

Appendix B - Response to Comments Jazz Thinning

The proposed action along with a preliminary assessment (which in addition to proposed action included the need for the proposal, the alternatives considered, and the environmental consequences) 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 December 19, 2011.

The responsible official has considered comments received and has developed the Jazz 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. In the responses, section numbers refer to the Environmental Assessment unless otherwise specified.

	Comment	Response
Artley	1. The log extraction will remove dead and dying material from the site and inhibit the recruitment of downed woody material as time progresses.	Thinning would reduce the amount of small wood (s. 3.8.2). Existing down wood would be retained and some new wood would be recruited (s. 1.4.9.3). Levels of down wood were assessed for soil productivity (s. 3.6.8) and wildlife habitat (s. 3.8.2). See issues statement at s. 1.6.1.2.
Artley	2. The log extraction will increase the edge effect and increase sunlight into stands, resulting from reduced canopy cover associated with timber harvest. This will directly promote the population abundance, productivity and persistence of insects which cause mortality to trees.	Local experience has not shown this to occur in Douglas-fir plantations in western Oregon. The analysis found the risk of insect mortality would be greater with no action (s. 3.1.3).
Artley	3. The log landings, temporary roads , skid trails and skyline chutes will be a source of sediment during precipitation events. The only way to prevent erosion from bare soil created by logging activities is to place sediment traps between all bare soil created and live water.	Erosion would be minimal due to the design criteria and best management practices (s. 1.4.9, s. 3.3.4.2, s. 3.6.6).
Artley	4. The log extraction will reduce the organic parent material (duff and woody residues) available for soil -formation processes.	Existing down wood would be retained and some would be created (s. 1.4.9.3) and woody residues

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		including branches and tree tops would be retained (s. 1.4.10). Duff and ground cover would be retained to protect long-term productivity (s. 3.6.8).
Artley	5. The log extraction will damage recreational opportunities and harms visual quality in the vicinity.	Previous experience with this type of treatment have not resulted in dramatic changes in scenery or altered recreational patterns. The effects to recreation and scenery have been addressed (s. 3.9 & 3.10)
Artley	6. The log extraction will adversely affect hydrologic processes by reducing canopy interception and evapotranspiration.	Hydrologic recovery is addressed and impacts were found to be minimal (s. 3.4.1).
Artley	7. The log extraction will decrease hydraulic conductivity and increases bulk density in forest soils after harvest.	Existing skid trails would be utilized (s. 1.4.9.5).
Artley	8. The log extraction will collapse some of the subsurface pipes, increasing local pore water pressure which increases the chance of landslides.	The project area has been examined in the field by a stability specialist and landslide prone areas were deleted from units (s. 3.5).
Artley	9. The log extraction will remove material that harbors a myriad of organisms, from bacteria and actinomycetes to higher fungi. These organisms play an important role in the forest.	Duff and woody debris would be retained to provide for these species (s. 3.6.8, s. 3.13).
Artley	10. The log extraction will remove dead and dying trees. This will eliminate the habitat required by bird species that feed on insects that attack living trees resulting in more frequent and larger insect outbreaks.	Snags would be retained where safety permits, (s. 1.4.9.2). Snags would be present to provide for birds that feed on insects (s. 3.8.2).
Artley	11. The forest is worth much more living than dead. Forests make immeasurably valuable contributions to our well being, from water filtration to clean air, from biodiversity to aesthetic delight.	The proposed action would result in live healthy stands (s. 1.3).
Artley	12. Given the damage to the natural resources caused by the timber sale clearly described in Attachment #1 this project does not reflect and is not consistent with “harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.”	Attachment #1 contains short statements that critique forest management actions. However many of the statements critique practices that are not proposed such as clearcutting, salvage, and using logging to reduce fire hazard. Many of the statements are opinion pieces. Those statements that relate to scientific research that are relevant to this project have been examined and are concepts that are commonly understood by the scientific specialists on the interdisciplinary team. The

