

Appendix A - Response to Comments 2007 Plantation Thinning

The proposed action was made available for public comment, (36 CFR 215, 5/13/03). Letters and e-mails were received during the 30-day comment period, which ended on January 17, 2007.

The responsible official has considered comments received and has developed the 2007 Plantation Thinning Environmental Assessment in response to those comments.

This appendix responds to the substantive comments. Substantive comments are comments that are within the scope of the proposed action, are specific to the proposed action, have a direct relationship to the proposed action and include supporting reasons for the Responsible Official to consider (36 CFR 215.2).

The emails and letters are in the analysis file; the following is a summary. The agency responses are highlighted. In the responses, section numbers refer to the 2007 Plantation Thinning Environmental Assessment unless otherwise specified.

Clackamas Stewardship Partners (CSP)

We are supportive of the Clackamas River Ranger District's Alternative C proposal to thin young plantation stands. Members of the CSP met with the Clackamas River Ranger District during two public meetings to discuss the 2007 Plantation Thinning Project and over the course of these meetings key issues were identified. Members of CSP voiced their concerns over the proposed new temporary roads, intermittent stream buffers, and impact of roads on water quality and wildlife. Alternative C incorporates and addresses CSP concerns on these issues and therefore we believe Alternative C is the most appropriate action. We also encourage the Forest Service to consider the suggestions described below and provide clarification on some of the questions raised in this letter.

Roads-Water Quality and Fisheries, Road Closures and Decommissioning

1. The ecological effects of forest roads have been extensively researched in the Pacific Northwest. They alter hydrology by reducing soil infiltration, converting subsurface flow to surface flow, concentrating water through road drainage structures, and increasing peak flows (Jones et al. 2000, Luce 2002). They can result in geomorphic changes, including chronic erosion and elevated sediment delivery into streams (Gucinski et al. 2000, Megahan and Kidd 1972), extended channel networks (Wemple et al. 1996), and increased risk and rates of mass wasting (Montgomery 1994, Swanson and Dyrness 1975). Roads also influence the ecology of terrestrial and aquatic ecosystems through direct habitat degradation and fragmentation, loss of soil productivity, spread of exotic, non-native species, and associated human impacts as a result of increased access (Gucinski et al. 2000, Newcombe and MacDonald 1991). The direct, indirect and cumulative effects of the alternatives including road construction are addressed in the EA (s. 4.0). All roads do not have the same effect. When assessing roads for their contribution to environmental effects it is important

to look at site-specific characteristics of each road and each road segment and the terrain it crosses to identify concerns.

2. Alternative C of the 2007 Plantation Thin includes no new temporary road construction and instead proposes approximately 4.5 miles of roads to be decommissioned, 43.2 miles of roads would be bermed, 8.9 miles would be closed year-round with new gates and one existing gate that is only closed seasonally would be changed to a year-round closure affecting 6.5 miles. Although we are concerned there will still be 7.3 miles of old existing temporary roads and old skid trails reopened and reconstructed, the CSP group is pleased to see the inclusion of 63.1 miles of road decommissioning (berms, year-round gate closure, obliteration) and no new temporary road construction, therefore we support Alternative C.

3. Several concerns and questions arose as we examined the system roads proposed to be temporarily re-opened and compared the list with the Mt. Hood National Forest 2003 Roads Analysis list of roads with low access needs and high environmental risk and the list from Alternative C of proposed road closures. First, five road segments (4620-011, 4620-013, 4621-022, 4621-125, 4621-140) are listed to be re-opened (PA 15) and are additionally listed on the 2003 Roads Analysis list of roads with low access needs and high environmental risk (p. 44 Figure 19). The roads that are being reopened were temporarily closed with berms that were placed to reduce wildlife harassment and reduce road maintenance costs until the roads were needed again. After project completion the roads would be reclosed with berms. These roads have never been decommissioned. The analysis in the 2007 Plantation Thin shows that temporarily reopening these roads would not cause significant impacts to resources (s. 4.0).

4. The Roads Analysis does not explicitly state the specific environmental risk for each road segment, but our understanding is that for a road segment to be scored high (8-10) there is a significant environmental risk. We recommend that the Forest Service include a description on what the environmental risk is associated with each road segment and include an analysis of the overall impacts and tradeoffs (i.e. acres treated and timber cut) of re-opening these road segments in the decision. The Forest-wide Roads Analysis divided the landscape based on 15 primary factors risk all of which overlap. The risk factors include things like landslide risk, transient snow zone, surface erosion hazard, deer and elk winter range, spotted owl habitat. After the landscape was categorized by these risk factors, the roads were intersected. Since the risk factors overlap in complex ways, any given road would cross dozens of different hazard rating areas; in some cases every 100 feet of road has a different score because they cross in and out of these analysis zones. The Roads Analysis is incorporated by reference. It is a very complex analysis and it would be inappropriate and time consuming to pull apart that analysis and explain each road section. However to summarize, most of the roads in the project area scored high because of the following general factors: 1/ There is a high stream density overlapping an area with high road density; 2/ Much of the area is in earthflow topography; and 3/ Much of the area is both deer and elk winter range and spotted owl habitat.

It should be noted that roads need to be examined at a site-specific scale before deciding what to do with them. Some roads that score high because they are in a high risk landscape may not actually have any problems. Also the list of roads with "low access needs" does not

imply that there are no needs. If a road is needed for a future thinning project, it may be appropriate to delay decommissioning until the areas that need thinning have been thinned. Otherwise the decommissioned road may need to be reconstructed to access the thinning (Roads Analysis page 41). The appropriate place to make decisions about complex decommissioning issues is in a separate restoration EA.

Some road decommissioning was added to Alternative C of the 2007 Plantation Thin in response to a public request (s. 3.3.1.2). The only roads that were considered for decommissioning were roads that do not access other plantations that would need to be thinned in the near future. The alternative also limited road decommissioning to roads that have no stream crossing culverts. To have included those would have increased the effect to anadromous fish to “likely to adversely affect” which would have required very lengthy consultation with NOAA Fisheries. It would be more efficient to package those types of decommissioning projects in a restoration EA.

5. Second, nine road segments listed to be temporarily reopened (PA 15) are additionally listed in Alternative C to be closed (PA 22). Why would a road that is already closed “with berms or other devices” need to be closed again with berms or gates (PA 15)? None of the nine segments are proposed to be decommissioned under Alternative C, which is the only reason we could think of that they could be on the same list. Please check the road segments identified and clarify this in the decision document? Our understanding is that if there is no net reduction in open road miles, road segments should not be in Alternative C as a road closure. Of the 9 roads that are listed in both tables, six are proposed for decommissioning with Alternative C. Of the other three they are listed again under Alternative C because they are currently closed by being overgrown or they currently have berms that are not effective. They are listed to indicate that additional work would occur on those roads with Alternative C. Section 3.3.1.2 indicates that not all of roads listed in table 3.3.2 would be considered new closures. Section 4.5.5.17 also discloses the new closures.

Intermittent Stream Buffers

6. Intermittent streams play an invaluable role in protecting and regulating the aquatic environment. In addition, they play pivotal roles in various forest ecosystem functions (i.e., connectivity/dispersal, riparian microclimate, specialized habitat, etc.). Both FEMAT and the NWFP fully recognize these varied and important roles. Protection of intermittent streams was an intentional piece of the NWFP and specifically chosen to provide protection of the riparian habitat and provide continuity between upland and riparian areas. Not only is this an essential piece of the Forest Plan but its inclusion was, in part, to adequately respond to Congressional concerns about species protection and viability.

FEMAT V-31: Intermittent streams are an important, and often over-looked, component of aquatic ecosystems (Naiman et al. 1992).

NFP B-14: “Including intermittent streams and wetlands within Riparian Reserves is important for successful implementation of the Aquatic Conservation Strategy.”

CSP encouraged the Forest Service to increase the no-cut buffer from 30' to a minimum of 50', which is reflected in Alternative C. No-harvest buffers are implemented to balance the short- to medium-term ecosystem degradation (or potential degradation) of the Variable Density Thinning (VDT) within the Reserve. As demonstrated above, the ecosystem processes that support this intermittent stream riparian zone habitat needs more than 30' (9 meters) of protection because microclimatic change directly impacts species use and habitat availability. We are pleased to see the inclusion of an increase to the no-harvest buffer for intermittent streams in Alternative C and strongly encourage the Forest Service to incorporate this characteristic in the final decision. The analysis in the EA shows there are no discernable benefits or effects to any resources due to buffer width expansion in Alternative C. However the line officer has decided to adopt this wider buffer (Decision Notice p. 5).

Restoration Silviculture

7. We are encouraged the Forest Service has proposed to thin in a manner that would introduce structural diversity through variable spaced thinning. We support the objectives described in the PA to achieve “a more appropriate mix of tree species”, a “greater variability of vertical and horizontal stand structure”, a “greater diversity of live and dead trees with elements of wood decay”, “increased habitat diversity”, and “an accelerated trajectory that would result in suitable habitat sooner” (PA 61, 65). The summary of practices and design criteria to vary leave tree spacing within and between units; create skips, gaps and heavy thinning areas in a variety of sizes; and retain underrepresented species, snags, and trees with elements of wood decay are consistent with the best available science to achieve these objectives.

8. While we support the objectives and design criteria in general terms, we are requesting more clarification on how variability in spacing will be achieved in each land allocation and in each unit. Clear and detailed descriptions of how restoration objectives will be met by thinning, is of paramount importance to many CSP members. The CSP will be much more amendable to implementing the thinning analyzed in this document with stewardship contracting if the Forest Service is dedicated to designing prescriptions that clearly introduce between and among stand variability of leave tree spacing. Section 3.2.1 of the EA describes how variability would be incorporated into the silvicultural prescription to introduce structural diversity. The EA describes at length the variability proposed for the different land allocations for LSRs, riparian reserves and matrix lands. Even though there is little scientific information available that addresses between-stand variability prescriptions, the ID team focused on creating heterogeneity within stands and between stands and analyzing the effects. Between-stand variability is proposed and would be created by prescribing different “target” relative densities for each stand or a portion of each stand, along with the retention of skips and gaps. The EA describes and analyzes the effects to diversity (s. 4.4). The final determination of the “target” relative density is done during the development of the detailed silvicultural prescription which is normally completed after the Decision Notice is signed. Determining the “target” relative density is dependent on many site-specific factors and is best determined at the time of implementation. These site-specific factors include stand attributes such as height to diameter ratios, current stand density, crown ratios, species composition, understory vegetation and the prevalence of insects or pathogens. They also include other site factors such as topography, soil type, special wildlife or botanical areas, seeps and springs, and logging systems. The CSP and

others are encouraged to participate in monitoring the implementation phase to determine if objectives are being met.

9. In terms of Riparian and Late-Successional Reserves, the PA does not specify whether or not the thinning and associated activities are designed to accelerate the development of mature and late successional stand conditions with a single entry or a multiple entry approach. This is a critical long-term distinction that influences design and we would like to have this clarified in the decision document. In addition, if it is a single entry, roads leading to these units should be closed on the way out to ensure future management reflects this intention. The proposed treatments have been designed to meet the LSR and Riparian Reserve objectives with a single thinning entry (s. 3.2.2 & s. 3.2.5). The roads that only access the current proposed thinning units in LSRs would be decommissioned. Most roads in LSRs access other plantations that would be thinned in the near future.

10. In the riparian reserves, it appears that plantations will either not be thinned (in protection buffers) or will be thinned to a relative density of 30. While we understand that the Forest Service is following guidance from National Oceanic and Atmospheric Administration (NOAA) to recruit large wood to improve in-stream habitat, riparian reserves also are intended to serve as corridors and refugia for terrestrial species associated with late-seral habitat. In the decision documents, we would like to see the NOAA guidelines disclosed and the Forest Service use any discretion it has to introduce more variability in spacing (i.e. to thin deliberately the upland sections of riparian reserves to the greatest possible variety of relative densities that average to 30). We also encourage the Forest Service to incorporate additional measures to the management of Riparian Reserves such as retention of patches infected with native tree disease since these pathogens act to create canopy openings over time. The wording of section 3.2.2 was been refined to better reflect the letter of concurrence from NOAA Fisheries. The practices in this section would allow NOAA to concur with a determination of insignificant and discountable effects to listed fish species and their designated critical habitat. Their concurrence allows for a “not likely to adversely affect determination”. The Biological Assessment and the Letter of Concurrence are in the analysis file. The silviculture prescription would incorporate other diversity features such as retention of skips and patches of trees with disease.

11. In the late-successional reserve units, we are pleased to see a broader range of target leave tree relative density (20-40), emphasis on retention of large trees, and a range of created skips (minimum of 10% of each unit) and gaps (3-10% of each unit). In the decision document, we recommend that the Forest Service describe the scientific justification for this range of target relative densities and disclose which portions of each unit will be thinned to each target relative density. The EA describes and analyzes the effects of the proposed range of relative density. Determination of stand “target” relative densities as well as the detailed silvicultural prescription is dependent on many site-specific factors and is best determined at the time of implementation. These site-specific factors include stand attributes such as height-to-diameter ratios, current stand density, crown ratios, species composition, understory vegetation and the prevalence of insects or pathogens. They also include other site factors such as topography, soil type, special wildlife or botanical areas, seeps and springs, and logging systems. The CSP and others are encouraged to participate in monitoring the implementation phase to determine if objectives are being met.

12. We believe the lowest target relative density (around 20) should be limited to gaps and the small heavy thinning patches. We encourage the Forest Service to place these skips and gaps in areas to maximize heterogeneity by placing gaps away from landings and roads and surrounding skips with thinned areas. These are some very helpful implementation suggestions to incorporate during the development of the silviculture prescription. The CSP and others are encouraged to participate in monitoring the implementation phase to determine if objectives are being met.

13. The PA does not discuss how to achieve between and among unit variability. CSP is open to any system that the Forest Service creates to accomplish variability, but we want to see a well-defined system in the decision documentation. We strongly recommend that the Forest Service clearly demonstrate distinctions between unit average relative densities. One possibility would be to create three (or more) general classes of relative densities, such as low, moderate, and high. These units should be distributed across the landscape. In addition, CSP recommends that the decision documentation describe a mechanism to achieve intra-unit variability, other than to place portions in skips, gaps and yarding corridors. The decision documentation should clearly lay out a mechanism such as dividing units into zones with different marking guidelines. The design criteria in the EA require leave tree spacing to vary within units and between units (section 3.2.1). However they also allow the ID team to implement site-specific silvicultural prescriptions that are tailored to specific stand conditions and variations of conditions within the stands. The suggestion of creating classes of relative densities and specifying them for each unit was considered but has not been adopted. Including a well-defined system in the EA would unnecessarily restrict silvicultural prescriptions and could actually require prescriptions that are not appropriate to the site-specific stand conditions. As an example, portions of some units may have very high relative density with a high height-to-diameter ratio in which a heavy thinning would be inappropriate, while the rest of the unit has a low relative density in which heavy thinning would be appropriate. Having a well-defined system with specific “target” densities that would require a heavy thinning in the entire unit would not meet the objectives. A second example would be locating a portion of a unit which has a low relative density with an understory of western hemlock and cedar that are starting to show signs of growth suppression due to limited sunlight. In this case, if the well-defined system required a high relative density, little or no thinning would occur and structural diversity objectives would not be met. There are many other situations where site-specific conditions do not lend themselves to a fixed relative density. The design criteria in the EA require leave tree spacing to vary within units and between units (section 3.2.1). The project has been designed with sufficient site-specific detail to allow the analysis of direct, indirect and cumulative effects. The CSP and others are encouraged to participate in monitoring the implementation phase to determine if objectives are being met.

