detailed counterproposal that has a chance of success. Also in other cases it was determined that an agency does not have to consider alternatives that are not feasible, Headwaters, Inc., 914 F.2d at 1180-1181 and an agency does not have to consider alternatives that would not accomplish the purpose of the proposed project, City of Angoon v. Hodel 803 F.2d 1016, 1021 (9th Cir 1986).

Since there were no unresolved conflicts concerning alternative uses of available resources identified by the interdisciplinary team, there was no procedural requirement to develop additional action alternatives.

Comment 28: *“The cumulative impacts of the Westside, Bonny Skull, and Middle Cow LSR timber sales on open space, peak flows, channel scour, salmon, riparian reserves, LSRs, Del Norte Salamanders, Red Tree Voles, late-successional forests, Spotted Owls, critical habitat, Barred Owl encroachment, Pacific fishers, migratory birds, fuel loading, canopy closure, fire behavior, fire hazard and human health are neither predicted by or disclosed in the RMP or the EAs for the Middle Cow or Westside projects. Collectivity and individually these projects and associated impacts involve significant environmental effects necessitating completion of an EIS.*

The EA does not provide substantive analysis and disclosure of the cumulative hydrological impacts of the private and federal logging and roading programs in the planning area. The cumulative effects “analysis” should do more than list past federal timber sales and then discounts the actual impacts of these activities without disclosing their magnitude, location, duration, or any monitoring data.

The findings of the WA in these regards should be analyzed, incorporated or addressed in the EA.

> *Lack of maintenance from federal funding sources, new construction on private land and lack of maintenance on private land all point to a decline in stability and an overall increase in sediment production. The trend is seen as a decline in stability and maintenance for the long term.*
>
> *Hydrologic cumulative effects resulting from private logging, checkerboard ownership and recent BLM actions may defer timbered stands a period of time to allow the watershed to recover. -WA page 61.*

Please incorporate the WA recommendations and "allow the watershed to recover." Old growth logging, road building, landing construction and hauling that are known to increase sedimentation in a watershed that is already experiencing significant problems with sediment. In addition to this project, please consider the past, present and conceivable future actions (such as removing the LSR altogether in the Western Oregon Plan Revisions) in a comprehensive cumulative effects analysis.

The cumulative effects "analysis" contained in the Middle Cow EA is inadequate. The EA's treatment of the cumulative impacts of private lands logging, past BLM logging, and foreseeable BLM logging is vague and lacking in detailed discussion or analysis.

Cumulative effects are also important to threatened and sensitive species, soil productivity, forest health, and fire hazard. The EA does not adequately address the site-specific cumulative effects of this action on any of those factors.

The Glendale RA is fond of attempting to "tier-away" analysis of the unique and site-specific impacts of its ubiquitous old-growth logging projects. For instance, in response to the Mr. Wilson IBLA appeal, the Glendale RA asserted that the NFP and the RMP environmental impact statements and decision records addressed the cumulative effects of logging on Matrix lands (Response 7). That is not correct. A plan-level analysis cannot substitute for the site-specific analysis of cumulative environmental impacts required by NEPA. see City of Tenakee Springs v. Clough, 915 F.2d 1308. The Final Environmental Impact Statement (FEIS) supporting the RMP demanded project-level cumulative effects analysis:

> *Site-specific planning by interdisciplinary teams (IDTs) will precede most on-the-ground management activities… The IDT process includes, as appropriate, field examination of resources, selection of alternative management actions, analysis of alternatives, and documentation to meet [NEPA] requirements. Adjacent land uses will be considered during site-specific land management planning (FEIS 2-104, 2-107 – emphasis added).*

Just as it did in the Mr. Wilson timber sale, the Glendale RA attempts to "tier" the EA to the RMP FEIS and ignore site-specific cumulative effects. More is required. Cumulative impacts of logging and road building at Westside, Boney Skull and Middle Cow LSR must be assessed together with past, ongoing, and reasonably foreseeable future actions on adjacent private lands and other BLM lands nearby (40 C.F.R. § 1508.7).