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		proposed action was developed with an understanding of the relevant science. The science behind plantation thinning is sufficiently understood and is not highly controversial based on a review of the record that shows a thorough review of relevant scientific information including that contained in attachments.
Artley	13. The Preliminary Analysis mentions nothing about the need to secure NPDES permits for the roads planned to be constructed for this timber sale.	This issue is working its way through the courts. At this time the EPA does not require permits. If permits become required the agency will acquire the necessary permits (s. 3.5.6.6).
Artley	14. The map of the Jazz Thinning project sale area shows a road density that's so high that it will be impossible for the many natural resources in the vicinity to function properly.	Road density has been reduced through recent decommissioning efforts (s. 3.8.3.4).
Artley	15. No more system roads should be constructed. The Forest Service has not taken action to reduce the road density . Constructing temporary roads is not the answer.	The proposed action would not construct any system roads. The agency has decommissioned many roads (s. 3.12.1).
Artley	16. For decades the forest service has claimed that temporary roads are ecosystem benign because these roads will be obliterated after use. This would be true if the temporary roads were obliterated. Instead, the Responsible Official chooses to temporarily "decommission" the road. Any road left with a running surface is not temporary. Unless all new temporary roads are obliterated back to the natural angle of repose and all fills are returned to the cuts the temporary roads are hydrologically equivalent to system roads ... except they have no surfacing. A few twigs and other vegetative material scattered on the road surface and drainage dips is not a substitute for surfacing and a ditch insofar as sediment reduction is concerned.	The Jazz assessment has not made the claim that temporary roads are benign. The effects of the temporary roads are disclosed in many portions of section 3. The roads will be decommissioned by removing road drainage structures (culverts), restoring natural water drainage patterns, and making them undrivable (s. 1.4.6.2).
Artley	17. The new road construction will have compacted road surfaces which will generate overland flow during precipitation events. Much of this flow often enters the channel system, locally increasing peak flows.	Constructed roads would be outsloped and after completion, drainage would be reestablished during decommissioning (s. 1.4.6). Roads were included in the assessment of peak flows; impacts were found to be minimal (s. 3.4.1).
Artley	18. The new road construction will fragment wildlife habitat. Forest road avoidance leads to underutilization of habitats that are otherwise high	The new roads are very short and cross through already disturbed plantations. They would be

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	quality.	decommissioned after use. The effects of roads on wildlife habitat have been assessed (s. 3.8).
Artley	19. The new road construction will alter animal behavior by causing changes in home ranges, movement, reproductive success, and escape response.	The new roads are very short and would be used for a short period before they are decommissioned. The effects of roads on wildlife habitat have been assessed (s. 3.8).
Artley	20. The new road construction will divide large landscapes into smaller patches and convert interior habitat into edge habitat.	The new roads are very short and cross through already disturbed plantations. They would not fragment any interior mature forests habitats (s. 3.7, s. 3.8).
Artley	21. The new road construction will increase the isolation of populations or species which causes adverse wildlife genetic effects (i.e. inbreeding, depressed fertility/fecundity, and increased natal mortality) and decreased genetic diversity from genetic drift and bottlenecks.	The new roads are very short and cross through already disturbed plantations. The effects of roads on wildlife habitat have been assessed (s. 3.8).
Artley	22. The new road construction will increase the likelihood of poaching, overhunting, overfishing, excessive trapping and passive harassment of animals.	The new roads are very short and would be used for a short period before they are decommissioned. They would not be available to the public for hunting or fishing (s. 1.4.6).
Artley	23. The new road construction will adversely alter the subsurface hydrology of the area. They road's slope-cuts and ditching is likely to intersect the water table and interrupt natural subsurface water movement.	New roads would be outsloped and constructed without drainage ditches. After completion of the project; drainage would be reestablished during decommissioning (s. 1.4.6).
Artley	24. The new road construction will change the microclimate by altering temperature and moisture regimes. This adversely affects wildlife.	The effects of roads on wildlife habitat have been assessed (s. 3.8).
Artley	25. So-called temporary roads on the Mt. Hood National Forest are permanent sediment sources. A real temporary road is obliterated after use.	Temporary roads would be decommissioned (s. 1.4.6.2). Reestablishment of vegetation and other design criteria would minimize sediment entering streams (s. 1.4.9, s. 3.3.4.2, s. 3.6.6).
Artley	26. Chief Dombeck recognized the long-term ecological damage caused by forest road construction . To date, Responsible Officials have ignored Dr. Dombeck's prophetic wisdom. "Roads often cause serious ecological impacts. There are few more irreparable marks we can leave on the land than to build a road."	The effects of road construction is assessed throughout the EA.
Artley	27. Attachment #4 contains 54 statements by independent scientists that discuss the natural resources that are harmed (and some destroyed) by road-	Attachment #4 contains short statements about the impacts of roads. Some of the statements