14. We believe that large trees are important ecological resources regardless of the land allocation in which they are found. In the decision document, we encourage the Forest Service to disclose those units in the matrix and riparian reserves with more than just scattered 20'+ diameter trees are located and how the project would change if the 20' diameter limit used in the late-successional reserves was applied to riparian reserves and matrix. We believe that leaving patches of large trees will add necessary variability and we

encourage the FS to place skips around patches of large trees in all land allocations. This suggestion is tied to the discussion of this diameter limit in late-successional reserves (s. 3.2.5). This practice comes from the LSR Assessment (Appendix A, page A-16) which lists what practices would not require further review by the Regional Ecosystem Office. Diameter limits such as this are not intended to be considered a desirable long-term practice. In general, there are very few trees in the LSR plantations proposed for thinning that are greater than 20 inches diameter and since virtually all of those would be leave trees, this project will not request an exemption. There are a few stands outside LSRs in the Pup Creek area where cutting 20-inch diameter trees is appropriate. Some stands have 30 or more trees per acre over 20 inches in diameter. Stand growth modeling shows that retaining all of these 20-inch trees would reduce the ability of the stands to grow trees into the 50-inch plus size class. If an area has a 20-inch tree near a 24-inch tree, the 20-inch tree would be cut to release the 24-inch tree. In these areas a 20-inch tree is not considered a large tree. Remnant stumps can be found which are over 100 inches in diameter. As plantations grow, there will soon come a time when virtually all of the trees will be greater than 20 inches diameter. If the goal in an area is to eventually grow trees to 40 or 50 inches diameter, it may be desirable to thin to achieve resource objectives. Since other landscapes have objectives that differ from LSR objectives, a 20-inch diameter limit was not considered elsewhere.

Oregon Wild

15. Oregon Wild appreciated the opportunity to participate in two public meetings after the release of the scoping comments. We look forward to further participation in the planning of restoration thinning projects and encourage the Forest Service to continue to work with the Clackamas Stewardship Group to achieve collaboration and restoration on the Clackamas District of the Mount Hood National Forest.

16. The Preliminary Assessment (hereafter PA) states that the purposes for this thinning project are derived from the Mt Hood Forest Plan (s. 2.2.2), among other planning documents. That the Mt Hood Forest Plan (hereafter MHFP) is essential to deriving purposes for a massive, 4300-acre logging project is an indication of the importance of the Forest Plans to management of National Forests and the Mount Hood National Forest in particular. As the US Forest Service considers eliminating public input on up-coming Forest Plans, please note the importance of the MHFP in directing projects on the Mount Hood National Forest. Such an important document has benefited from input from multiple stakeholders, including Oregon Wild. We at Oregon Wild, and the over 5000 members which we represent, value the opportunity to help guide forest practices on our National Forests. This issue is outside the scope of the current analysis.

17. In order to address the multiple purposes of this project, as outlined above, the PA proposes to use different Variable Density Thinning prescriptions in Matrix, Late Successional Reserve, and Riparian Reserve forestland designations. Oregon Wild applauds the use of Variable Density Thinning of overcrowded plantations to restore

diversity and late-successional characteristics across the national forest landscape. Thinning, rather than harvesting of old-growth or conducting regeneration harvesting, is the start of a restoration-based economy that can help the local economies transition to a more stable revenue based on ecologically sound forest management. If the Mount Hood National Forest, and in particular the Clackamas District, is interested in moving towards a thinning-based economy, please indicate how many acres of plantations exist on the Clackamas District and on the Mount Hood National Forest. Such information will help determine how much board feet This issue is outside the scope of the current analysis. However there are approximately 125,000 acres of plantations on the Clackamas River Ranger District. While this type of analysis is outside the scope of the 2007 Plantation Thin EA, the District would be willing to provide the Clackamas Stewardship Partners with some figures on plantations and their ages for the purpose of facilitating out-year planning.

Variable Density Prescriptions

18. While Oregon Wild applauds the general notion of Variable Density Thinning (hereafter VDT), we would like to the Forest Service to provide a greater explanation of how the VDT treatment will be applied in each unit. We also encourage the Forest Service to openly discuss silvicultural prescriptions, especially prescriptions deemed "restorative," with the Clackamas Stewardship Partners, so that elements of the 2007 Plantation Thinning project may be considered for stewardship contracting.

Oregon Wild proposes these general guidelines for Variable Density Thinning across Matrix, Riparian Reserve and Late Successional Reserve land allocations:

19. 1) Please do not count the "no-cut buffer" of Riparian Reserves as the only "skips" in units with Riparian Reserves. While riparian areas are excellent reserves for wildlife, simply making all no-cut buffers the only "skips" will not achieve the diversity and complexity of landscapes that can be achieved through VDT. It is not the intention that protection buffers be the only skips, but that the presence, abundance and distribution of protection buffers are considered while placing skips.

20. 2) When discussing the "health" and "growth" of forests and trees, respectively, please note that complexity and diversity, as strived for through VDT, are indicators of a "healthy" forest. Thus, the presence of disease, insects and storm damage can help create diversity, complexity and structure, and should thus these characteristics should be maintained in all forest landscapes: matrix, late successional reserves, and riparian reserves. Site-specific stand conditions such as the presence of diseases, insects and storm damage would be incorporated into the silvicultural prescriptions. Individuals or groups interested in project details are encouraged to participate in monitoring the implementation phase to determine if objectives are being met.

21. 3) Regarding "other riparian areas" the prescriptive language is ambiguous enough to suggest that these areas are not yet documented unit by unit. Please provide a unit-by-unit assessment of these "certain wet features" that will require protection. These areas may also be suitable as "skips", though again, please do not consider all "wet features" to be "skips". The document contains sufficient detail to assess the effects of the alternatives. There are many small wet areas that are known but are so small they can not be accurately depicted on the size of map shown in the EA (s. 3.2.4). Individuals or groups interested in project details are encouraged to participate in monitoring the implementation phase to determine if objectives are being met. Large maps are available that show known wet areas and can be provided upon request.

22. 4) Please disclose units with more than a few (greater than 5%) trees that are greater than 20 inches in diameter; as a stated goal of this thinning project is to create late successional characteristics and diversity across the landscape and within units, the retention of pockets of large trees, even if abundant in one location, meets the stated goals for landscape-wide restoration. Please explain how the project would change if the 20 inch diameter limit were applied to matrix and RR units as well-should these trees not be retained, considering that the creation of such large trees is a goal? Just because the trees are large and located in matrix designations should not preclude them from being a skip-large trees are one aspect of a diverse landscape that is needed across all land allocations. See response to comment #14.

23. 5) Oregon Wild encourages the Forest Service to increase the no-cut buffer from 30' to a minimum of 50' for intermittent streams, as prescribed in Alternative C. No-harvest buffers balance the early ecosystem degradation associated with VDT. Intermittent streams provide a valuable microclimate for ecosystem processes, and such habitat for amphibians and nesting birds is already limited within the forest. Oregon Wild strongly encourages you to adopt this component of Alternative C in your final decision. See response #6.

Variable Density Thinning Specifically in LSRs

24. As far as thinning in LSRs to a Relative Density (RD) of 20, please explain the scientific basis for such a low RD-and where such thinning will occur within specific units. An RD of 20 should be limited to gaps and heavy thinning patches within units, rather than landings and roads. The diameter limit of 20 inches is commendable, as is the leaving of large trees that are cut for creating skylines and other logging systems requirements. Additional citations have been added to the EA to reference the scientific basis for relative density objectives. See response to comment #12.

25. Of concern is that under "Land Allocations" (PA 8) units 2 and 4 (37 acres) are considered "A7 Special Old-Growth", yet the comments indicate that the units "overlap with LSR and have similar objectives". Please explain exactly what the objectives for these old-growth units, how old the trees are in these units, and how such a limited component of landscape diversity will be protected. The units are plantations that

happen to overlap the A7 land allocation due to coarse scale of the original mapping. Unit 2 is 62 years old and unit 4 is 49 years old. There are no old-growth trees in these units. Since the units are also in the LSR, the prescription for thinning these plantations will meet the objectives of both land allocations (s. 2.2.4).

26. Additionally, please clarify whether the Forest Service plans to make the entrance into LSR units a single-time entry or multiple-time entry. Such a distinction makes a critical difference in the level of thinning that is appropriate within the LSR units. Whether the LSR units will be entered for harvesting once or multiple times also affects the appropriateness of road building in these units. Interestingly, even if the plan were to be to enter these units just once, building roads in the LSR units would not preclude future entry, because, according to the PA (14) all closed roads may be "be reopened and used again." See response to comment #9.

27. Correspondingly, please clarify whether, a) the LSR units are planned to be entered once or multiple times, and b) how building roads in LSR units, if indeed the units are to be entered just once, will not degrade the mature habitat through fragmentation and habitat degradation. One possible solution to this question of multiple entry and road building is to not build roads in the LSR units where the necessary acres can be thinned via the same logging practices without building roads, as demonstrated in Table 3.3.3 (PA 23). In LSR units 80, 146, and 328, new temporary roads are not required in order to achieve thinning by the same logging methods as would be used if the new temporary road were built. Please analyze the remaining LSR units and determine how many acres would be left un-thinned if no new temporary roads were built. Please also note that units 44, 52, 160, 168, 182, 218, 264, 284, and 318 (matrix designation) can all be thinned without the use of new temporary roads or changing logging practices. The deleterious impacts of roads, though well known, will be discussed below. See response to comment #9. Temporary roads are never "required" because helicopter and other logging methods can be used. As demonstrated by Alternative C, there are options for logging units without building roads. However, the alternate logging methods are very expensive (helicopters, multi-span skyline or very long tractor skids). Alternative B included the use of new temporary roads where it was cost effective and where resource effects were minimal (s. 3.2.7.1 & s. 3.2.7.2). Alternative C is a viable alternative but would result in reduced receipts (s. 4.11.1).

Variable Density Thinning Specifically in Matrix

28. Oregon Wild applauds the use of VDT and the recognition of the importance of diversity in matrix designated lands. We encourage the creation of skips that would be up to 5% of given matrix units. However, as noted above, Riparian Reserves should not count as the only skips in the matrix landscape-this will not introduce diversity across the matrix landscape. See response to comment #19.

Roads

29. Oregon Wild applauds the Forest Service for responding to years of comments regarding the detrimental impacts of building of roads on National Forest lands by proposing Alternative C, which would build no new roads (temporary or permanent). However, given the disclaimer in this PA that "obliterated" and "decommissioned" roads do not carry "any implication about the future use of the roadway" and that such roads "may be reopened and used again" (14), we at Oregon Wild see no distinction between road building as either temporary or permanent. If all roads, regardless of being "obliterated" or simply bermed, can be reopened, then any road built on the national forest will also have the associated the negative impacts of direct habitat degradation and fragmentation, loss of soil productivity, spread of exotic and non-native species and associated impacts of increased human use (Gucinski et al. 2000, Newcombe and MacDonald 1991). No road, according to this disclaimer, is ever "temporary". The term temporary road is defined in section 3.2.7.1.

30. Additionally, given this proposal that no road is ever guaranteed closed, please explain a) how roads are "taken road off the system" and b) how roads (which will not be permanently closed) can be beneficial to creating mature and late successional characteristics in LSR units. The rationale for road building is also unclear and needs clarification. While the PA state that s. 3.2.7 explains the rationale for road construction, the section simply explains that roads, though temporary, are potentially permanent because they can be reopened at any time. When a road is taken off the "system" it means that it is no longer tracked in data bases and that no road maintenance funds need to be spent on it. Reopening closed or decommissioned roads would require a new Decision Notice. The effect of building roads on late-successional species is documented in section 4.5.1.6. The rationale for road construction is in section 3.2.7.1 "Even though all of the proposed units were clear cut logged before, there are cases where it is not feasible or desirable to use the same roads, landings or logging method used before. To protect the residual trees and soil and water resources, in some cases new temporary roads are proposed to access the landings where the existing system roads and old temporary roads do not adequately access the ground."

Differences in Alternatives

31. The two action alternatives presented in the PA vary by logging method and by road construction. The economic cost/benefit ratio is used as a justification for suggesting Alternative B, the Proposed Action. Please explain if the cost/benefit ratio includes the benefits of having fewer roads to cause habitat fragmentation, and the cost of building temporary roads and then obliterating them. The cost of temporary roads is included and habitat fragmentation is addressed in the wildlife section (s. 4.11.1).

32. The action alternatives do not vary in terms of the number of acres of the thinning project. The justification provided in the PA for

the large size of the project (number of acres and units) is to be efficient and to address cumulative impacts. However, as demonstrated by the work by the conservation group Bark, the Forest Service overlooked the 2003 Roads Analysis which listed road segments 4620-011, 4620-013, 4621-022, 4621-125, 4621-140 as low access needs and high environmental risk. These roads are listed in the PA to be re-opened. Considering that road decommissioning was "Key Issue #2" (PA 11), it is cause for concern that an area of high road density was overlooked. Had Bark not thorough investigated the matter, these roads would have been re-opened-to the detriment of an area that is supposed to be in the process of restoration. Such an oversight leads Oregon Wild to serious question whether the Forest Service is capable of providing the necessary and lawful detail associated with a project over 4300 acres in size. Please consider breaking these 4300 acres of thinning projects into multiple Environmental Assessments so that thorough review of the document can take place by both the Forest Service and interested parties. Breaking the project into multiple EAs was considered, (s 3.4.1). Reopening roads that are on a list in the Roads Analysis was not an "oversight" but a conscious decision (s. 3.3.1.2). It would be appropriate to consider decommissioning in a restoration EA. See response to comments #3 and #4.

33. The size of this project is also of concern because of the potential for local economic instability created by a ramp-up of board feet production from thinning projects. As noted above, please demonstrate the number of acres on the Clackamas District that are available for restorative thinning over the next 20 to 50 years. Please do no perpetuate a pattern of local economic boom and bust associated with the harvesting of timber from the National Forest. Please demonstrate what how much board feet can be consistently generated through restorative thinning over more than 20 years. This project does not represent a "ramp-up" of volume. The Forest will be well below its assigned PSQ even with the 2007 Plantation Thinning. See response to comment #17.

Conclusion

Thank you for this opportunity to comment on the 2007 Plantation Thin PA. Oregon Wild looks forward to continued dialogue on this project both through the NEPA process and through the Clackamas Stewardship Partners.

34. As we have mentioned in past releases of Preliminary Assessments, please give the public the opportunity to comment on the full Environmental Assessment before the decision is made-such a process allows for comments on full disclosure and can lead to better resolution of differences before the appeal phase. The regulations concerning comment and appeal have been followed (Decision Notice). Please address our questions and calls for clarification in the Environmental Assessment.

BARK

35. For over ten years Bark has been monitoring logging in the Clackamas River Watershed. During that time we have witnessed the Forest Service evolve from proposing new old-growth timber sales to targeting younger forests, many in plantations, in order to achieve the annual volume targets. While this evolution has occurred due to public pressure and legal challenges, not agency-initiated management direction, it is still a key step in improving the health of the Clackamas River watershed. Bark and our nearly 4,000 members applaud the changes.

36. As you know, Bark believes that the commercial timber sale program is an inappropriate tool for achieving the needs of managing Mt. Hood National Forest for recreation, water quality, and wildlife habitat. In the Pacific Northwest this program has resulted in the extirpation of wildlife species, the degradation of drinking water, and the decline of recreation experiences not marred by clearcuts. Despite this, Bark has participated as a partner in the Clackamas Stewardship Partners (CSP) group, with the stated goal of “Enhance ecosystem/natural resource health and economic viability of local communities within the Clackamas River Ranger District through collaboration with diverse stakeholders that employs stewardship contracting and other tools to meet restoration goals. Collaboration is the deliberate coming together to find solutions.” The latter sentence of the mission is key to the CSP and to the Clackamas River watershed. It implies that there is a problem that needs to be addressed and hopefully solved.