Contrary to the BLM's statement to the IBLA in the Wilson appeal, we are not demanding that the programmatic analysis of the RMP be redone every time a new timber sale is proposed. Rather, we recognize, as did the RMP and the NFP, that the extremely broad scope of the plans preclude them from anticipating all of the cumulative effects that will result from their programmatic direction at the site-specific level (see NFP FSEIS 3&4-5 and 3&4-10).

Since the Medford BLM seems committed to ignoring the public on this point, perhaps it will help the agency to "hear" the law from another source. In the recent 9th Circuit holding in Gifford Pinchot the Court clearly stated:

> *Because the NFP covered such a wide area, from Northern Washington to Northern California, involving virtually all of the federal government's forested land in this expansive area, the NFP BiOp explicitly declined to address the unique impacts of any particular action or implementation of the NFP.*

*If that is not clear enough to the BLM, perhaps the recent 9th Circuit holding in Lands Council v. Powell 2004 U.S. App. LEXIS 16678 at *12-14 will help:*

> *Stated differently, the general rule under NEPA is that, in assessing cumulative effects, the Environmental Impact Statement must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment.... For the public and agency personnel to adequately evaluate the cumulative effects of past timber harvests, the Final Environmental Impact Statement should have provided adequate data of the time, type, place, and scale of past timber harvests and should have explained in sufficient detail how different project plans and harvest methods affected the environment. The Forest Service did not do this, and NEPA requires otherwise. Muckleshoot, 177 F.3d at 809-10.*

The Ninth Circuit's decision in Lands Council addresses a NEPA requirement that the BLM continues to flaunt. Specifically, the EA at issue here "fails to adequately address the cumulative impacts of the project with all other past, present and reasonably foreseeable project in the area" in compliance with NEPA. For instance, other projects in the same CHU must be analyzed in the cumulative effects "analysis" in EA.

Additionally, the BLM may not defer analysis of cumulative effects to programmatic consultations conducted under the Endangered Species Act (ESA), as it attempted to do in the EA. ESA consultations are not NEPA documents – they were not circulated for public review or comment, and they are not attached to any decision. The RMP and the NFP clearly require the analysis to be conducted in the site-specific NEPA document."

BLM Response: KS Wild misconstrues the court's holding in City of Tenakee Springs v. Clough, 915 F.2d 1308 (9th Cir. 1990). There, the court held that where several similar projects in a geographic region have a cumulative or synergistic effect, they should be analyzed in a single EIS rather than separate EISs. Notably, separate EISs were at issue in that case, not an EA; moreover, for years, KS Wild has been calling on BLM to prepare a multi-timber sale NEPA document covering several years worth of timber sales, like the one prepared for the Middle Cow LSR Project (Klamath-Siskiyou Wildlands Ctr. v. BLM, 387 F.3d 989, 996, 9th Cir. 2004 [KS Wild arguing that multiple timber sales must be analyzed in a single NEPA document]). Further, Tenakee Springs did not do away with the concept of tiering and incorporation by reference, as is implied in the comment. KS Wild has not identified any other similar project of BLM's that would have a cumulative or synergistic effect which has not been included in the EA covering this project. BLM never stated that the programmatic analysis will "substitute for the site-specific analysis of cumulative impacts analysis," but rather, the BLM has properly

recognized the fact that at least two EISs have already been performed that anticipated and analyzed the types of site-specific effects, including cumulative effects, that would arise from carrying out site-specific timber sales like in the Middle Cow LSR Project across both the district and the region-wide level. Where the ***type*** of cumulative impact relevant to a particular issue has already been identified and discussed in the programmatic EIS, it does not need to be done over and over again. The Middle Cow LSR Project EA tiers to those documents as specifically permitted and encouraged in the NEPA regulations. See 40 CFR § 1502.20 ("Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions and to focus on the actual issues ripe for decision at each level of environmental review").