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	related work in the forest. This Responsible Official should eliminate the resource harm described in the opposing views. If this is not possible, then the roads should not be constructed.	represent opinions. Those statements that relate to scientific research have been examined and are concepts that are commonly understood by the scientific specialists on the interdisciplinary team. The proposed action has been found to be consistent with the relevant science. The science behind the description of the effects of roads is understood and is not highly controversial based on a review of the record that shows a thorough review of relevant scientific information including that contained in attachment 4. The No Action alternative includes no road construction as does other alternatives considered (s. 2.3.1)
Artley	28. Temporary roads on the Clackamas River Ranger District causes environmental damage.	The effects of temporary roads are assessed throughout the EA.
Artley	29. The NEPA process requires the Responsible Official to analyze all reasonable alternatives in detail. The Jazz PA indicates that alternatives suggested by the public owners of the Forest were not analyzed in detail.	Several alternatives were considered (s. 2.3). While the alternatives were considered, they were not fully developed because the resource conflicts were resolved and no substantive cumulative effects were found with the proposed action (s. 3).
Artley	30. Attachment #8 describes how fire benefits the countless natural resources in the forest besides conifer tree species. The Responsible Official does not recognize this ecological fact. Decades ago the USFS adopted a policy to suppress all fires regardless of their proximity to the WUI. The beneficial effects if fire were eliminated by expensive, overly aggressive fire suppression in some cases. The USFS places a higher priority on merchantable conifer tree species rather than the countless other natural resources in the forest.	Attachment #8 contains short statements about the benefits of fire. Some of the statements represent opinions while others summarize scientific research. Many of the statements critique practices that are not part of the proposed action such as post fire salvage and fire suppression. Reducing fire hazard is not part of the project's purpose (s. 1.3).
Artley	31. As Attachment #5 shows, insect activity is a beneficial natural disturbance event in the forest. Of course insects kill trees. A forest has countless other natural resources in addition to conifer trees. The Responsible Official does not recognize this ecological fact.	Attachment #5 contains short statements about insects. Some of the statements represent opinions. Many of the statements critique practices that are not proposed such as salvage logging or logging to stop the spread of insects such as mountain pine beetle. The statements are primarily about widespread insect outbreaks that

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		are not applicable to the project area. Insects are discussed in section 3.1.
Artley	32. The Responsible Official should not attempt to take action that negates the proper functioning of the forest's natural resources to generate corporate profit .	Corporate profits are not part of the purpose and need (s. 1.3). The impact to resources are disclosed (s. 3).
Artley	33. Justifying natural resource harm caused by logging because it is " short-term " is an unjustified reason to propose to log the public land.	The assessment describes short and long term effects and benefits (s. 3).
Artley	34. Clearly the attachments to this comment letter constitute " best science. " For decades Forest Service leaders have told the public that agency projects are based on and are consistent with best science. This is clearly indicated in the words of Forest Service leaders shown in Attachment #15 . The information in the attachments is best science.	Attachment #15 contains short statements from speeches, interviews and testimony by agency employees and administrators about the consideration of best science in making decisions. The interdisciplinary team used current scientific information and research.
Artley	35. The reason this science literature is not included in the References is because the Responsible Official included only the science literature that supports commercial timber sales.	The reference section coincides with the citations made in the body of the document. It is not intended as a library of all research or a compendium of opinions of scientists.
Artley	36. On September 11, 2011 a federal judge approved a legal agreement between the Center for Biological Diversity and the U.S. Fish and Wildlife Service requiring the agency to make initial or final decisions on whether to add 757 imperiled plants and animals to the federal endangered species list by 2018. Please take appropriate action if any of the new species proposed for listing may exist or have habitat in, near or downstream from the sale area.	It would be premature at this time to speculate about the future work of a different agency. Rare species are included in current sensitive species and/or survey and manage lists. The Biological Evaluations found that the project would either not affect or would not likely cause a trend to Federal listing or loss of viability for listed species (s. 3.3.4.6, s. 3.8.1, s. 3.13).
Artley	37. To determine the correct actions to take when dealing with property owned by other people, a decision-maker should weigh the likely positive and negative effects of the proposed action. When the cumulative negative (or adverse) effects are greater than the cumulative positive effects, then the effects of the project as a whole are negative and the action should not be pursued. The effects should be calculated by the decision-maker according to how the property owners will feel based on their values and wishes. Attachment #13 shows that the general public does not want the natural resources in their forests harmed by development activities. Therefore, there must be some critical need for the decision-maker who is the caretaker of the	The EA fully analyses the effects of the proposed action (s. 3) and the public (land owners) were given the opportunity to review and comment during scoping and the 30-day comment period (s. 1.6). There is no private land in the vicinity of the project (s. 3.0.1). Attachment #13 contains short statements from public opinion polls. Instead of relying on opinion polls, the agency has undertaken a lengthy public involvement process beginning with the