Bark believes that five major problems require attention in the Clackamas River Ranger District in Mt. Hood National Forest: 1) Water quality for drinking, 2) Water quality for fish, 3) Recreation, 4) Wildlife, and 5) Roads.

37. Bark sees the 2007 Thin as an opportunity for the Forest Service to address some, if not all of the concerns above. Although it is not a “deliberate coming together,” it can still be an opportunity for good work to be done. Before going on, it is worth noting that these comments look different than Bark’s usual comments. This is for two reasons: 1) Jim Roden has expressed his frustration with long comments from Bark; and 2) Bark has not been able to visit approximately 95% of the sale area. The comment period fell over mid-winter and covers seven square miles of forest, much inaccessible due to snow. The ability of the public to observe the proposal and provide feedback to the Forest Service was made impossible due to the size of the project and winter comment-period. Bark has visited some of the units, but most of our comments are based on the Preliminary Assessment (PA) alone. This is a concern since our last experience with a PA in the Clackamas Ranger District (No Whisky) found multiple instances where the information in the PA did not match what was found in the forest. That said, these comments are necessarily general. Bark would like to incorporate by reference the comments of Joseph Auth, Michele McKinzie, Paula Hood, and Charlie Ferranti. These members of Bark have all visited the 2007 Thin project area and are expected to provide more site-specific comments for consideration. Maps were made available in May 2006 (s. 2.4). The schedule of proposed actions sent to all interested parties indicated that the preliminary assessment would be available in the winter. On September 28, 2006, section 3 of the EA and an updated map were sent to all of the members of the Clackamas Stewardship Partners (CSP) including Alex Brown of BARK, Christine Caurant of Oregon Wild, Lisa Doolittle of the GP Task Force, and Charlie Ferranti. This information was made available to all of the CSP members because of their request to get involved with the project early in the planning phase in a collaborative manner. Meetings were also held with this group. This level of involvement was facilitated because it was requested. The project area was accessible for field review during the summer and fall of 2006. Section 3 of the EA describes the proposed action and Alternative C in detail along with the Design Criteria and Best Management Practices.

Water quality for drinking

38. Every action that takes place in the watershed has a small impact on the quality of drinking water that ultimately is consumed by residents of Oregon City, Lake Oswego, West Linn, and many more. A recent shut down of the Bull Run Municipal Watershed clearly demonstrates that these impacts can harm the watershed for decades to come. Oregon has a history of protecting its drinking water. In 1892 President Harrison established boundaries and prohibited entry or development of the Bull Run watershed, which supplies drinking water for Portland. This proclamation was followed by multiple bills to further protect the forest providing this crucial resource to Oregonians. Unfortunately, between 1960 and 1990, nearly one-third of the once-pristine Bull Run watershed was clear-cut, leaving behind thousands of stumps and

300 miles of logging roads. The results of this have been high sedimentation and turbidity during heavy rain events and multiple shutdowns of the water supply, the last being 14 days long in November of 2006. Even with the vision leaders had over 100 years ago to elevate the status of Bull Run, logging and road building led to the degradation of the water quality. The Clackamas River is also a drinking watershed. It provides drinking water to hundreds of thousands of residents of Oregon City, Clackamas, West Linn, and other downstream communities. Unlike Bull Run, it has never received congressional attention for its status as a water provider. The resulting timber harvest has reflected this: in the Collawash Fork of the Clackamas alone, over 26,000 acres of forest was cut (mostly clearcut) during the same time as the Bull Run. Bark believes that this unique feature of the Mt. Hood National Forest, and particularly the Clackamas Watershed, deserves to be prioritized above other management objectives. Water quality is a high priority management objective on the Clackamas River Ranger District. Key watersheds and special emphasis watersheds have been identified and hundreds of miles of roads have been decommissioned (s 2.2.4, s. 2.2.5 & s. 4.2.7.7).

Specific suggestions:

39. 1) **Adopt a Hippocratic Oath of “first, do no harm” for the drinking water quality of the Clackamas Watershed.** This philosophy has served the medical community well for centuries, and is an excellent method for ensuring a conservative approach to land management. “First, do no harm” does not preclude management of the forest (see #2 below). However, this approach is currently not being practiced in the Clackamas watershed. Instead, harm caused by logging and road building is mitigated or quantified and allowed to occur to the greatest extent possible. Bark assumes that this is due to the Forest Service mandate to provide for “multiple uses” in the forest. In researching the legislative and administrative history of the multiple use mandate, Bark has found no basis for all multiple uses occurring on all acres of the land. Simply put, if in some instances one use is more important than the other (e.g. drinking water) then the Forest Service does not have to include non-compatible uses (e.g. logging). This project complies with all applicable laws and regulations.

40. For example, on pages 45-47, the PA describes a variety of measures for hydrological recovery and the “threshold of concern” for these measures. Every drainage is currently modified (measured by “watershed impact areas” this is a percent of the drainage that has been logged or cleared) to some extent, anywhere from 4% in Sandstone Creek to 27% in Dutch Creek. However, the “threshold of concern” is 35% and because the 2007 Thin will not break the threshold it is considered hydrologically sound. On page 41 of the PA the discussion of hydrological impacts begins, “All of the drainages are steadily moving towards hydrologic recovery as young plantations grow.” If this is true, then why do harm when it clearly does not benefit the objective of protecting

water quality? The proposed action will not significantly change hydrologic recovery. The analysis shows that even with thinning the drainages would continue their trend of steady recovery (s. 4.2.6.4 & s. 4.2.6.8).

41. 2) **Provide for a net decrease in sediment delivery.** Any increase in sediment from activities should be compensated with an equal or better decrease in future sedimentation in the project area. The Forest Service is undergoing road deconstruction activities in the Bull Run watershed. These activities are estimated to increase sediment to streams by .45 tons per year, but will reduce the sediment in the long term. Bull Run Road Decommissioning Preliminary Assessment 2006 In contrast, leaving the road network intact will lead to a “considerable increase” in sedimentation. The 2007 Thin provided a Water Erosion Prediction Project (WEPP) analysis for some of the 2007 Thin units. In some of these units no sedimentation was predicted for a 25 year storm event. For others a sediment load of up to 1.5 tons/year was predicted. Bark believes that the deconstruction of roads in the 16 effected drainages can offset the impacts proposed by the 2007 Thin. See “Roads” section below for details. Hundreds of miles of roads have already been decommissioned in the watersheds (s. 4.2.7.7). See response to comment #4.

42. 3) **Manage for long-term risk – reduce impact on earthflows.** Nearly fifty percent (2,014 acres) of the 2007 Thin occurs on B2 Earthflow land designation. Earthflows are B8 land allocation. The portion of the forest in which the 2007 Thin is occurring is considered the most geologically unstable in the Mt. Hood National Forest. The risk of *natural* events causing significant ecological damage is high. Thus the identification of land features such as “high risk earthflows.” The result of such natural impacts on drinking water could be enormous. Thus the impact on these landforms should not only be zero, but other portions of the watershed should be hydrologically capable of moderating such an event. Neither of these situations exist, or if they do, they were not presented in the PA. The Hot Springs/Collawash Watershed Analysis suggests that the objective for these land forms should be, “Manage landscape patterns to reduce risk (human induced) to low levels.” Page 1-6. Bark believes that all 2007 Thin activities on “high” and “moderate risk earthflows” should result in no human impact (logging or roads) in the future. The science does not support that position. The standards and guidelines for earthflows allow for the thinning as proposed (s. 4.2.7.4).

43. 4) **Protect riparian areas.** This can be accomplished three ways:

44. 1] Provide a minimum 50-ft buffer for all riparian areas, including seasonal wetlands. See response to comment #6.

45. 2] Do not cut trees larger than 20” in diameter. See response to comment #14.

46. 3] Provide contractual accountability for this requirement. In 2006 Bark walked 90% of the riparian boundaries in the No Whisky Timber Sale. In doing so it found multiple places where the 25 or 50ft buffers were not properly

marked. The Forest Service promptly addressed these discrepancies. Actually there was some discussion about whether a stream was intermittent or not which affects buffer width. The buffers were flagged in the dry season when the intermittent nature of the streams was apparent while subsequent trips with BARK occurred during the wet season. It was agreed to create wider buffers than was required in some cases as a gesture to public dialogue. The design of protection buffers for the No Whisky project is different from the design of protection buffers for this project (s. 3.2.3 and decision notice). However, this approach requires citizens to groundtruth miles of riparian boundaries in the 2007 Thin to ensure adequate protections. Instead, Bark would like to propose including in the timber sale contract a provision for fining the contractor for activities within these buffers, regardless of Forest Service markings. This would ensure sensitivity by the contractor and allow Bark, the CSP, and members of the public to monitor activities randomly without requiring walking all riparian boundaries. Ultimately this would save the Forest Service and taxpayers money. Our contracts require that unit boundaries be tagged by the Forest Service prior to sale.

Water quality for fish

47. Dams, over fishing, roads, and logged-over streams have contributed to the crash of a number of fish populations including steelhead, chinook and coho salmon. As long as fisheries in the Clackamas River watershed remain endangered, it should be the role of the Forest Service to *improve* habitat for these fish. As explained on page 53 of the PA, not moving forward with the 2007 Thin will have no effect on the five fish (Lower Columbia River Steelhead, Upper Willamette River Chinook, Lower Columbia River Coho, Lower Columbia River Chinook, Coastal Cutthroat Trout) that occur in the area and are on the Endangered Species Act list. Alternatives B and C warrant what is known as “May affect, Not Likely to Adversely Affect.” Alternatives B and C would enhance riparian reserves (s. 2.2.1.1 & s. 4.3.7). There would be long-term benefits to listed fish.

48. Bark and the Clackamas Stewardship Partners believe that the improvement of fish habitat is a top priority. To accomplish this, it simply does not make sense to move forward with actions that *could* do damage to the resource that needs improvement. The Clackamas Stewardship Partners have submitted their own comments and they differ in many ways from the comments provided by BARK.

49. An analysis done in a GIS investigated the presence of and possible detriment to anadromous fish present in streams near the proposed 2007 Thin area. Map layers downloaded from the Mt. Hood Data Distribution Center were used (available at: <http://www.fs.fed.us/r6/data-library/gis/mthood/data-library.html>). Figure 1 below shows streams supporting anadromous fish in the vicinity of the proposed logging activities. Species in this area, according to Forest Service data, include Coho Salmon, Chinook Salmon, Coastal Steelhead Trout and Sea Run Cutthroat Trout. Streams highlighted in red are those

directly adjacent to proposed units, representing 42.2 miles of streams, or 9% of the total anadromous fish-bearing stream mileage within the Mt. Hood National Forest. While the stream in red may be the most directly affected, any detriment to fish downstream, especially those returning from the ocean, will be felt further upstream as well, perhaps even more so. The Clackamas River represents one of three or perhaps four major pathways for returning anadromous fish into the Mt. Hood National Forest, and have been heavily impacted already from past logging activities and hydro-electrical projects. The 2007 Thin logging activities will compound an already sensitive area, and potentially affect 30%, or 140 miles, of the stream runs for anadromous fish on Mt. Hood, if areas upstream of the proposed thin are considered (depicted in blue in Figure 1). This map does not represent new information. The fisheries section describes the species present and the project's effects to them (s. 4.2.8.3).

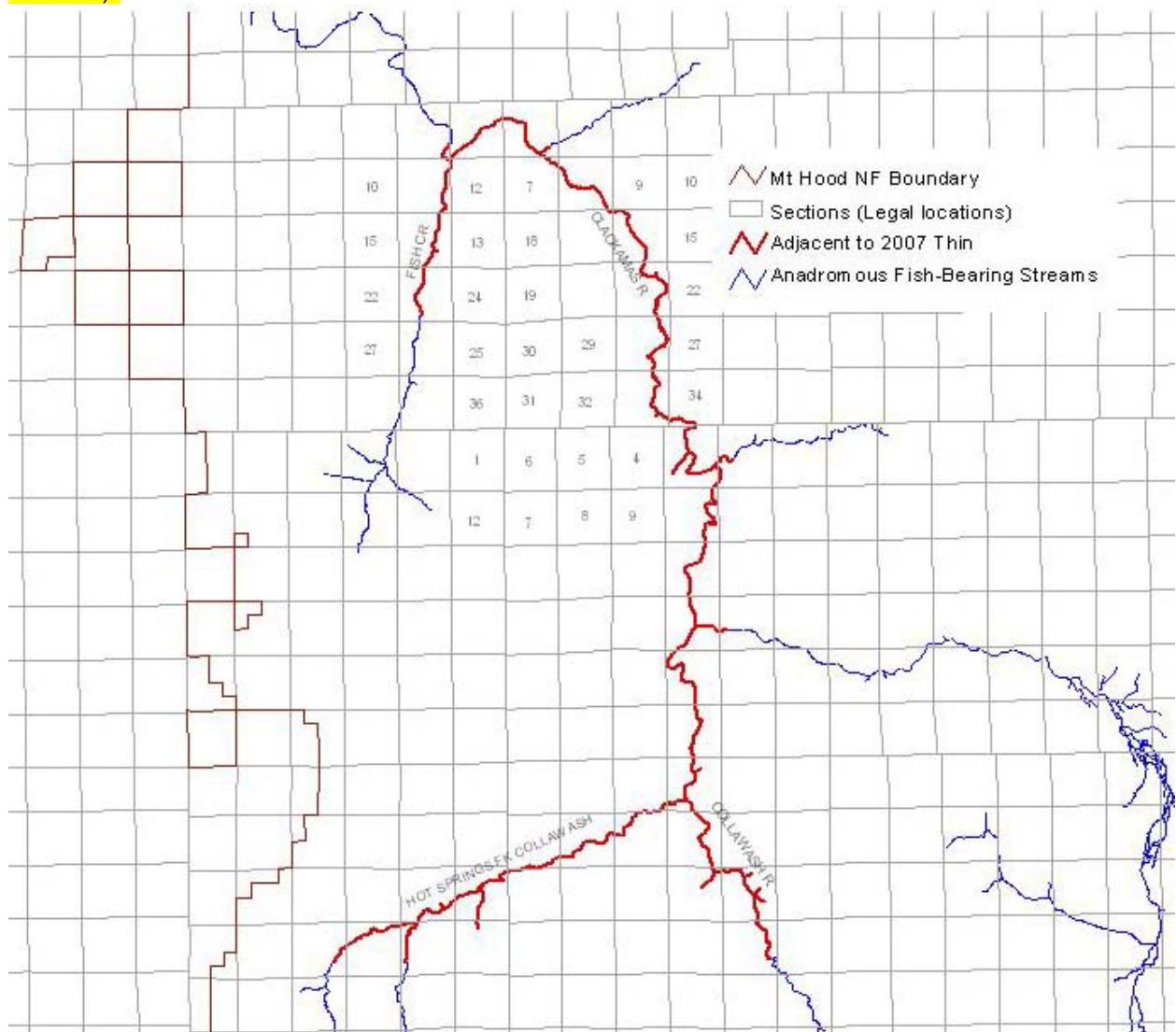


Figure 1. Map depicting anadromous fish-bearing streams potentially affected by logging activities of the 2007 Thin. The 2007 Thin overlaps 16 drainages (subwatersheds) in the Clackamas River Ranger District.