The Middle Cow LSR Project EA assumes there would be effects to the environment and analyzed those relevant resource elements that would be potentially affected. Those relevant resources have been identified by BLM guidance (Critical Elements), Special Status Species (which includes threatened and endangered), survey and manage species and public comments. Under Appendix 2 of the EA, (pp. 128-145) those relevant resources were assessed as to whether they are present, not affected or affected. Relevant resources that would be potentially affected were analyzed under Chapter 3 of the EA. O*pen space, peak flows, channel scour, salmon, riparian reserves, LSRs, Del Norte Salamanders, Red Tree Voles, late-successional forests, Spotted Owls, critical habitat, Barred Owl encroachment, Pacific fishers, fuel loading, canopy closure, fire behavior, fire hazard and human health* were analyzed and responded to in KS Wild's other comments. Migratory birds were not analyzed as there is no current guidance on managing all bird species that potentially use the area in transitory migration. KS Wild also did not raise the concern of migratory birds in their scoping comments. The BLM will provide further analysis of migratory birds.

Analyzing the cumulative effects of the Western Oregon Revision Plan is outside the scope of this project as no alternative has been adopted nor has a preferred alternative been selected. As such, there is a multitude of scenarios still being refined and developed that may or may not occur, making such a broad cumulative effects analysis rather meaningless for the purpose of decision making on the Middle Cow LSR Project.

KS Wild has misquoted the recommendation statements for deferring activities from the Middle Cow Creek Watershed (1999). The WA states (p. 61), "Cumulative effects on fish, wildlife and water resources **may** result in deferring BLM timber harvest in some areas of recent logging…Hydrologic cumulative effects resulting from private logging, checkerboard ownership and recent BLM actions **may** defer timbered stands for a period of time to allow the watershed to recover." The watershed analysis allows for flexible management, should the conditions not warrant deferring treatment.

The EA contains adequate analysis and did not identify impacts outside the scope of the FEIS.

Jaykub Young

Comment 29: *As a local resident and studier of natural ecosystems, I would like to speak against the plan of Logging Middle Cow Creek. I understand that the comment period ends this July 24th, and would like to strongly ask you to reconsider your proposal, ancient ecosystems are now rare, and must be protected at all cost.*

BLM Response: As discussed in Comment 2, the majority of stands within the Middle Cow LSR Project are mixed stands containing previously harvested portions resulting in a mixed age class ranging from 30-80 years of age. When these stands were originally planted after harvest activities, they were not designated as Late Successional Reserves. They were instead planted for optimal timber production, resulting in densely packed and shaded stands. Had these stands been planted with late successional conditions in mind, there would be wider tree spacing. Silvicultural treatments are proposed to release the dense conditions, provide adequate spacing for tree diameter development and sufficient light for hardwood species. Once treatment has occurred it is expected that stands will regain a closed canopy within 10-20 years.

As discussed in response to Comment 6, many of the stands within the Middle Cow LSR Project Area have developed under less than natural conditions. Decades of fire suppression has altered the natural fire regime. Low ground creeping fires may have been absent from these stands for decades that would have contributed to the development of late successional characteristics by thinning portions of the understory for larger tree development. Other portions of stands proposed for treatment have been previously harvested and the stands are not developing towards late successional conditions as they are increasingly becoming dense with regenerating trees.

The objective for entering proposed stands within the Middle Cow LSR Project is to develop late successional characteristics where the primarily constituent elements for the spotted owl and other late-successional forest wildlife are missing, such as multi-level stories, multi-aged stand, diverse stand species, ground vegetation, and a component of hardwoods. The EA on page 13 describes this criteria: "Stands containing single story structure would benefit from density management to maintain or enhance the following: adequate spacing for tree growth, forest/stand health, diverse stand structure (large limbs and full crowns), wildlife habitat, and stand characteristics for purposes other than growth and yield. Under the current conditions such stands are more prone to disease, catastrophic fire, and suppressed growth."