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	public land to implement a timber sale opposed by the American citizens.	development of the Forest Plan and Northwest Forest Plan that set up land allocations and set the stage for potential management options (s. 1.2.2). The publicly elected members of Congress have repeatedly affirmed and directed that logging is an appropriate use of National Forest Lands. The current project has sought public input in the scoping phase and during the 30-day comment period (s. 1.6). Each of these efforts built on the work that had gone on before with ever increasing site specificity. This project is consistent with Forest Plan direction and will move the stands in a desired direction. The No-action Alternative was considered to reflect the views of individuals that prefer that strategy.
Artley	38. These laws do not allow commercial timber harvest if the water quality is harmed. Hundreds of scientific statements contained in the attachments and Chapter 3 of the Preliminary Assessment both indicate that the non-conifer tree species natural resources in the sale area will be damaged.	The assessment found minimal impact to water quality (s. 3.4). The project design criteria provide adequate protection to water quality (s. 1.4.9). Non-conifer tree species such as alder would be retained (s. 1.4.1, s. 3.1). See response to comment 27.
Artley	39. It is highly likely that the proposed timber harvest will damage other natural resources. For the natural resources that the Responsible Official determines might or could be degraded by the tree removal activities please describe the future restoration projects that will be necessary to return these resources to their pre-harvest health.	The proposal includes actions such as road decommissioning, erosion control and snag creation (1.4.9). No other future restoration projects are anticipated at this time.
Artley	40. The lumber market does not need the logs. The public isn't being told the real reason that this timber sale is being proposed.	The primary purpose of thinning is to enhance growth and diversity (s. 1.3). Providing forest products and associated employment is also important. Local lumber markets remain stable (s. 3.16).
Artley	41. The Responsible Official proposes to implement the Jazz Thin timber sale based on the guidance contained in the literature cited in the references section of the Preliminary Assessment. Most of this literature is authored by scientists employed by the USDA, thus it is biased toward the agency timber	The reference section is not intended to be a library of all research and public or scientific opinion. It includes the citations used by the scientific specialists in their analysis.

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	<p>culture. The literature cited in the Attachments to this comment document contains over 350 separate research findings and scientific conclusions that describe the ecological damage caused by most commercial timber sales. If the Responsible Official chooses to ignore the statements in the attachments because they are not specific to the Mill Creek–Council Mountain Landscape Restoration Project, then common sense and consistency dictate that all references in the References Section on pages 153 to 160 must be omitted from the final EIS. If the Responsible Official decides to keep the References and includes them in the final EIS he should explain why the USFS can cite non-project-specific references and the public may not.</p>	<p>The comments and conclusions in the Attachments have been considered even though they are not site specific.</p>
Clackamas Stewardship Partners (CSP)	<p>42. The Clackamas Stewardship Partners (CSP) would like to thank you and the other USFS staff involved for having considered in the Jazz Thin Preliminary Assessment all of the scoping comments submitted by CSP in its November 1, 2010 letter. Subsequent discussion indicate general consensus by the group in support of the proposed action presented in the Jazz Thin Preliminary Assessment. The discussions indicate that a point of disagreement among CSP members was whether or not gaps should be created silviculturally as part of thinning in Riparian Reserves.</p>	<p>Gaps are proposed to enhance diversity in the dry upland portion of the riparian reserves. See s. 1.6 and s. 3.12.6.</p>
Oregon Wild	<p>43. “Gaps” should be located no closer than one site-potential-tree height from streams - in order to ensure that streams are not unnecessarily deprived of dead wood, and to allow natural disturbance processes to determine ecological function in riparian reserves.</p>	<p>Gaps would be very small and would be at least 100 feet from streams (s. 1.4.1 & s. 1.4.2). Research has shown that most trees that fall into a stream originate much less than 100 feet away (s. 3.3.4.3). The NMFS has concurred that 100-foot setback for gaps is sufficient to both proved for diversity in riparian reserves and woody debris recruitment to streams. Stream protection buffers would provide an abundance of down wood into streams as suppressed trees die at similar rates as shown for No Action (s. 3.8.2.3). In the future, live trees within or outside the protection buffers could be felled if necessary to enhance in-stream woody debris. Appropriate sized trees could be felled toward the stream instead of relying on natural mortality and the uncertain direction of snag fall.</p>

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Oregon Wild	44. Skips should be at least 15% of treated acres (or more if riparian reserves are counted as skips) – in order to ensure a reliable, continuous, and well-distributed recruitment of dead wood structures. The final EA should conduct a quantitative analysis to determine the appropriate scale of untreated skips needed to ensure recruitment of 50-80+% DecAID tolerance levels of dead wood over the short-term AND long-term.	The assessment describes levels of snags for thinning units and at the landscape scale. The prescribed level of skips was developed to provide for diversity including woody debris recruitment (s. 3.8.2).
Oregon Wild	45. Canopy cover should be maintained above 40% (except within scattered 1-3 acre patches that are heavily thinned, but not clearcut, for diversity). This will minimize adverse effects to spotted owl dispersal , reduce adverse effects to spotted owl prey such as flying squirrels. The invasion of the barred owl requires that the Matrix be managed much more carefully to mitigate for the adverse competitive interactions between the spotted owl and the barred owl. This significant new development has not been addressed in any range-wide NEPA process.	The USFWS has concurred that going below 40% in the matrix would not likely adversely affect spotted owls (s. 3.7.5.2). The spotted owl recovery plan has addressed barred owls and other habitat factors for the range of the spotted owl. The long-term benefits of variable-density thinning for flying squirrels are likely to be positive because of the accelerated development of a lower canopy, which is critical for optimal late-seral conditions and the promotion of prey for spotted owl such as flying squirrels (s. 3.7.5.2).
Oregon Wild	46. We want the FS to use clear and compelling ecological rationale to justify large scale logging for restoration purposes.	The decision maker guided the project from the beginning and determined that the size of the project is prudent and efficient and that the purpose and need for action are compelling (s. 1.3). The size and scale of this and other plantation thinning projects are influenced by the timing of plantation growth. They reach a point in their development when action becomes prudent to meet stand and landscape desired conditions as established by the Forest Plan as amended.
Oregon Wild	47. Jazz Appendix A6 shows a high concentration of thinning in two owl circles - 3645P97 and 3672T90 located in CHU and LSR. The potential adverse effects of thinning should be carefully considered and minimized and mitigated. Are these active owl sites? How do the owls use the stands to be thinned? If they are used for foraging, the FS should consider recent scientific evidence showing that thinning has long-term adverse effects on flying squirrel populations, which are important spotted owl prey species.	The analysis shows that these two owl home ranges have habitat well above the minimum levels (s. 3.7.3). The proposed thinning units are dispersal habitat. The units that are within LSR/CHU would be treated to retain dispersal habitat (s. 3.7.5.2). Recent research has found that sufficient levels of closed canopy conditions could be maintained in skips and riparian reserve