Specific suggestions

50. 1]Follow “water quality for drinking” suggestions above
51. 2]Undertake whatever precautions necessary to warrant a “no effect” impact on fish that are threatened or endangered. Log haul itself would elevate the effects determination for fish above “no effect” to “may affect, not likely to adversely affect” (s. 4.2.8). Road decommissioning would also result in a “may affect, not likely to adversely affect” determination. In this area, the only alternative that would get “no effect” would be the no-action alternative which has already been developed. The action alternatives are designed to enhance riparian reserves by thinning. While no action may result in minimal effect to fish in the short term, the long-term consequences of not thinning plantations would be negative for listed fish (s. 4.2.3). “May affect, not likely to adversely affect,” is the appropriate conclusion when effects on listed species are expected to be discountable, or insignificant, or completely beneficial. (ESA section 7 consultation handbook, p. 3.12).
52. 3]Follow the guidance provided on page 4-17 in the Hot Springs/Collawash Watershed Analysis, namely:
- a. The goal is to “improve aquatic habitat,” and the suggested project types are:
 - i. Plant hardwoods and cedars in riparian areas
 - ii. Reintroduce beaver to overgrown meadows and streams with suitable habitat
 - iii. Obliterate roads
 - iv. Place instream structures
 - v. Restore CWD
 - vi. Remove culverts that block access to historical fish spawning and rearing areas
 - vii. Implement projects to restore and mitigate dispersed recreation areas that lie within Riparian Reserves and conflict with Aquatic Conservation Strategy
 - viii. Concentrate on removing and restoring unneeded roads that lie within Riparian Reserves and cross unstable, high risk, sediment producing areas.

Many of these project types have been implemented already. Further work on these recommendations would be appropriate to address in a restoration EA.

Recreation

53. At the national level, recreation continues to be defunded. As one of only 14 Urban National Forests in the country (with more than one million Oregonians within a short drive) this situation is unacceptable. In the FY2007 Forest Service budget for Timber Products in the Pacific Northwest alone is realizing a \$40 million increase and Wilderness and Recreation across the nation is losing \$10 million. Funding for recreation is outside the scope of this project. Recreation is one of the newest endangered species in our forests. The most conspicuous issue for recreation in the project area is the lack of recreational opportunity. “In the vicinity of the project units there are no campgrounds, trails or other destination recreation features.” PA at 43

Recreation is essential to the management of Mt. Hood National Forest. As one of only 14 “Urban” National Forests in the nation, it receives nearly five million recreational visits per year. In Clackamas County alone, “travel” accounted for 4,460 jobs in 2004, or 2.2% of the workforce. Obviously this number cannot be attributed only to the qualities provided by Mt. Hood National Forest in Clackamas County, but do an internet search for “Clackamas” and you will be directed to www.mthoodterritory.com, the website of the Clackamas County Tourism Development Council. Mt. Hood is promoted as the number one attraction for visitors to Clackamas County. However, according to the PA the 2007 Thin will provide for 357 direct and indirect temporary jobs related to timber. Is the short-term gain in jobs worth it? The economic analysis contained in the PA does very little to justify the project one way or the other. The purpose of the economic analysis is to provide a comparison between alternatives (s. 4.11). The Forest Plan and Northwest Forest Plan contain economic analyses for the timber program as a whole. Bark is concerned that this is not a sustainable model for Clackamas Counties economy.

54. In addition, other forms of recreation are being preempted by off-road vehicles. The Clackamas District has been challenged by consistent abuse of road closures by off-highway vehicle (OHV) users. On several recent trips to the 2007 Thin area, Bark staff and volunteers witnessed trucks towing multiple OHVs on road 4620 and signs of OHV use beyond berms on Road 4620-174, as well as an abandoned 4WD truck beyond the closure. By condoning a culture of indifference for road closures by taking away berms and other somewhat ineffective obstructions, the already increasing problem of illegal use will only get worse. The increase in OHV abuse throughout Mt. Hood National Forest is prevalent in many of the heavily logged areas of the forest, the increased open space becoming an enticing mudding opportunity. By opening roads previously closed (even temporarily) there must be increased enforcement to ensure OHV use is mitigated. This type of destructive activity has an exclusionary effect on the possibility of other recreation in the area; destruction of potential gathering areas for mushrooms, unstable slopes from aging non-maintained roads risking landslides into fish-bearing streams (such as can be seen near the Sandstone Creek) and loud engines destroying quiet-use opportunities on trails nearby. OHV use is not as great in the project area as it is elsewhere on the Forest and is addressed in s. 4.15.

Specific suggestions

55. 1]Create a destination recreation feature. This could take the form of a hiking or mountain biking trail created from a deconstructed road or a prime fishing hole. Regardless, the problems associated with dispersed recreation (OHV abuse, dumping, illegal shooting, etc.) are less likely if legal recreation opportunities are provided. In particular, the steep terrain of the watersheds in 2007 Thin seem like a prime candidate for mountain biking trails. This suggestion is outside the scope of this analysis. There are many miles of decommissioned roads in the area available for hiking or mountain bike use. No user groups have come forward with ideas about location or funding for construction or maintenance of trails.

56. 2]Improve riparian conditions as outlined above. The fisheries surrounded by the 2007 Thin seem to be the biggest potential recreational draw in the area. If the fish habitat is protected as outlined above then an improvement in recreation is possible. The Clackamas River above North Fork dam is designated a wild fish sanctuary and no recreational fishing for salmon or steelhead is allowed. Recreation associated with fishing has decreased since 1999 when this rule was put in place (s. 4.15.7). Thinning plantations is compatible with improving habitat for wild fish (s. 4.2).

Wildlife

57. Wolves, wolverine, grizzly bear, Canada lynx...these are all species that no longer exist in Mt. Hood National Forest. In addition to their intrinsic value, we are still learning the importance of these predators. For example, Ripple and Larsen found that the extirpation of wolves in Yellowstone National Park led to increased consumption of riparian aspen, thus leading to degraded fish habitat. (Historic aspen recruitment, elk, and wolves in northern Yellowstone National Park, USA William J. Ripple, Eric J. Larsen. Environmental Remote Sensing Applications Laboratory (ERSAL), Department of Forest Resources, Oregon State University. Received 24 July 1999; received in revised form 26 December 1999; accepted 13 January 2000) Riparian areas in the project area are not being degraded by prey species.

58. All 4,374 acres of the 2007 Thin is currently considered thermal cover for elk and nearly all of this acreage would no longer be considered thermal cover after completion. PA at 93 “Although there is the possibility that herd sizes would be reduced to a small degree, these effects are not predicted to last long.” PA at 95 In the next sentence the time scale is clarified, “in about 30 years.” This seems like a long-lasting impact. Section 4.5.5.16 indicates that even with this thinning there would be an abundance of thermal cover; much more than required by Forest Plan standards and guidelines. Especially since the entire wildlife section of the PA references the Watershed Analyses for the areas, which explicitly state the need for more information on resident wildlife, “Is there a herd of elk occupying the benchy area of Buckeye and Happy Creeks? This area is not in or near the project area. What is the heard size and movement patterns? What is the status of deer in the watershed?” Hot Springs/Collawash Watershed Analysis at 4-21.

59. Northern spotted owls are in a more critical state now than ever. The recent status review on the owls clearly stated that populations are continuing to decrease. Therefore, it seems strange that 382 acres would be removed from current dispersal habitat for the NSO. In addition 1,142 acres would be degraded by the 2007 Thin. The PA seems to rely on a statement made on page 75, “The action alternative would not significantly alter the landscape’s capability to provide for the continued viability of the northern spotted owl on Federal Lands.” The Northern spotted owl is on the Endangered Species Act and therefore is considered a concern for Bark and its members. Much like the approach to water quality, it seems that the 2007 Thin is created from the

perspective that timber harvest is the number one priority, with other resources being mitigated for. Bark would like to see wildlife be a priority for the Clackamas Ranger District. The project would have long-term benefits to spotted owls by the enhancement of diversity and the creation of larger trees (s. 4.5.1.7). The no-action alternative on the other hand would result in a long period of stagnation and a much slower acquisition of suitable habitat (s. 4.5.1.5). Wildlife, specifically spotted owls, are a priority on the Clackamas Ranger District. Vast areas are managed as late-successional reserves. This project is not likely to adversely affect owls (s. 4.5.1.21). The U.S. Fish and Wildlife Service was consulted and issued a Biological Opinion for this project.

Specific suggestions

60. 1]Protect all snags through contractual agreement. As suggested in the “protect riparian reserves” section above, the 100% retention of snags can be attained through contractual language that ensures accountability and is of little cost to the Forest Service. The project strives to protect snags by including them in skips (s. 4.5.4). The vast majority of snags in the plantations are very small planted trees that died.

61. 2]Remove all units that “remove” dispersal habitat for the Northern spotted owl. See response to comment #59.

62. 3]Deconstruct roads. “High road densities lead to harassment of elk herds.” PA at 91 “Deconstruction” is not necessary to reduce harassment. Road closures are included in Alternative C.

Roads

63. According to the Mt. Hood National Forest 1999 Access and Travel Management Plan 49% of the existing road system is a candidate for closure and/or decommissioning. The 2007 Thin project area has the highest density of environmentally damaging roads in the entire national forest (see 2003 Roads Analysis, Mt. Hood National Forest). Alternative C is a good start to addressing the significant problems associated with roads in the project area.

Unfortunately, Alternative C is not the preferred alternative. For a more detailed discussion on roads, please see comments from Bark members incorporated by reference. The preliminary assessment does not indicate what alternative is preferred. Alternative B is the initial proposed action.

Specific suggestions

64. Deconstruct all roads as recommended by the 1999 Access and Travel Management Plan, 2003 Roads Analysis, and relevant Watershed Analyses. These documents are 4-12 years old and provided clear recommendations for the reduction of road miles in the watershed. Alternative C is a good start toward these recommendations, but is missing some of the suggestions. If you would like Bark’s assistance in identifying these roads we will provide a list.

See response to comment #3, #4 and #32.

65. Thank you for considering our comments. We believe that all five of the major challenges for the Clackamas River watershed: water quality for drinking and for fish, recreation, wildlife, and roads, can all be addressed through a modified version of Alternative C. It is our hope that the Forest Service will address these concerns through a more thorough EA or EIS, and bring these issues to the Clackamas Stewardship Partners for further discussion.

Ferranti

66. I am pleased to see that the Clackamas River Ranger District has taken a leading role in promoting logging projects that promote restoration of monoculture plantations. These restoration silvicultural projects should be cause for pride due to their many technically advanced characteristics such as variable density thinning, skips and gaps, restoration thinning of Late Succession Reserves (LSRs) and Riparian Reserves, etc. So why is it that, even with so much to be proud about, this project was released in a manner that worked to minimized public examination (short comment period occurring over long holiday season)? Regulations require comment periods of 30 days. See response to comment #37. Why hide the project? Further, why does this project still employ (what appears to be) intentionally deceptive wording such as “no road construction is proposed within Riparian Reserves” coupled with phrases clearly intended to obfuscate that point (does “the temporary roads are located on dry stable landforms and do not cross any streams” mean that they are located in Riparian Reserves or not?). No new road construction would occur in riparian reserves. While the District’s approach on these types of issues may be technically professional, isn’t it overdue for the District to be more stand-up about their projects and isn’t this the type of project that the District can be stand-up about?

Silvicultural Prescriptions

General

67. The PA didn’t appear to include any information regarding the quantity of plantation in Matrix, LSR, and RR found within the Clackamas River Ranger District. Since the desire to “sustainably provide forest products” is a listed “Purpose and Need,” there is a need to provide information on the sustainability of this project and future plantation thins of this size. See response to comments #17 and #33.

68. The PA didn’t appear to include any information regarding the quantity of plantation in Matrix, LSR, and RR found within the Clackamas River Ranger District. Since the desire to “sustainably provide forest products” is a listed “Purpose and Need,” without examining the sustainability of a project of this size it clearly doesn’t meet this stated Purpose and Need. See response to comments #17 and #33.

69. P. 36, if there is a danger of sedimentation from log haul in the rainy period the contract administrator would stop the log haul. Are the contract administrators in the

field every rainy day? It is not necessary to be in the field every rainy day. Section 4.2.4.3 indicates how and when administrators would restrict log haul.

70. This is the largest timber sale in recent history on the Mt. Hood National Forest, so large that a specific Biological Opinion for this sale alone was solicited from the US Fish and Wildlife Service. A 30 day comment period is too short to reflect the size and impact of this sale. The project will be divided into many timber sales. The size of the project had nothing to do with having a project specific Biological Opinion. It was not included with the programmatic Biological Assessment because of timing issues. See response to comment #37.

71. This is the largest timber sale in recent history on the Mt. Hood National Forest, so large that a specific Biological Opinion for this sale alone was solicited from the US Fish and Wildlife Service. Having the comment period occur over the holiday season with a large number of holidays in short succession (Christmas/Hanukah/etc., New Year's, Martin Luther King) when people are often out of town is inappropriate. Many individuals were able to provide many well thought-out comments. 30 days are allowed by regulation to provide people sufficient time to submit comments along with all of the other things people do. See response to comment #37.

72. This is the largest timber sale in recent history on the Mt. Hood National Forest, so large that a specific Biological Opinion for this sale alone was solicited from the US Fish and Wildlife Service. Expert reports (i.e., from the soil scientist, wildlife, etc.) need to be available during the comment period and not just available after the Decision Notice has been made and Final Environmental Assessment has been released. Specialists wrote the preliminary assessment. Since the Environmental Assessment is not yet completed at the time of the preliminary assessment it would be premature to post draft documents on the web site. However where documents are available in final form they were available upon request; the Biological Opinion for example was mailed to BARK.

73. P. 115 examines landslide risk and asserts that since thinning has less of an impact that regeneration the stands have been "tested." This argument appears to miss the crucial issue of cumulative impact by making the argument that since there weren't earthflows after regeneration in the past that it shouldn't be a problem now (other than in places where problems developed in the past). That is not correct since the cumulative impact of the creation of impervious surfaces occurred over decades. Soil compaction actually happens at the time of the initial harvest and has been slowly recovering ever since. The analysis in s. 4.6.11 was generated by the Forest slope stability specialist. The current level of impervious surface creates quicker and higher flow events in these moderate to severe earthflow areas than there has been in the past.

74. p. 126 "No impact is expected to the one *Pseudocyphellaria rainierensis* site found in the project area since it is outside the thinning unit boundary." How far outside the thinning boundary? What is the buffer that should be associated? The lichen is in an old-growth stand near a stream approximately 80 feet west of unit 134. No additional buffer is necessary.

Riparian Reserve

75. Why is helicopter logging being used in the non-Riparian Reserve portions of unit 76 and skyline logging used in the adjacent unit 78 when there is a large difference in the WEP predictions for erosion between helicopter and cable? Skyline is often proposed where there is road access and the terrain allows suspension of logs. In circumstances where suspension is not possible with skyline systems, helicopter is proposed. Helicopter is not proposed where it is not needed because it is very expensive due to the high amount of fuel consumed and their high maintenance cost (s. 3.2.7.1).

76. On page 9 of the Appendix F cont. maps there are some large areas marked as Riparian Reserve that appear to go beyond any association with a stream. Are these areas earthflow zones that are managed as Riparian Reserves as mentioned on p. 108? Some of them are earthflow land forms described on page 108 and others may be ponds or other wet features not associated with streams (s. 2.2.5).

77. The temporary skid trail noted in unit 80 appears inside the Riparian Reserve, which would be expected from any ground-based logging inside the Reserve. Why is this specific skid trail (and only a few others like it) noted on the map? The skid trails noted on the map are ones that would be used as temporary roads. The road locations were measured in the field to determine that they were not in riparian reserves. In some cases the GIS maps were not accurate and have been corrected.

78. The PA noted (p. 13) that trees larger than 20" dbh would not be cut in the LSR (or within Riparian Reserves in LSRs). This is great. Why is this not true for Riparian Reserves located within the Matrix? Do the Riparian Reserves that occur within the Matrix fall under a different management directive than those in the LSR? See response to comments #14 and #22.

79. The PA noted that if a tree larger than 20" dbh had to be cut in the LSR it would be left in place. This is great. Why is this not true for Riparian Reserves found within the Matrix? See response to comments #14 and #22.