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		protection buffers to provide for short-term flying squirrel needs while late-seral conditions develop (s. 3.7.5.2).
Oregon Wild	48. Jazz Appendix A3 shows a concentration of thinning units with likely entry in riparian reserves located in the Lower Collawash River Trib, Buckeye Creek, Happy Creek, and Upper Collawash River watersheds, which are also designated as key watersheds and special emphasis watersheds. The cumulative effects of these entries could be reduced by providing wider no-cut buffers along streams, and avoiding winter logging and hauling.	Cumulative effects have been assessed (s. 3.3, s. 3.4). The stream protection buffers were made wider in some areas (s. 1.4.9-4A3).
Oregon Wild	49. The FS dismissed Oregon Wild’s list of scoping recommendations to enhance the quality of restoration-thinning prescriptions by saying that this is addressed in the forest plan. This does not make sense. Bringing forward recommendations like these are exactly what NEPA scoping is meant for. Our recommendations are very specific to designing silvicultural prescriptions and mitigations applicable at the site- and stand- and landscape-level. The Forest Plan does not address all these issues. And, for those issues that may receive some mention in the forest plan, the forest plan is not the final word.	The list of design criteria in section 1.4.9 were used. There is substantial overlap between the proposed action and the Oregon Wild list.
Oregon Wild	50. The FS dismisses scoping concerns expressed by Pacific Rivers Council and Oregon Wild about the effects of thinning on dead wood recruitment in riparian reserves.	The analysis describes levels of wood recruitment (s. 3.8.2). See response to comment 43. The stream protection buffers were made wider in some areas (s. 1.4.9-4A3).
Oregon Wild	51. NEPA requires consideration of more than one action alternative when there are unresolved conflicts between alternative uses of natural resources. There may be unresolved trade-offs between thinning and recruitment of dead wood to meet aquatic and terrestrial habitat goals and other biophysical functions such as carbon storage. More action alternatives should be considered such as: a more balanced disposition of wood from the stand – less wood exported off-site and more wood retained for on-site recruitment; wider stream buffers; greater use of untreated skips embedded within thinning units; and dropping thinning units that require road construction, etc. Also, PA (p 100) discusses several LRMP standards & guidelines that are not being followed (e.g., B8-36 & FW-020, B8-40 & FW-018) because it is too expensive to conduct helicopter logging. This trade-off between	Section 2.3 discusses other alternatives considered.

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	economics and resource conditions represents an unresolved resource conflict that may deserve a NEPA alternative.	
Oregon Wild	52. Creating snags to mitigate for the loss of recruitment is a nice gesture but the mitigation effect is very short-lived. The EA should clearly document and compare the time period that created snags would remain standing versus the time period that snag recruitment rates would be adversely effected as a result of logging and exporting potential recruitment trees.	Section 3.8.2 contains a detailed discussion of snags. Created snags would function as long as similar size trees that die of natural causes (s. 3.8.2.3).
Oregon Wild	53. Table A3 shows that riparian buffers not located near listed fish habitat get less protection, and BMPs for tree felling state “B6.The distance separating a gap from LFH must be greater than the height of a site potential tree. The distance separating a gap from all other streams must be at least 100 feet.” (Jazz PA p 26). However, the NEPA analysis does not clearly explain why this policy difference is justified. The NWFP is based on ecosystem management (as opposed to single-species management) and recognizes that unlisted fish and amphibians should be protected to avoid the need for future listing. The ACS Objectives and standards & guidelines would seem to require consistent conservation throughout the full extent of riparian reserves.	The Northwest Forest Plan recognizes a hierarchy of streams. There are wider riparian reserves for fish bearing streams and greater emphasis placed on key watersheds where listed fish occur. The NMFS has concurred that gaps are important in riparian reserves for the enhancement of diversity and that the set back would maintain water temperature and wood recruitment (s. 3.3.4.1 & 3.3.4.3).
Oregon Wild	54. The PA provides false assurances to the public when it claims that the proposed thinning would meet forest plan standards or maintain viability of species. The forest plan standards do not provide assurance that ecological functions and habitat needs are being met because the current forest plan standards for dead wood are based on outdated and discredited “ potential population ” methodology. The FS has an ongoing duty to identify new information and keep its forest plan updated. The FS needs to follow NEPA and NFMA procedures to amend the Forest Plan and adopt new standards for snags and down wood. We are unclear how “modeling” can show “sufficient quantities of dead wood” when “sufficient” has not been defined, i.e., the FS has not adopted any new standards to replace the old outdated standards and ensure that sufficient green trees are retained to recruit ecologically appropriate levels of dead wood over time. Third, there is an unresolved issue here, but the FS just can’t see it yet. Commercial logging results in an unavoidable reduction in recruitment of biologically important structural features of late successional	The timing of the revision or amendment of the Forest Plan is outside the scope of this analysis. The analysis displays the conditions in relation to both the Forest Plan standards and guidelines and the DecAID model (s. 3.8.2). The analysis shows an abundance of snags across the landscape. Cumulative effects have been assessed at both landscape and stand scales. The project would provide for the viability of snag and down wood dependent species (s. 3.8.3.6).

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	habitat. This “captured mortality” is a long-term effect that presents an unresolved resource concern triggering more thorough NEPA analysis.	
Oregon Wild	55. The PA’s discussion of stand growth and productivity states that thinning will “maximize[e] the site’s potential.” This is a conclusion based on wood production, not biological production or other ecological indicators. The capacity of the stand to produce 2x4’s is probably not a good measure to use when considering restoration activities in LSRs, CHU, riparian reserves, etc.	Biological production and other ecological indicators are discussed in other parts of the EA such as fish (s. 3.3), soil (s. 3.6), wildlife (s. 3.7 & 3.8) and plants (s. 3.13).
Oregon Wild	56. The PA discussion of “stand diversity ” fails to fully and accurately describe the loss of structural diversity associated with dead wood that would be <i>exported from the site</i> as a result of thinning, instead of <i>recruited within the stand</i> to contribute to habitat structure. The stands currently lack diversity associated with snags and dead wood, and thinning will make that problem worse instead of better. Proposed mitigation will be very short-term compared to the time-scale of the adverse effects. The PA says there would be no adverse effects so no cumulative effects. This is not accurate.	There are many elements of diversity. The two fully developed alternatives show clear differences in the elements of diversity including decadence. The proposed action would provide for snags and diversity of horizontal and vertical structure (s. 3.2). Skips and gaps would be created (s. 1.4.1), and down wood would be retained and snags would be created (s. 1.4.9). The cumulative effects analysis describes the levels of snags at the landscape and stand scales would provide for the viability of snag dependent species (s. 3.8.3.6).
Oregon Wild	57. The PA does not provide a compelling rationale for intervention in riparian reserves . The No Action Alternative meets the ACS objectives. The PA incorrectly implies that logging is necessary to produce large wood to meet riparian functions. The effects of logging are likely both positive and negative with respect to ACS objectives, yet the PA does not clearly describe the effects or provide any way of weighing those competing effects.	The no action alternative does not provide the conditions desired for riparian reserves (s. 1.2.1, s. 1.2.2.1, s. 3.3.4.4). The impacts and benefits to aquatic resources are described in section 3.3. The analysis found that the proposed action meets the aquatic conservation strategy objectives.
Oregon Wild	58. The project appears to retard the riparian attribute most in need of improvement. Sometimes uninterrupted forest growth (i.e., without logging) can attain objectives faster and better than through logging. Such may be the case with riparian reserves.	Health, growth and diversity were the elements found to be in need of improvement (s. 1.3). Down wood levels were assessed for aquatic resources (s. 3.3). See response to comment 43.
Oregon Wild	59. Logging would reduce stream shade , in the short-term, and is unlikely to increase shade in the long-term. Any increase is speculative and it is unclear how the FS weighs <i>certain loss</i> of shade in one time period versus <i>speculative gain</i> in another time period.	Protection buffers would provide shade (s. 3.3.4.1). The steam protection buffers were made wider in some areas (s. 1.4.9-4A3).
Oregon Wild	60. Logging would reduce rather than increase the total volume of wood available for recruitment to streams . Logging might increase the size of a few trees at the expense of total wood recruitment, and there is no evidence	The protection buffers would provide small wood recruitment to streams (s. 3.3, s. 3.8.2). See response to comment 43. The steam protection