80. The PA notes that CWD in the analysis area averages 8-12" dbh (p. 84). The 2004 Monitoring Report specifically noted that lack of large CWD as a management issue. Since the PA notes that average size of the CWD in the analysis area is small to medium and the Monitoring Report specifically calls out the issue of there being a dearth of large CWD, why would large trees that had to be cut in a Riparian Reserve within the Matrix not be kept in place? The analysis shows that there is not a shortage of CWD at the landscape scale. See response to comments #14 and #22.

81. The PA notes that no-harvest buffers will be treated as "skips." Will the streambeds that the buffers line be treated as gaps? If not, why not? The streams are not openings in the canopy.

82. The PA notes that no-harvest buffers will be treated as "skips." This is going to have a serious impact on skip levels in the rest of the unit. This appears to have a pretty serious impact on the ability of skips to protect important structural components in the remainder of the unit. For example, a million square foot unit with a linear Riparian Reserve (which minimizes the skip size by minimizing the buffer size) would have the following impact: See response to comment #19.

- An intermittent stream buffer 1,000' long and 30' wide would be 30,000 sq. feet and 3% of the unit. If the Riparian Reserve was in Matrix than only 2% would be

left to other skips to protect important structural components (since Matrix will have up to 5% of its land as “skip”). If the remaining 2% were concentrated in the rest of the Reserve, then almost no skips would be found in the Matrix.

- A buffer of 50’ would consume the entirety of the land set aside for skips and would allow no skips in the remainder of the Riparian Reserve or the Matrix unit to protect important structural component.
- A buffer of 50’ on a stream in an LSR would consume half of the maximum amount of skips (3%-10%) allocated to the LSR unit.
- A buffer of 100’ on a stream in an LSR would consume the entirety of the land set aside for skips in an LSR and would allow no skips in the remainder of the Riparian Reserve or LSR unit.

83. A significant amount of the Riparian Reserve logging appears to be in “moderate earthflow” (56 units) and “severe earthflow” (14 units) areas. Was there a suggestion within the ID Team to have different buffer sizes for those units to help address the concerns regarding earthflow areas being significantly thinned? **No. There are no significant concerns regarding thinning in dormant earthflows (B8).**

84. Could a cable transport system for moving logs (versus forwarder) be used within 100’ of streams where Riparian Reserve logging is being done via tractor (such as was suggested along 4610 in the No Whisky sale)? **It is not always feasible to skyline log certain ground due to issues of deflection and topography which may or may not provide for log suspension. If skyline logging in the riparian strip were feasible, it may not be desirable because it would result in having two different logging systems on the same ground (for the ground farther than 50 feet from the protection buffer). To log the area within the riparian reserve with skyline systems the corridors would have to cross over the area logged by tractor. This would compound the impact on the tractor section without providing appreciable benefits.**

85. If landings are going to be re-used within Riparian Reserves, the resultant slash should not be burned (potentially causing serious damage to soil in Reserve). The remaining slash in Reserves should be pulled off of the road to avoid this type of damage. **The landing area is already compacted to the point where burning a landing pile would not significantly add to the impact.**

86. All landings in Reserves should be rehabilitate via subsoiling and revegetation. **Subsoiling landings is proposed where compaction levels are high (s. 3.5.6.5).**

87. Page 12 shows an RD of 30 for Riparian Reserves while page 39 shows a different prescription. Which is correct? **One section was intended as a summary while the other had more specific detail. The EA has the same wording now in both places.**

88. In section 3.2.1 it sounds like logging of deciduous hardwoods in Riparian Reserves is being discussed. The use of such phrases as “wet areas” versus “dry upland” are often found in planning documents when discussion Riparian Reserves, but in this case it is not apparent. If this cloudy statement is meant to communicate that the logging will occur in the Riparian Reserves then just say that you will be logging hardwoods in Riparian Reserves. **Hardwoods would be removed from some riparian reserves. Some areas with high water tables are not necessarily considered riparian reserves. The language is intended to state that hardwoods would only be removed in dry areas (s. 3.2.1).**

89. In section 3.2.1 it sounds like logging of deciduous hardwoods in Riparian Reserves is being discussed. The use of such phrases as “wet areas” versus “dry upland” are often found in planning documents when discussing Riparian Reserves; such logging is inappropriate in Riparian Reserves due to the high biodiversity found to be associated with hardwoods. Riparian Reserves are the most appropriate land designation for allowing this type of stand to exist and it would be inappropriate to be logging it. There is no lack of conifers in the 43 million board foot project area and that type of stand-species manipulation is inappropriate in the Riparian Reserves. In some areas hardwoods occur at high levels and are competing with conifers that are desired in riparian reserves. The project would not remove all hardwoods but would thin some to release other trees (s. 3.2.1).

90. Buffers in Riparian Reserves need to be at least 50’ in order to safeguard the riparian microclimate adjacent to the stream. This is important in maintaining the quality of the terrestrial riparian habitat. See response to comment #6.

91. The risk of landsliding seems to be a concern for certain riparian areas; it appears that 50’ buffers for intermittent streams would help mitigate this risk no matter the action alternative. The analysis found that 30’ buffers provided the needed protection (s. 4.2.4.2).

92. On p. 108 it is noted that “Landform type ALD can have locally steep areas, often along the banks of creeks, where small scale landsliding can occur. The types of landslides that can develop at these locally steep areas are usually slumps or debris slides. Landform type ALA can have a variety of types of landslides, but they are usually earthflows, debris slides, or slumps. Landslides can also occur on landform types other than ancient landslide deposits. Usually these are debris slides and debris flows that originate on steep slopes. Debris slides typically occur on slopes that are greater than 60%. Debris flows typically originate in channels that have a gradient that is steeper than about 35%. On these landform types the soil depths are relatively shallow and tree root strength is a factor in slope stability.” Did the ID Team consider giving all such streams a 50’ buffer due to the risk of landsliding? Areas prone to landsliding were removed from the units (s. 4.6.11).

93. Considering subwatersheds (aka drainages) with noted high numbers of stream crossings (unreported in PA but noted in Collawash Watershed Analysis) which act to increase the flow rate by increase the quantity of water being distributed to streams and reducing the time frame of that flow. Isn’t this increased flow rate in potentially unstable streambeds a cause for concern by itself? The effects on hydrologic changes and the effects to unstable areas were analyzed (s. 4.2.6).

94. Coupling the increased flow rate of streams (in drainages that contain a high numbers of stream crossings) with detrimental soils and increases in impervious surfaces (due to road density) will act to increase the peak flow volume and intensity of these streams. This creates a stress on the streams that did not occur during the original clearcutting since the increase in detrimental soils and impermeable surfaces has been a cumulative increase over the last 40 years. In other words, the cumulative impact of the road network on streams was least 40 years ago, more 30 years ago, even more 20 years ago, etc. – as the road network increased over the years so did the number of stream crossings and the cumulative impact of those crossings on the flow

rate of those streams being crossed. The assertion on page 116 that the “areas that remained stable after the original regeneration harvest would continue to be stable after thinning” overtly ignores that the cumulative effects of increases in impervious surfaces and increased peak flows occurred over 40 years. **See response to #73.**

95. Coupling the increased flow rate of streams (in drainages that contain a high numbers of stream crossings) with detrimental soils and increases in impervious surfaces (due to road density) will act to increase the peak flow volume and intensity of these streams. This creates a stress on the streams that did not occur during the original clearcutting since the increase in detrimental soils and impermeable surfaces has been a cumulative increase over the last 40 years. The assertion on page 116 that the “areas that remained stable after the original regeneration harvest would continue to be stable after thinning” overtly ignores that the cumulative effects of increases in impervious surfaces and increased peak flows occurred over 40 years. Did the ID Team specifically consider the 40 years of accumulated increase in stream crossings (and increased stream flow rate) working in conjunction with unstable earthflow those specific areas (i.e., Fan Creek drainage) when considering how large a buffer to have on intermittent streams in order to mitigate increase landslide risk in those streams? **The analysis in s. 4.6.11 was generated by the Forest slope stability specialist.**

LSR

96. p. 13 “Hardwood trees across a range of size classes would be favored, including large trees that occupy mid-canopy and higher positions.” OK, what does this sentence mean? **It means that few if any hardwoods would be removed from LSRs. Hardwood trees often occupy skid trails, landings and old temporary roads which will be reused requiring the removal of these trees.**

Matrix

97. While Matrix (and C-1 Timber Emphasis for that matter) are primarily concerned with timber supply, in neither case does that eliminate their need to consider forest health. In a sale which would supply over 43 million board feet of timber, the specific lack of protection for trees over 20” dbh (as that found in the LSR) is poor management. The removal of the small number of such trees from the supply will have very little impact on the amount of timber being removed but, but as noted in the 2004 Monitoring Report, this size CWD is at low levels in managed sections of the forest and its retention is needed. **See response to comment #14 and #22.**

Roads

98. Grinding pavement as a way of reducing road maintenance costs is understandable. However, the transition from pavement to gravel will increase erosion and potentially instream sedimentation. By not grinding the pavement in the vicinity of stream crossing the potential for increased instream sedimentation due to the overall increase in road-related erosion would be reduced. **The proposal is to not grind pavement at stream crossings within one mile of listed fish habitat (3.2.7.3). The effects of doing this have been addressed (s. 4.2).**

99. Where new gravel is going to be laid, be sure to use rounded gravel in proximity to fish bearing streams. Typical sharp-sided (jagged) gravel can damage fish eggs. **Gravel used in road repairs will not be transported to streams.**

100. It is my understanding that ODOT delays projects until after nesting season so as to comply with the Migratory Bird Act. Does the Forest Service have a similar restriction that is based on this Act? Seasonal restrictions are in section 3.5.1. Birds nest in various overlapping seasons. The seasonal restrictions for soils, peregrine falcon, deer and elk, and spotted owls would provide periods of solitude for some birds.

101. While the Preliminary Analysis claims that no new roads will be built in Riparian Reserves (p. 28), the unit maps show new temp roads being built within Riparian Reserves in units 346 and 348. Thank you for pointing out the mapping discrepancy. Measurements were made in the field to confirm that the roads were outside the riparian reserves. The maps will be corrected in the final version.

102. Will former temporary roads that are located within Riparian Reserves be reconstructed and used? This appears to be the case in units 206, 220, 264, 268, 316, 328, 346, and 348 (others as well?). Existing roads that touch riparian reserves will be reused rather than build new roads just outside the riparian reserves. The roads will be reopened, they do not require reconstruction.

103. If reconstruction of temporary roads is going to occur within Riparian Reserves, will any of these roads cross streams? No, none of the reopened roads cross streams.

104. If reconstruction of temporary roads is going to occur within Riparian Reserves, will any of these roads cross into the no-harvest buffers? No, none of the reopened roads cross protection buffers.

105. If reconstruction of temporary roads is going to occur within Riparian Reserves, was there any WEP modeling done for such units other than unit 348 (which showed a 75% probability of sediment)? The WEPP analysis looked at a representative sample of units to display the risks of the various treatment types (s. 4.2.4.4).

106. Was any WEP modeling done with riparian buffers of 50' or 30' as found in alternative B? If not, why not? The WEPP model is not particularly sensitive to changes in buffer widths.

107. A number of roads listed as prime candidates for obliteration in the "Mount Hood National Forest Roads Analysis" due to "Low Access Needs and High Environmental Risk" are apparently going to be reconstructed for this sale. The report was only released recently (2003) and it is odd that it was not just ignored by this project but this project is directly acting against its findings. What is the explanation for this management decision? The only reconstruction of a listed road would be on 4621. However the Roads Analysis only lists a section of the 4621 road for potential decommissioning and that section is not the part that is being repaired. The Roads Analysis lists the 0 mile post at the north end near road 4620170. The repair is at the other end (s. 3.2.7.3).

108. A number of roads listed as prime candidates for obliteration in the "Mount Hood National Forest Roads Analysis" due to "Low Access Needs and High Environmental Risk" are apparently going to be reconstructed for this sale. At the very least, shouldn't roads that may have future NEPA analysis done for possible obliteration not be reconstructed and those units logged via helicopter? Other than road 4621 discussed in the response to comment #107 the roads are not going to be reconstructed but reopened (s. 3.2.7.3). See response to comments #3 and #4.

109. According to the Collawash Watershed Analysis the Fan Creek subwatershed has an open road density of over 6 miles per square mile. This was specifically highlighted due to its role in the disturbance of water flow in the creeks (increased boom and bust due

to interaction of impervious surface and stream crossings). Since over 20% of the Fan Creek subwatershed is going to be impacted by this sale, which will increase the impervious surface due to compaction (and potentially new roads), what are the current statistics in the Fan Creek watershed for road density and stream crossings? The open-road density situation is shown in s. 4.5.5.17. Because Fan Creek crosses from summer range to winter range it crosses three deer and elk analysis areas; WR24, WR25 and SR39. Alternative C would close roads in the Fan Creek drainage: 4620-260, 270 and 290.

110. The subwatersheds are examined for a variety of impacts of this project, yet they are not examined in terms of examining road density. This information would be helpful to examining this project. What are the current road densities for the 16 subwatersheds (drainages) found in the project area? See response to #109. Open-road density is a wildlife issue and watersheds are not particularly relevant to wildlife. The open-road density calculation uses analysis areas that are more appropriate for deer and elk.

111. Is the cost of the road reconstruction included in the Financial Analysis? Yes, (s. 4.11.1)

112. Is the cost of continued road maintenance included in the Financial Analysis? Since this project has chosen to ignore the suggestion of the Roads Analysis, this plan should be including the continued maintenance cost of the roads that are reconstructed rather than obliterated. The decommissioning of all the roads listed in the Roads analysis to reduce road maintenance costs is outside the scope of this EA. The decommissioning of more roads is best considered in a separate restoration EA. Road maintenance costs for operations conducted by the contractor are included in the financial analysis. Administrative road maintenance costs were considered in the development of Alternative C (s. 3.3.1.2). Administrative road maintenance costs would be lower for Alternative C than Alternative B or no action. The financial analysis displays the feasibility of a timber project and does not include administrative costs (s. 4.11.1).

113. Is the cost of grinding the pavement included in the Financial Analysis? yes

114. Is the cost of the road reconstruction included in the cost/benefits ratios comparing the Alternatives? yes

115. Is the cost of the continued road maintenance included in the cost/benefit ratios comparing the Alternatives? No, see response to comment #112.

116. Is the cost of the pavement grinding included in the cost/benefit ratios comparing the Alternatives? Yes

Cumulative Effects Analysis

117. On p. 40 it is noted that “other aspects of the proposed action such as road reconstruction or repair would not have a meaningful or measurable affect on hydrologic recovery because they do not alter canopy cover.” In the Cloak EA response to comments there is notation that temporary roads are not considered hydrologically recovered. If they are not considered hydrologically recovered how can their construction or repair have no meaningful affect? The construction of new roads is included because it reduces canopy. The reconstruction of a road is not included because it does not change canopy (s. 4.2.6).