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	that a “larger” wood is necessary to stabilize small streams present in the project area, when small wood can do the job. And the FS provided no clarity on how they weighed the value of different patterns of wood recruitment in different time periods.	buffers were made wider in some areas (s. 1.4.9-4A3).
Oregon Wild	61. Thinning in the outer portion of the riparian reserves will detract from the optimal levels of dead wood that many terrestrial species need. The EA did not compare the results of thinning to the DecAID 80% tolerance levels over time.	DecAID is best used at landscape levels and is not considered an appropriate tool to focus in on parts of stands (s. 3.8.2). Portions of the watershed exceed the DecAID 80% tolerance levels due to landscape level disturbances such as fires and insect and disease (s. 3.8.2.4).
Oregon Wild	62. Evidence indicates that thinning will have an adverse effect on Large Woody Debris which is an indicator for at least three different ACS objectives, but the FS is trying to justify thinning based on other stand characteristics that are not identified as important to attainment of ACS objectives.	The ACS objectives do address other stand characteristics such as late-successional structure including large trees and the diversity created by skips and gaps (s. 3.3.4.7). Levels of large snags were not found to be substantially different between no action and variable density thinning (s. 3.8.2). See response to comment 43.
Oregon Wild	63. Thinning would first kill trees and decrease root strength and decrease slope stability. We are not aware of any published science showing that thinning would actually increase slope stability in any time period. Assuming for the sake of argument that such an effect is real, the PA failed to weigh the increased risk of landslides in the short-term versus the alleged decrease in the long-term.	Trees will remain after thinning to provide root strength to maintain slope stability. After thinning, it takes several years before the roots of harvested trees decay. Meanwhile the remaining trees would become healthier with improved root strength. The analysis of geologic stability found the project provides appropriate protections for stability (s. 3.5).
Oregon Wild	64. The PA does not disclose the effect of logging in terms of exporting a significant portion of the site productivity that has accumulated over the last 40-60 years. Soil productivity must also benefit if logs are recruited through natural processes, not just through management efforts. The trees that are being removed would presumably contribute to soil productivity if retained and allowed to become down logs through natural mortality processes, and site productivity would presumably suffer to some undisclosed degree if those logs are removed.	The effect of wood recruitment on soil productivity is addressed in s. 3.6.8.
Oregon Wild	65. The FS seems to be very patient and willing to wait 200 years for development of sufficient large snags to meet late successional objectives,	Late-successional conditions including large live trees, diverse multi-storied stands and sufficient

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	but the FS seems to be very impatient and unwilling to wait for riparian stands to develop understory diversity.	levels of large snags and down logs would be achieved sooner with the proposed action compared to no action (s. 3.1.4, s. 3.2, s. 3.8.2). The 200-year date was used for consistency with the timing of when habitat becomes optimal for spotted owl nesting (s. 3.8.2.3).
Oregon Wild	66. We appreciate the PA analysis showing that thinning will delay the attainment of 10 large snags per acre by 1 to 3 decades depending on how heavily thinned the stands are. However we are concerned that the analysis underplays the adverse impacts because untreated areas are included in the analysis, so the treated areas are actually delayed even more than shown in the graphs PA pages 114-115.	The graphs also show that the attainment of 10 snags per acre greater than 30 inches would occur 3 decades sooner with the action alternatives compared to no action (s. 3.8.2). The unthinned areas such as skips and riparian protection buffers are part of the proposed action and as such are included in the assessment of effects (s. 1.4).
Oregon Wild	67. The PA discloses the DecAID tolerance level of down wood under the no action alternative, and it says that “The proposed action would likely reach 50-80% tolerance level by the time the stand reaches maturity at 200 years of age,” but the PA does not disclose the effects of thinning on the near-term DecAID tolerance levels for snags and down wood. We are concerned that a proper analysis of snag recruitment over time compared to DecAID tolerance levels would show that thinning may not retain adequate numbers of green trees to meet objectives for LSR, riparian reserves, CHU, Key Watershed, etc. The PA focuses too much on the long-term while ignoring biologically relevant adverse effects in the near- and mid-term.	DecAID is best used at landscape levels and is not considered an appropriate tool to focus in on stands (s. 3.8.2). Additional detail on snags can be found in the Wildlife Specialist Report. The analysis describes the short and long-term projection for snags at both the stand and landscape levels. In the long term, levels of large snags would be similar for the proposed action and no action. Key species such as spotted owls will become more dependent on plantations as they mature and become nesting habitat. The analysis focused on that time frame.
Oregon Wild	68. The PA (p 124) says that “There would be sufficient snags from implementation through the age of maturity to provide roosting and foraging habitat to pileated woodpeckers and other cavity users.” This statement should be corroborated by comparing post-thinning stand condition to DecAID 50-80% tolerance levels. How many decades longer will it take to restore optimal habitat for pileated woodpecker if these stands are thinned as planned?	Pileated woodpecker needs are met across a large landscape. The analysis shows the project would not affect species viability (s. 3.8.3.6). DecAID is a landscape level tool. Actions at the stand or project level are included to analyze their contribution to the overall landscape level.