118. p. 41 hydrology: “The assumptions in the ARP model indicate that if post treatment canopy cover is between 50 and 69%, the stand would be considered 91% recovered and it would take five years for the stand to reach full recovery, and if post

treatment canopy cover is between 30 and 49%, the stand would be considered 73% recovered and it would take ten years for the stand to reach full recovery.” Does this include roads, landings, and temp. roads? **yes. System roads are included separately. Landings, skid trails, temporary roads as well as the no-cut protection buffers and skips and gaps are included (s. 4.2.6.2).**

119. In the hydrologic recovery cumulative effects table, future thinning projects are included as representing the potential for “hundreds of acres.” Is this an accurate representation of future thinning plans in those drainages? **There is no future thinning planned. That is why other thinning was not included in the current analysis. There are hundreds of acres of plantations that may need thinning in the future. The appropriate time to assess the affects of speculative projects would be when they are part of a proposed action in a future EA (s. 4.2.6.6).**

120. The impact of this sale on NSO dispersal habitat is huge but appears hidden by design in the description found in the PA. This sale of slightly over 4,000 acres has a noticeable impact on an analysis area of 80,000 and that level of impact should not be disguised by clever wording. **The impact was not found to be ‘huge.’ In fact the long-term benefits of thinning are great while the implications of doing nothing are less than desirable (s. 4.5.1.7 & s. 4.5.1.5).**

121. In the snag cumulative analysis table the Blister Fire is included as adding snags. Since the Blister Fire was outside of the project area and not in any of the drainages in the project area, why was it included? **The Blister Fire is within the snag analysis area. See map F14.**

122. In the snag cumulative analysis table the Blister Fire is included as adding snags. The Bonanza Fire Salvage (included by reference) left far fewer snags per acre than is currently found in the Blister Fire area. Does this mean that there won't be salvage logging of the Blister Fire area? **There are no current plans to salvage in the Blister Fire area.**

123. The PA notes on p. 113 that “on earthflow soils, detrimental condition in the sampled units ranged from 11% to 42%. Based on this sample, it is estimated that all units previously harvested with ground-based equipment and almost all units previously harvested with skyline or other cable systems exceed 8 % detrimental soil condition.” Couple the high level of compaction of certain units with the note on p. 115 that “the local climate of the area is very conducive to high levels of vegetative production, and it is possible that the high measured level of detrimental soil impact does not affect site productivity as much as it would in drier areas.” Is there an increased concern that the tree roots of logged trees will break down more quickly (due to the high organic activity of soil which makes it more productive even when compacted) leading to an increased earthflow risk? Especially in units with significantly high current levels of compaction? **This issue has not yet been raised. Earthflows are very deep and move slowly with trees coming along. The roots of trees would not stop an earthflow from moving (s. 4.2.7.4).**

Management of Forest Pathogens

124. The PA notes that “several forest diseases are present in the project area. Small isolated pockets of laminated root rot are present throughout these stands with minor

occurrences of western hemlock dwarf mistletoe and armillaria root disease.” Due to the role of forest disease in the proper functioning of a healthy forest ecosystem, when these pockets are found within Riparian Reserves and LSRs it is important that they be protected in the same manner that remnant old trees or snags would be protected.

125. Recent timber sale’s listed management of forest disease as part of the purpose and need for the project. Since native pathogens provide essential functions necessary for a healthy forest ecosystem, why is this project not specifically managing for this aspect of forest health? The silviculture prescription would incorporate diversity features such as retention of patches of trees with diseases (s. 3.2.1).

126. Thinning will increase the health and vigor of the remaining trees. Since the essential roles of native pathogens in the healthy functioning of a forest ecosystem are well known, how does this sale propose to avoid damaging this important forest component especially within Riparian Reserves and LSRs? The silviculture prescription would incorporate other diversity features such as retention of patches of trees with diseases (s. 3.2.1).

127. The desire to have the Riparian Reserve and LSRs achieve late-successional stand characteristics is listed 8 times in the PA. Since thinning will inherently create “healthier” stands, in order to achieve the stated goal of having these stands achieve late-successional characteristics it is essential that preservation of disease pockets be part of the management plan. To go through afterwards an inoculate trees with disease in order to recreate what was already there (disease) but lost due to improper management would be a waste of time and money. The fungi used to inoculate trees to create heart rot are not prevalent in these stands.

128. p. 56 LSR: *Timber production is not the objective in LSRs* [emphasis mine]; this section focuses on tree growth and when late-successional characteristics might occur “the LSR plantations are 30-61 years old are overstocked and have relatively uniform tree size and distribution, little or no CWD component, lack understory development and low levels of snags. These plantations are not late-successional and do not meet the needs of dependent species.” If, as noted, the management is looking to manage for late-successional characteristics (which includes tree death and decay) then managing for decadence is required since the current suppressional mortality may or may not include native pathogens and insects. In order to have late-successional characteristics (i.e., decadence) in the post-logging tree-scape there will need to be native. See response to comment #124.

129. In the hydrologic recovery cumulative effects table, future thinning projects are included as representing the potential for “hundreds of acres.” Is this an accurate representation of future thinning plans in those drainages? See response to comment #119.

Michele McKinzie

130. Thank you for providing the opportunity for the public, including me, to comment on your proposal, the 2007 Plantation Thinning. While I respect the authority who gives us this right, I am concerned that the timing for public release of these documents does not lend itself to the full extent of public involvement provided under law and therefore is not an appropriate time to

release such a document for public review. Releasing a legally binding document for public review over a span of time that includes three nationally celebrated holidays is not only bad neighboring, but suspicious behavior. The potential of denial over the full, still hardly sufficient, 30 day comment period looms, especially considering this is the largest commercial timber sale planned in Mt. Hood National Forest in over 10 years. **See response to comments #37 and #66.**

While I do not disagree with your proposal in its entirety, I have many questions, concerns and comments. Please address my questions and consider my comments and concerns before modifying and/or moving forward with your proposal.

General Concerns Regarding Purpose and Need of “Enhancement” and Call for Stewardship Contract

131. The southern third of the 2007 Plantation Thinning is located in what is considered “the most unstable area of Mt. Hood National Forest” according to the Collawash/Hot Springs Watershed Analysis. This fact, combined with the recent Blister Fire, plans to move forward with the adjacent Collawash Timber Sale, high level of roads (temporary or otherwise) that already exist and those planned to be constructed and plans to degrade nearly 1000 acres of dispersal habitat for the NSO compounded by the lack of preferred habitat and dispersal habitat over the past 60 years, among many other things require a greater analysis of cumulative effects than is provided.

132. While I applaud the districts efforts to take a leading role in promoting logging projects that promote ecological restoration of monoculture plantations, I am concerned that this project is too shortsighted to effectively lay the foundation for true restoration to take place in the planning area. True restoration on a landscape level takes place over a much longer timeline than 1, 5 or 10 years and should consist of comprehensive step by step plan designed to meet the multiple objectives of restoration over a 10+ year timeframe. Even if silviculture prescriptions are the first step in this plan, the plan is likely to fail in its enhancement objectives if there is no subsequent plan to carry out other necessary components of a true restoration/enhancement project, such as decommissioning of roads, removal of noxious weeds and planting a diversity of conifers, hardwoods and under story plants and shrubs. While Watershed Analysis’s are helpful in guiding management by providing recommendations, they do not constitute an action plan intended for direct implementation. **See response to comment #4 and #52.**

133. Page 41 on the issue of hydrology states that “The assumptions in the ARP model indicate that if post treatment canopy cover is between 50 and 69%, the stand would be considered 91% recovered and it would take five years for the stand to reach full recovery, and if post treatment canopy cover is between 30 and 49%, the stand would be considered 73% recovered and it would take ten years for the stand to reach full recovery”. Under either scenario this logic is flawed because there is currently no step by step plan to achieve full recovery over a multi-year timeframe (i.e. a restored landscape) and it is impossible for a landscape consisting of 30-60 year monoculture plantations to be considered fully recovered in as little as 10 years, therefore your claim is inaccurate. **See response to comment #118.**

134. Additionally, due to lack of funding it is unlikely that the additional necessary components of true restoration (such as decommissioning of roads, removal of noxious weeds and planting a diversity of conifers, hardwoods and under story plants and shrubs) will not get completed as a part of this project. Therefore, if the purpose and need of this project is to enhance RR, LSR and diversity then a portion of or the entire project must be completed under a Stewardship Contract in order to provide funding for road decommissioning etc. The plan will fail to achieve its purpose and need of enhancement without these necessary components in place. **It is likely that some of the 2007 Plantation Thinning would use stewardship contracts.** This rationale lends itself to leading research in the field of Ecological Restoration in the Pacific Northwest according to a

recently published text called *Restoring the Pacific Northwest: The Art and Science of Ecological Restoration in Cascadia*. (Full citation of this text is included in the reference section and therefore becomes part of this legally binding document)

135. Moving forward with an improved version of Alternative C under a Stewardship Contract would therefore allow the district to get closer in achieving its purpose and need of true enhancement of the area in question, by providing the funding for road decommissioning and perhaps removal of noxious weeds and planting of a diversity of native trees and shrubs. **It is likely that some of the 2007 Plantation Thinning would use stewardship contracts.**

136. If stewardship contacts become the norm, it may be possible to create a full-time restoration based workforce while maintaining the dwindling silviculture and logging based jobs, so long as planning and prescriptions are landscape based and restorative in nature and logging is monitored for illegal timber theft and general quality control. If the agency's future desire is truly to move into the realm of the enhancement and restoration of the landscape then I applaud their efforts and believe that most reasonable environmentalists would too. However, for me to drop my concern that there are other unwanted motives within your intent, I need to see the agency and the district using stewardship contacts that include longer timeframes for implementation sooner than later and the 2007 Plantation Thinning, due to its size and purpose and need of enhancement, is a great place to start.

Other General Concerns

137. A 30 day comment period is too short of a timeframe for the public to fully review the impacts of a project this size. **See response to comments #37, #66, #70 and #71.**

138. P. 115 examines landslide risk and asserts that since thinning has less of an impact that regeneration the stands have been "tested." This argument appears to miss the crucial issue of cumulative impact by making the argument that since there weren't earthflows after regeneration in the past that it shouldn't be a problem now (other than in places where problems developed in the past). That is not correct since the cumulative impact of the creation of impervious surfaces occurred over decades. The current level of impervious surface creates quicker and higher flow events in these moderate to severe earthflow areas than there has been in the past. **See response to comment #73.**

139. p. 126 lichen: No impact is expected to the one *Pseudocyphellaria rainierensis* site found in the project area since it is outside the thinning unit boundary. How far outside the thinning boundary? What is the buffer that should be associated? **See response to comment #74.**

Riparian Reserve Silviculture

140. In general riparian silviculture projects should address ecosystem functions that have been lost or degraded and the goal should be to design prescriptions that will result in a forest structure and composition that support ecological functions (Montgomery and Buffington 1995). With this in mind please answer the questions below...

141. The PA noted (p. 13) that trees larger than 20" would not be cut in the LSR. This is great. Why is this not true for Riparian Reserves? **See response to comments #14, #22 and #78.**

142. The PA noted that if a tree larger than 20" had to be cut in the LSR it would be left in place. This is great. Why is this not true for Riparian Reserves? **See response to comments #14, #22 and #79.**

143. In addition, riparian forest communities have varying influences along the river continuum. Therefore site-scale projects should be designed to enhance the functional needs of the ecosystem at a landscape level (Hollings 1978). Further emphasizing this fact is a very important concept in ecological restoration has been a shift from structure-based to process-based restoration. With these concepts in mind please answer the following questions and concerns...

144. The PA notes that no-harvest buffers will be treated as "skips." Will the streambeds that the buffers line be treated as gaps? If not, why not? **See response to comment #81.**

145. The PA notes that no-harvest buffers will be treated as "skips." This is going to have a serious impact on skip levels in the rest of the unit. This appears to have a pretty serious impact on the ability of skips to protect important structural components in the remainder of the unit. For example, a million square foot unit with a linear Riparian Reserve (which minimizes the skip size by minimizing the buffer size) would have the following impact: **See response to comments #19 and #82.**

- An intermittent stream buffer 1,000' long and 30' wide would be 30,000 sq. feet and 3% of the unit. If the Riparian Reserve was in Matrix than only 2% would be left to other skips to protect important structural components (since Matrix will have up to 5% of its land as "skip"). If the remaining 2% was concentrated in the rest of the Reserve, then almost no skips would be found in the Matrix.
- A buffer of 50' would consume the entirety of the land set aside for skips and would allow no skips in the remainder of the Riparian Reserve or the Matrix unit to protect important structural component.
- A buffer of 50' on a stream in an LSR would consume half of the maximum amount of skips (3%-10%) allocated to the LSR unit.
- A buffer of 100' on a stream in an LSR would consume the entirety of the land set aside for skips in an LSR and would allow no skips in the remainder of the Riparian Reserve or LSR unit.

146. Could a cable transport system for moving logs (versus forwarder) be used within 100' of streams where Riparian Reserve logging is being done via tractor (such as was suggested along 4610 in the No Whisky sale)? **See response to comment #84.**

147. If landings are going to be re-used within Riparain Reserves, the resultant slash should not be burned (potentially causing serious damage to soil in Reserve). The remaining slash in Reserves should be pulled off of the road to avoid this type of damage. **See response to comment #85.**

148. Compacted or damaged landings in Riparian Reserves should be restored and revegetated. **See response to comment #86.**

149. Within 50 feet of the stream protection buffers, only low impact harvesting equipment such as, but not limited to, mechanical harvesters or skyline systems, which have minimal ground disturbance would be allowed. Mechanical harvesting equipment would be required to operate on slash-covered paths. Trees in this zone would be directionally felled away from the protection buffers to minimize the disturbance to the forest floor. These requirements would maintain the indicators for sediment, stream temperature, stream bank condition, and large woody material indicators. How about that within 50' of intermittent streams that only cables get used? **No logging would occur within 50 feet of intermittent streams (Decision Notice).**

150. On page 115 the EA states that the local climate of the area is very conducive to high levels of vegetative production, and it is possible that the high measured level of detrimental soil impact does not affect site productivity as much as it would in drier areas. An

increase in detrimental soils, road density and basically all impervious surfaces increases the peak flow volume and intensity. This creates a stress on the streams that did not occur during the original clearcutting since the increase in detrimental soils and impermeable surfaces has been a cumulative increase. Consequently, the assertion on page 116 that the “conservative” approach would be to only look at old areas that showed movement would do for RR is quite wrong, since the impact of the accumulated damage to the watershed had not happened in the past. [See response to comments #94 and #123.](#)

151. On page 39 the thinning prescriptions within riparian reserves state they would maintain an average 50% canopy closure up to one site potential tree height from all streams in order to retain shade producing vegetation within the secondary shade zone. This design criterion is expected to maintain a canopy closure that provides adequate shade over streams and therefore is unlikely to alter water temperatures. Even if this statement is accurate, won't this prescription cause more wind to travel through the area causing the landscape to become more arid and thus changing the microclimate? Ways to prevent this would consist of planting a diverse native understory within these areas in a short amount of time following the logging. While the EA discusses revegetating portions of the planning area, it does not list specific areas where planting will occur or what types of plants will be planted, nor does it discuss a step-by-step process of how these planting will be implemented. Without this information the reviewer can not, therefore, be certain that your claim that the design criteria is unlikely to alter water temperatures is accurate. Nor is the planner able to assert this without considering what, where and how revegetation efforts will take place. [One of the objectives of thinning in a riparian reserve is the development of an understory layer of vegetation consisting of conifers, hardwoods and other native plants. Thinning to the proposed relative density will allow natural regeneration to occur within a short period of time making the planting unnecessary. In addition, money saved by not planting could be used to do other restoration work such as decommissioning roads if a stewardship contract were used. The only revegetation proposed is erosion control efforts on bare soils. This would involve the spreading of grass seed \(s. 3.5.4, s. 3.5.6.5 & s. 3.5.7.6\).](#)

152. Please include a no mechanized equipment buffer similar to No Whisky in all Riparian Reserves. [The buffer in No Whisky was established along main roads where there were OHV issues on very gentle terrain. This strategy required the ability to use ground-based logging systems and yard the logs away from the road. OHV issues are not similar in the 2007 Plantation Thinning area and the terrain is not suitable to adopt the No Whisky strategy.](#)

Roads

153. The area east of FR 46 [\(The project area is west of road 46\)](#) between Big Creek and the Clackamas River hosts the majority of the roads recommended by the Forest Service to be decommissioned in their 2003 Roads Analysis. Only 2 of the roads recommended for decommissioning in this area are currently NEPA ready, however. Ironically this portion of the sale has the largest concentration of newly proposed “temporary roads”. It appears that approx ½ of these new “temporary roads” are actually being added to the end of prior existing temporary roads. [The roads would be extended to meet current standards for skyline logging and to protect the residual stand.](#) Why did the district choose to ignore the recommendations of the 2003 Roads Analysis and propose a plan that is in complete opposition to the Roads Analysis's recommendations? (consider adding charlies comment about helilogging) [See response to comments #3 and #4.](#)

154. At the very least, no new temporary roads should be constructed within the entire vicinity of roads recommended for decommissioning in the 2003 Roads Analysis. As it currently stands Alternative C does not include decommissioning or closures of any of the roads recommended in the 2003 Roads Analysis, and instead lists closures of existing system roads for wildlife

enhancement (Pg. 117). This is a good start, but by adding the Roads Analysis's road decommissioning recommendations to the list of roads to be closed, decommissioned or obliterated under Alternative C, would allow these roads to become NEPA ready and therefore, they would be one step closer to actual decommission or closure once funding becomes available (hopefully through a stewardship contract associated with this proposal). See response to comments #3, #4 and #32.

155. By definition a temporary road "is not intended to be part of the forest transportation system and not necessary for long-term resource management. Temporary roads are required to be revegetated within 10 years of completion of their use. Temporary roads can remain active for up to 5 years as part of timber sales" (36 CFR 212.1). If existing "temporary roads (roads that were originally proposed as "temporary" in past timber sales are now being used to add further access for "resource management", at what point then, is a temporary road no longer a temporary road and therefore requires analysis as a system road and added to the road density calculations for the district? Roads would only be considered for adding to the Forest System if they were required to stay open to access something like a campground and if funds were available to maintain the road. Since these temporary roads are not intended to be part of the forest transportation system it is appropriate to close them again and to consider them temporary roads (s. 3.2.7.1). Roads would be added to the open-road density analysis if they are permanently open.

156. FR 6330-160 is scheduled to have a Berm placed at it's entrance under Alternative C. This road currently has multiple illegal OHV trails heading into the forest and I found several instances where existing berms, put at the entrances of old temporary road did not succeed with the original intent of closing the road. Due to these examples, please change the prescription of this road in Alternative C from Berm to Decommission. The reasoning for this is enhanced by the fact that this stretch of road already has 5 landslides originating on the cut slope of the road. If this project is chosen as a stewardship contract, there will be adequate funding to do multiple berms and other related closure techniques to prevent illegal OHV use. Additional funding is also possible to monitor the closure and immediately reclose any berms that are breached. This road will be needed again in the near future to thin other plantations along its length. It also crosses streams. Decommissioning a road with streams is not proposed (s. 3.3.1.2). See response to comment #4.

157. In addition, please drop the unit (unit 322 or 324, its hard to tell which one it is) at the end of FR 6330-160 from the proposal or at the very least helicopter log it due to the fact that the last ½ mile of the road leading to this unit would need to be entirely reconstructed since it has naturally closed on it's own. Additionally, in many places along the last ½ mile the landscape has actually reclaimed its natural steep slope to the point where the original road has literally become a trail no wider then 2-3 ft. Rebuilding this section of the road, in combination with logging the unit at the end of it would put the area (already affected by 5 landslides) at even a greater risk for future landslides. The unit is #330. If it were helicopter logged the road would still be needed for log haul. The term 'prehaul maintenance' is used to describe the opening of a road like this. This involves the removal of vegetation and debris on the road and blading (s. 3.2.7.3). The Forest's slope stability specialist examined the area and had no concerns (s. 4.6.11.2). The slides mentioned have not compromised the road prism.

158. The portion of the sale that falls south of Hwy 224 between Fish Creek and Pup Creek and within the LSR shall contain no new temporary roads. The Fish Creek divide has a history of severe landslides. The eastern half of this area is steep and anti-social behavior (OHV use, shooting and dumping) is prevalent. FR 5410 and FR 5411 are the main roads through this area. According to the EA numerous temporary roads are planned in this area and although each new temporary planned is less than ¼ of a mile long, there are a ton of them. This will give OHV uses, already present and causing destruction in the area, lots of temptations to expand their illegal OHV paths. Temporary roads will be obliterated as described in the EA in s. 3.2.7.

Because of the intensity of this closure technique it is not likely that OHV use would expand to these areas. See response to #156.

159. The Forest Service admits that they do not have the resources to monitor and enforce all areas where illegal OHV use is prevalent; hence it is inconceivable that the agency would plan to create new roads, even if temporary, that would be considered tempting for OHV uses to drive through. Please provide an enforcement strategy of how the district plans to keep illegal OHV use from spreading throughout this area if you decide to move forward with road construction in the area described above. Temporary roads will be obliterated as described in the EA in s. 3.2.7. Because of the intensity of this closure technique it is not likely that OHV use would expand to these areas (s. 4.15.8). See response to #156.

160. No new temporary roads allowed in Riparian Reserves. Even though the standards and guidelines do permit road construction in riparian reserves, this project has been designed to not have any new road construction in riparian reserves.

161. Grinding pavement as a way of reducing road maintenance costs is understandable. However, the transition from pavement to gravel will increase erosion and potentially in-stream sedimentation. By not grinding the pavement in the vicinity of stream crossing the potential for increased in-stream sedimentation due to the overall increase in road-related erosion would be reduced. See response to comment #98.

162. Where new gravel is going to be laid, be sure to use rounded gravel in proximity to fish bearing streams. Typical sharp-sided (jagged) gravel can puncture fish eggs causing them to die. See response to comment #99.

163. ODOT delays projects until after nesting season so as to comply with the Migratory Bird Act. Does the Forest Service have a similar restriction that is based on this Act? See response to comment #100.

164. Will former temporary roads that are located within Riparian Reserves be reconstructed and used? This appears to be the case in units 206, 220, 264, 268, 316, 328, 346, and 348 (others as well?). See response to comment #102.

- If reconstruction of temporary roads is going to occur within Riparian Reserves, will any of these roads cross streams? See response to comment #103.
- If reconstruction of temporary roads is going to occur within Riparian Reserves, will any of these roads cross into the no-harvest buffers? See response to comment #104.
- If reconstruction of temporary roads is going to occur within Riparian Reserves, was there any WEP modeling done for such units other than unit 348 (which showed a 75% probability of sediment)? See response to comment #105.

Wildlife

165. Does NSO analysis include a cumulative impact assessment on the species due to loss of preferred habitat and dispersal habitat over the past 60 years due to past logging that took place in the area? Yes, EA s. 4.5.1.10.

166. The NSO table is misleading. And even if this project really does only degrade another 2% of dispersal habitat, when is there just not enough left for a species that is declining at a rate of 4% every year across its entire range? EA s. 4.5.1.14 indicates that, "The cumulative effects on dispersal habitat would be minor, mainly because dispersal habitat is not the limiting factor for owls in the area. In this analysis area, the more likely limiting factor for spotted owl occupancy of the area is the lack of spotted owl suitable habitat and lack of connectivity between these suitable habitat blocks. In the long term, thinning treatments in the LSR with the action alternatives would accelerate the development of suitable spotted owl habitat."

167. On page 66 the EA states that there would be a short-term loss of approximately 985 acres of dispersal habitat as a result of project implementation. This temporary loss of dispersal habitat would occur in both the Matrix and LSRs. So there would be no degradation or loss of dispersal habitat in Riparian Reserves? **The 985 acres is the total for the entire project (s. 4.5.1.7).**

168. On page 71 of the EA it states that as fragmentation of a landscape pattern increases, the amount of interior forest habitat decreases and the amount of edge habitat increases. As fragmentation increases, the amount of interior forest habitat decreases, impacting organisms that prefer large patches of interior habitat, such as the spotted owl. This sounds like a good reason to be doing road removal in LSRs and RRs to me. **The quote is not accurate. See response to comments #3 and #4.**

Snags and Course Woody Debris

169. On page 24 the EA states that the LSR Assessment contains a discussion of goals for coarse woody debris and snags. The goal is to eventually have 15 to 30 snags per acre and 10 to 15 percent of the ground covered by down logs. The existing condition for plantations is well below these levels. Achieving these goals with this proposed action is not considered a viable option according to the EA. **EA s. 3.4.2 & 4.5.4.**

170. On page 56 the EA states that one of the aspects of the purpose and need is to enhance or accelerate the development of mature and late-successional stand conditions on 1237 acres in the project area. The "stand condition" for late-successional stands includes quantities of decadence that will be missing or greatly reduced due to the thinning unless there is active management for its inclusion and maintenance. **The analysis found that the proposed thinning would result in long-term benefits to late-successional dependent species. There may be short-term impacts to achieve this long-term benefit (s. 4.5.1.7).**

171. The cost of girdling and felling trees is estimated at up to \$3,900 per acre. According to the EA there would also be a reduced economic viability of the thinning timber sale because up to 75 additional trees per acre would have to be left after thinning. While this may be true economic return should be a secondary product of the restoration effort not the main goal. In addition, funding for this and/or inoculation could be achieved, at least partially, through a stewardship contract. **Economic return is not a primary goal for LSRs. However to achieve the thinning and other restoration projects, the cost can not exceed the value of the timber. If there is not sufficient net value, the project would receive no bids even for a stewardship contract (s. 4.11).**

Economics - Financial Analysis

172. The economic analysis in the EA does not include a environmental degradation quotient nor a quotient used to estimate the additional amount of money that will need to be spent by public municipalities to filter drinking water or clean the air of pollutants for example, and therefore is not entirely accurate. There are ways to include this type of information into a economic analysis and the district and agency should begin using them immediately to avoid further confrontation in the future. **See response to comments #38 through #46.**

173. Also, if the intent is to enhance (i.e. restore) the landscape then money gained can not be first priority. **The general objectives for the project are contained in the purpose and need s. 2.2.1. There is no objective to generate money. However creating cost effective projects is always important so that funding is not wasted and sufficient value remains to use the value of the timber to fund other projects (s. 4.11).**

174. If no monies exist to implement road decommissioning, removal of noxious weeds, the creation of snags and CWD, or native planting of conifers, hardwoods and understory species to restore diversity among the stands then use a Stewardship Contract instead of a timber sale contact. **Regardless of the contract type, there still needs to be sufficient value to attract bidders.**

Stewardship contracts (2400-13T), just like timber sale contracts need to be economically feasible (s. 4.11).

175. Questions: See response to comments #111 through #116.

- Is the cost of the road reconstruction included in the Financial Analysis?
- Is the cost of continued road maintenance included in the Financial Analysis? Since this project has chosen to ignore the suggestion of the Roads Analysis, this plan should be including the continued maintenance cost of the roads that are reconstructed rather than obliterated.
- Is the cost of grinding the pavement included in the Financial Analysis?
- Is the cost of the road reconstruction included in the cost/benefits ratios comparing the Alternatives?
- Is the cost of the continued road maintenance included in the cost/benefit ratios comparing the Alternatives?
- Is the cost of the pavement grinding included in the cost/benefit ratios comparing the Alternatives?
- Is the cost of the road reconstruction reflected in the timber value on the chart that compares helicopter costs with tractor or skyline?

Paula Hood

176. I am submitting comments for the 2007 Thin. My comments would have been longer and more in depth, however, due to the timing of the release of the PA, this was not possible for me. Most of the roads in the timber sale area are impassable right now, making it impossible for the public to go see those areas. I got to as much of it as I could drive and walk to, which wasn't much. Even though I have been to many of these areas in the past, it was only for recreation and enjoyment, not to give input on a timber sale. The public has often caught important oversights on the part of the Forest Service in past timber sales, and the timing of this PA does not allow for that important safety net. Also, the release of the PA right before the Christmas holidays makes research and commenting exceptionally difficult for anyone who has family obligations, children, or a hectic job, during this traditionally busy time. Many people are either out of town, working extra hard, or contending with their children's schools being closed. It is one of the busiest times of the year for almost everyone, and often the hardest time to get in touch with people to conduct business. While the release of the PA at this time may be technically allowable, it does not encourage public involvement at all, and certainly does not foster public trust. See response to comments #37 and #71.

177. Much of the specific work I did around my concerns about the 2007 Thin was done using the maps that were release during scoping. Some areas were dropped from the timber sale, but the new maps are so different from the old ones that it is very difficult to tell specifically which areas were dropped. The changes in the timber sale were not specifically illustrated or described. So, if my comments refer to a stream or an area as being within the boundary of the sale and this is incorrect, and has now changed, I apologize. The short timeline in the middle of the holiday season, with fewer than usual business days, did not make this feasible for me to investigate, much less redo the work I had done before.

178. This timber sale should have an EIS done for it. The commercial treatment of over 4,300 acres for this harvest WILL have an impact on the environment. There is only optimism supporting the many claims of "may affect, not likely to adversely affect" in repetitive dismissals from the Forest Service concerning the risks to soil, water, fish, and wildlife that this sale poses to the environment. With so many activities that do, in fact, pose risks to ESA and other fish, unstable soils, and wildlife habitat, it is irresponsible to assume that none of the management activities will have serious impacts, either alone or combined, on the environment. It is also unsubstantiated. Timber management activities and roads have been and still continue to be the major threat to the well being of forest ecologies. Even if many of these risks are only in the category of "may affect, not likely to adversely affect" according to the forest service, over a scope of more than 4,300 acres, there is no evidence that at least some of these many things which "may affect" the environment will not take place. It is irresponsible and negligent to not take these risks seriously. This timber sale jeopardizes the long term stability of many resources that the forest service has been mandated to protect, including ESA fish species, soils, water, spotted owls, and other wildlife. **The EA has not dismissed the effects of the project but it has disclosed the effects. There will be effects to various resources. However, after thorough analysis, the effects were found to not be significant (decision notice).**

179. I think it is important not to loose the forest through the trees, so to speak, and to keep sight of the broader forest perspective. This is an enormous timber sale which has been planned in an area that has many problems: unstable soils, erosion, landslides, very high road density, and many at-risk and impassable stream crossings. Directly downstream of this are some very unique and valuable native fish stocks, irreplaceable to the ecosystems and fishermen alike. If this was truly meant to be restorative, then the Forest Service would be putting their energies into replacing more of the many, many at risk, impassable, and not properly functioning culverts in the area, as well as starting to close or obliterate more of the many, many roads which have been put forth as resource hazards by the Watershed Analysis of the area, and the Roads Analysis. **These projects would be appropriate to include in a restoration EA. See response to comments #3 and #4.** Time and again, the risks inherent in commercial timber sales have been dismissed in order to proceed, only to be realized in time as stream temperatures rise, habitats are degraded, species struggle and decline, noxious weed become ever more of a problem, sediments are recorded in tons annually that are directly attributed to roads and timber harvest (in the forest service watershed analysis), soils are compacted and their function compromised for decades, peak flows rise, more roads are built or reopened, and the list goes on. It is irresponsible to not look at the broader picture, and continue to dismiss so many of the thousand cuts that all add up to kill the forest, even when science, common sense, and legal culpability should lead you to more responsible management of the forest. **The EA has addressed these issues. This project is different than past timber sales in many ways. The project has been carefully designed to achieve the purpose and need described in section 2.2.1.**

RIPARIAN RESERVES

180. Commercial logging should not take place inside of Riparian Reserves. A forest is not the trees alone. While large trees are very important to many species, a quick fix is often a very inappropriate solution. The Forest Service can not make up for decades of selling off the public's most valuable old growth trees, and wrecking havoc on the ecosystems, by selling off more trees. The damage to soils by large machinery, and the ensuing effects of the sediment, erosion, landslides, fungi damage, and compaction, on the ecosystem and nearby waterways is an unacceptable price for a commercial timber sale. If the Forest Service is truly interested in rehabilitating the Riparian Reserves, then these areas should never see large machinery. **The project will enhance riparian resources (EA s. 4.2.0.2).**

SOILS AND LANDSLIDE RISK

181. Why has such a large scale timber sale been planned in such an unstable area, directly draining into some of the most important streams and tributaries for anadromous and resident fish on Mt. Hood? The plantations need thinning. If thinning is not done there would be many undesirable outcomes. The impact of no action is addressed in every resource section of the EA. Stability has been addressed in s. 4.6.11.

182. These are some of the most unstable soils and areas in Mt. Hood. The PA states that "The level of stability of the slopes of all the proposed thinning units was therefore "tested" in the past by that original harvest. A conservative approach to evaluating the effects of thinning on slope stability is to identify the areas of the original harvest units that show evidence of landslide activity and exclude those from any harvest. Areas that remained stable after the original regeneration harvest would continue to be stable after thinning." So, the logic is that if it didn't fall down after you clear cut it, then it must be "stable", and won't fall down now, right? This does not seem strong basis for deciding which areas are stable enough to handle management, especially as the PA also shows that most of the soils in the units have at least moderate erosion risk, some severe. See response to comment #73. Stability is a separate issue from erosion. The Forest slope stability specialist has examined areas of concern and made recommendations (s. 4.6).

183. The PA discounts the magnitude or problem of sediment produced, even though there is a high probability of sediment yield according to the PA chart, p38. Also, "[s]ediment yields from road reconstruction, log haul, or from mass wasting are not evaluated with the WEPP model." PA, p37. This is not acceptable. The reconstruction of these roads should also be taken more seriously in terms of the effects, both in the short term and in terms of their presence causing decades of compaction, fragmentation, and hydrolic issues. Even if a road is not right next to a stream or stream crossing, there are still drainage issues associated, including subsurface drainage. Landslides and mass wasting have been shown to be correlated both to roads and to young managed timber stands. Log haul causes huge impacts to the soil, too, and this should be analyzed in terms of sediment. These impacts have been discussed in the EA s. 4.2.4.

184. The PA states, "[p]redicted erosion and sediment values are estimated to be accurate within plus or minus 50 percent of their true value". This leaves a lot of room for sediment risk that is not being planned for. Also, as far as I could tell, there were only 9 units of the over 340 units that the "Disturbed WEPP" module was utilized for. Only 2 of these were ground-based harvesting units. This does not seem like enough evidence on which to base a sound conclusion. Many assumptions are made in the PA about soil infiltration capabilities, and compaction, and how these will mitigate run-off and erosion. However, combined with flaws in the WEPP model, and on the ground observations in the area, these assumptions seem unsubstantiated. There is plenty of evidence that erosion related to man-made activities is taking place in the area, and that the soil does not always function in this optimal way, as described in the PA, which is assumed will mitigate the erosion and sediment caused by harvest. I observed several locations where sediment from erosion and landslides are washing directly into the drainages. As soon as I got to the area, I noticed a fairly recent landslide on 4620, near Sandstone Creek, above the road, where the hillside was cut to make the road. The sediment from that is draining onto the road and also into the eroded gully in the inboard ditch, which had too big a flow for the small culvert that was down the road just a few feet. This culvert was draining into the creek right next to Sandstone Creek. The outlet of this culvert also had problems; the velocity of the water was excessive and had created erosion in the creek bed. While this is not directly in the timber sale, it is the first thing I saw when I got out of my car, and I continued to find many similar examples everywhere I looked in the area. This is backed up by the Roads Analysis, and many road closure recommendations in the Watershed Analysis of the area. The area is definitely unstable, with recent and older landslides dotting the landscape, and many drainage and sediment issues. The lack of proof given in the PA that large amounts of sediment from harvest and road-related activities won't end up in the streams makes the conclusion that this sale won't affect water

quality or at risk fish stocks totally unsubstantiated. Agency specialists disagree with your claims. The WEPP analysis looked at a representative sample of units to display the risks of the various treatment types (s. 4.2.4.4).

ROADS AND CULVERTS

185. With so many roads posing extensive environmental risks, and with so little money to maintain them, why isn't the Forest Service more focused on following through with road closures or obliterations recommended in the Watershed Analysis and the Roads Analysis? It makes little sense to reopen those roads, creating new and lasting impacts, when they have been sited as environmental risks and recommended for closure or obliteration. See response to comments #3 and #4.

186. On just ONE SMALL AREA of the timber sale, I found that the timber sale units overlapped with, were accessible by, or directly adjacent to, approx 30 spur roads (that all or part of) had been listed as roads with "Low Access Needs and High Environmental Impact", in the Roads Analysis, p44. These are: 4620- 011, 012, 130, 140, 013, 150, 160, 170, 014, 174, 175, 011, 180,187 4621- mile posts 0 to 0.35, 120, 031, 015, 125, 130, 140, 150, 017, 160, 162, 170, 190, 220, 210, 200, 028. Many of the roads on this list are not only within the units, but have stream crossings and are within 200 feet of streams. This is only one area of the timber sale. I did not have time to investigate the other areas of the timber sale. Based on this one area, I'm sure that there are at least a few of these roads in the other units, too. Does the Forest Service know how many and which of the roads recommended for repairs and reopening are, in other documents, recommended for closure or obliteration? Which are they, and can we have a list of them, please? See response to comments #3 and #4.

187. The "High Environmental Impact, Low Access Needs" list in the Roads Analysis seemed to highlight some of the worst roads for composite environmental risks. There were other roads which were highlighted as resource risks by the Roads Analysis on various resource risk maps in the RA. Many of these are not on the "high environmental risk and low access needs" list (high composite risk and particularly unnecessary roads). Many roads in the area were highlighted on the maps as a high aquatic risk, or as a high wildlife risk. I did not have time to research which of these roads overlapped with the timber sale. Does the forest service have a map of which of the roads posing resource risks according to the RA are within or directly adjacent to the timber sale units? Of these, how many are level one, or pose hydrological risks? See response to comments #3 and #4.

188. In the Lower Clackamas Watershed Analysis, several of the roads recommended for closure or obliteration are on the list of roads to be reopened in the 2007 PA. These are: 4620-150, 174, 4621- 027, 019, 017, 018, 020, 125, 140 With several of the above roads, the WA recommended "terminal obliteration the entire length", or "obliteration and seeding for wildlife." These recommendations show that these roads are interfering with wildlife, and putting wildlife at risk. However, this timber sale is going to put work and money into these roads, and use then for activities which further disrupt wildlife. It is counter-productive, going against the Forest Service's own best science, and a waste of taxpayer money to reopen and repair roads that should be closed. It will simply cost more money to close them, or, if they remain open, then it will be at the cost of public resources. See response to comments #3 and #4.

189. The Lower Clackamas Watershed Analysis also proposes to "terminally obliterate the last .5 mile" of 5410. It appears that this section of road is in a harvest unit. Is this going to be obliterated when done? If not, why not? Is this one of the sections of road to be spot rocked and repaired? If so, this is an inappropriate use of taxpayer money. The last half mile of his road is not near any unit. There is currently no proposal for this road.

190. The Lower Clackamas Watershed Analysis also discusses problems on 4620 at the intersections with the 190 and 200 spurs (sections that are also listed in the Roads Analysis as "Low Access Needs and High Environmental Risk"), (the watershed analysis contains a typo – the location is where roads 190 and 020 join 4620.) and states that "[h]ead waters of Dugan Creek were diverted by construction of road 4620. Headwaters drain into Big Creek, causing massive gully erosion. These diverted flows have been scouring new channels into soft, highly erosive soils." They go on to suggest that one solution would be to restore the diverted flows back to original flow, with culvert under 4620. Or, another solution would be to stabilize the gullies that the diverted stream is flowing through. The intersection of 4620 at the 190 spur is in one of the units, and the 200 spur is right outside of a unit. Has this problem been fixed? If not, there is no evidence to show that logging right next to this area would not exacerbate such problems. The suggestion to put a culvert under the 4620 road to redirect the stream is outside the scope of this analysis. It would be appropriate to include this in a restoration EA where the effects and benefits can be better evaluated (s. 3.3.1.2). The proposed thinning would not exacerbate the erosion that has occurred.

191. On 2 pages out of 5 pages of the original 2007 Thin maps, within the unit boundaries or directly adjacent to them, there are approximately 61 high or moderate risk stream crossings according to the Roads Analysis. Even if the boundaries for some of these units changed, there are still plenty of moderate or high risk stream crossings within and adjacent to unit boundaries. This is an unacceptable situation. Also, I only had time to map at risk crossings on two pages of maps for the timber sale. There are five pages of these maps from the scoping period. Based on the first two pages, I would say that there are at least a few high and moderate risk stream crossings in the rest of the timber sale. The risk rating for stream crossings is one factor that would be considered when considering road decommissioning. Thinning practices would not alter the risk factor at an adjacent stream crossing.

192. This further suggests that the assumptions by the PA that there will be no significant or adverse effects on sediment, erosion, or water quality, are irresponsible. The resources in the area are already at risk from roads and poorly functioning stream crossings. (High or moderate risk stream crossings in the Roads Analysis do not imply that the culvers are poorly functioning. They score that way because they are on earthflows.) At the very least, the Forest Service should be directing their energies into correcting this dire situation. Proposing a massive timber sale in an already compromised area is ill-advised and short sighted. See response to comments #3 and #4.

193. Streams containing anadromous and resident fish run through and directly adjacent to more units than I can count (the map is also not very clear- the old scoping map doesn't have clear unit boundaries, and the newer map does not have the streams in as much detail). There are many, many fish-bearing streams in the direct area of the timber sale units. Though the PA dismisses the dangers and risks to resources, history, common sense, and science have shown that timber harvest and roads are responsible for many problems. According to the Collawash/ Hot Springs WA, increase in sediment production over recent years has likely already lowered fish productivity. (CHSWA, p3-27) The watershed analysis also states, "[e]xisting management related sediment production and delivery in the watershed comes primarily from the road system; some sites are chronic producers. Pathways for sediment transport and delivery have been expanded by road related drainage" (CHSWA, 1-6). The CHSWA continues, "[this causes] potential loss of aquatic habitat, with effects manifested downstream of this watershed" (page 1-6). The CHSWA's objective to "reduce human causes of erosion/sedimentation, related to timber harvest and roads", will not be met with reopening roads, log haul, skid trails, jagged gravel, unfixed culverts, bare soils, and compaction. The watershed analyses recommended thinning of plantations. See response to comment #1.

194. There is no such thing as a “temporary” road in terms of hydrological impacts. They are simply not subject to the same standards as other roads. Reopening so-called temporary roads in such a struggling area is not in keeping with trying to lessen road density and close or obliterate roads, which is what the Roads Analysis suggests. The Roads Analysis recognizes that even decommissioned roads may need to be opened (page 41). “Costs for decommissioning presume that the road would not be needed again for timber harvest or other uses. If the road were needed again, it would have to be reconstructed at additional cost that would be born by the timber purchaser.” See response to comments #3 and #4.

SPOTTED OWLS

195. The PA states that 2,953 acres of dispersal habitat will be degraded, and 985 acres removed. It goes on to state that this will be only a small percentage of the available acreage in the area available for dispersal, and so the impact is minimal. This is a very narrow and short sighted view. The Spotted Owl has continued to decline, largely due to habitat degradation, fragmentation, and timber harvest. This species needs all habitats available to it, and the Forest Service is supposed to protect this habitat for this species, not put it at risk. While the Forest Service dismisses the loss as small, 3,938 acres of dispersal habitat removed or degraded is an unacceptable risk for a declining species. The spotted owl would not be in this state of decline if the destruction of its habitat was not trivialized and rationalized, historically and through to the present. See response to comment #59.

SNAGS, CWD, REMNANT OLD GROWTH FEATURES

196. Units 2 and 4, in the special old growth areas, are currently inaccessible. Does this very thin strip of special old growth contain areas nearby that are more mature forest? If so, how nearby? Are there older remnant trees in this area? In this area and in the rest of the sale area, what is the snag density being managed for, and based on what studies? If snags or remnant trees are found, or areas rich in CWD, are they buffered to ensure their safety? What assurances exist to make sure that these rare and valuable features will not be destroyed? See response to comment #25.

CUMULATIVE IMPACT

197. There is going to be cumulative impacts involved with a sale of this magnitude, with so many resource risks and problems, and its history. Saying that the cumulative impacts are negligible is disingenuous. Cumulative impacts are disclosed under every resource in the EA.

198. There is not enough time for me to go further into the cumulative impacts of the sale, nor more in depth about any other concerns. If logging must go forward without an EIS, then please consider alternative C. And please in the future put more energy to obliteration of some of the many roads that the Forest Service can not afford to upkeep, and that your own scientists and analysts have recommended for closure. See response to comments #3 and #4.

Confederated Tribes of Warm Springs

199. Protect and enhance the huckleberry resource. Log over snow. Bring the tree tops to the landings. There are no units with more than incidental quantities of huckleberry. The EA contains seasonal restrictions for deer and elk winter range that do not allow for winter logging. There is a memorandum of understanding with the Oregon Department of Fish and Wildlife that requires this restriction. An open dialogue between Oregon Department of Fish and Wildlife and all other interested parties would be needed

to reexamine this policy. Most of this project area is lower elevation and may not have sufficient snow accumulation to allow winter logging.

200. Reduce open road density for deer and elk. Alternative C would close open roads.

201. Analysis of road density should consider roads that are hydrologically connected to stream channels to reduce sediment and magnitude of peak flows. When deciding which roads to consider closing, the Roads Analysis was used. Roads that had high resource risk scores were emphasized for closing.

Mazamas

202. The Mazamas would prefer Alternative A. However, if timber extraction must be carried out we would prefer Alternative C over B because of the road closures.

203. There will be significant effects from logging in riparian reserves and earthflows. The analysis found that project design and best management practices would protect these resources. The plantation thinning would enhance riparian reserves.

204. We would like to see the project broken into smaller more manageable pieces. See response to comment #33.

Joseph Auth

205. The Forest Service purposely chose the timing of the 30-day public comment period to discourage public comment. The comment period fell on the holiday season. Forest Service staff were on leave and unavailable to answer questions. Snow level this time of year makes the project inaccessible. See response to comments #37 and #71. Forest Service staff was available to answer questions. No calls, letters, emails, or phone messages were received asking questions.

206. The Forest Service did not provide supporting documents on the web site such as Biological Assessments. See response to comment #72.

207. I favor Alternative A. Alternative C is better than B because of the road closures.

208. Trees greater than 20 inches in LSRs should not be cut. See response to comments #14 and #22. This recommendation comes from the LSR assessment which recognized that there may be circumstances where this would be unavoidable.

209. This project should be delayed until an analysis is conducted to remove the roads listed in the Roads Analysis. See response to comments #3, #4 and #32.

210. Round gravel should be used to avoid damaging fish eggs. See response to comment #99.

211. Units 80, 182 and 348 should have no road construction due to high sediment probability. A WEPP analysis should be done for unit 346. The WEPP analysis looked at a representative sample of units to display the risks of the various treatment types. Unit 346 is represented by other units sampled (s. 4.2.4.4).

212. The EA should discuss seasonal restrictions for migratory birds. See response to comment #100.

Other

A package of 19 hand-written notes was received addressed to Kevin Slagle, Hood River Ranger District. They are from participants in a BARK sponsored hike. Many of the notes are barely legible and contain no addresses.

To summarize, the notes ask that we not build more roads, decommission problem roads, and better maintain the roads we have. These topics are covered by previous comments and responses.

Amy Harwood of BARK

Funding currently allocated for building logging roads should go instead to maintenance and decommissioning of existing roads. Temporary roads are built by timber sale operators; there is no federal funding for this. The value of the timber removed is basically what pays for the construction of temporary roads via an appraisal allowance. Therefore deleting temporary roads would not provide funding to do road maintenance or decommissioning. In fact, deleting the temporary roads would result in greater logging costs which would result in less funding being available for things like stewardship contracts and the road work that could be funded through them (s. 4.11).