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BARK	69. The Jazz Timber sale is premised on the assumption that thinning grows bigger trees faster and that this outweighs the ecological impacts of increasing soil compaction, sedimentation, and peak flows while decreasing wildlife habitat, down woody debris and snags. This assumption is neither fully supported in scientific literature, nor apply equally to every stand of trees in the Jazz project area.	The EA contains no such premise. There is no assertion that growing bigger trees outweighs ecological impacts. The benefits of meeting the purpose and need and the impacts to various resources were assessed (s. 1.3, s. 3).
BARK	70. How will stands develop if they are left unthinned ?	This is described in section 3.1.4. Stands will become increasingly overcrowded and trees will die from inter tree competition.
BARK	71. It is not clear how restoration treatments may interact with or change disturbance regimes or alter hydrologic regimes.	Disturbance regimes are primarily determined by climate factors and would not be changed by thinning (s. 1.2). Thinning was found to have minimal impact on hydrology and the magnitude of stream flows (s. 3.4.1).
BARK	72. Knowledge on the impacts of variable density thinning and the inclusion of skips and gaps, including size and spatial arrangement, is still unknown . Results from most studies that have investigated these are still in early stages of development, so long-term trends remain clouded.	The latest science on variable density thinning with skips and gaps was considered preferable to uniform thinning without skips or gaps (s. 3.2).
BARK	73. Bark requests that the Forest Service engage with these questions and cautions and develop more reasoned and scientifically supported restoration-based alternative for inclusion in the Environmental Assessment. In the context of this scientific uncertainty about thinning projects, it is all the more important that the Forest Service present a range of alternatives that recognizes the different approaches to restoration, with a comparison of the costs and benefits of each approach.	See response to comment 72. A range of alternatives was considered, including those suggested by BARK (s. 2.3).
BARK	74. In Bark's scoping comments, we made it clear that there are several unresolved conflicts concerning alternative uses of resources, and specifically requested that the Forest Service drop all units in Late Successional Reserves and High Earthflow areas. To comply with NEPA, the Forest Service should have prepared alternatives that incorporated and assessed these two concerns, as they are reasonable alternatives to achieving forest restoration in the Collawash Watershed. Instead, the Forest Service dismissed these alternatives through the biased lens that active management is the <i>only</i> way for the watershed to recover	This option was considered (s. 2.3).
BARK	75. Rather than providing the high quality information NEPA requires in a	The level of detail of the proposed action with the

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	way that invites public understanding and participation, the Jazz PA was organized so as to make it very difficult to understand exactly what the impacts of the silvicultural treatments would be in any given unit. While the PA offers no specific details about the prescription for each unit , nor discusses the relationship between RD and percent canopy closure (both of which are used to discuss prescription and to assess impact), Bark knows that this information must exist to inform the future stand markings. Failure to provide them in the PA impedes our ability to provide informed, site-specific comments and analysis and thwarts the purpose of NEPA.	design criteria was used to describe the effects (s. 1.4). EAs are not intended to be encyclopedic in detail but contain information sufficient to make an informed decision.
BARK	76. Throughout the PA, the Forest Service describes the forests in the Jazz planning area as dense, over-crowded, experiencing growth suppression, etc. From Bark’s on-the-ground experience in the project area, many of the units actually have a rich diversity of life on the forest floor, with Oregon grape, vine maple, ferns and rhododendron. In many respects, this forest does not fit into the description of an impaired plantation stand that might benefit from human intervention. Indeed, most Jazz units have a much healthier and diverse understory than nearby areas that have already been thinned.	The current diversity and the range of understory plants is described in sections 3.1 and 3.2. The plantations do not have the desired forest structure or composition (s. 1.3). The action alternative would result in desired character faster than no action (s. 3.1, s. 3.2).
BARK	77. In analyzing Stand Productivity , the PA says little to no direct or indirect effects to stand growth or productivity from thinning. <i>PA at 47</i> . However, peppered throughout the PA are discussions of several negative impacts, including increased windthrow from to edge effects, understory damage and subsequent suppression due to soil compaction, damage to leave trees, loss of standing and downed dead wood, loss of understory vegetation and damage to mycorrhizal relationships.	Affects to productivity have been addressed including soil impacts, wind, root diseases etc. (s, 3.1, s. 3.6).
BARK	78. According to the Background Sediment Regime Map of the CHSWA (2-16), many of Jazz are in or adjacent to areas of the Collawash Riverbank categorized as “Ancient landslide (active and dormant). Because of the highly unstable nature of the proposed units, clearly and consistently indicated by the CHWA, increased sediment delivery from Jazz to streams will worsen water quality, regardless of the alleged forest stand condition improvements.	A stability specialist has reviewed the proposed units in the field and recommended boundary adjustment where necessary to provide for slope stability (s. 3.5). These adjustments along with stream protection buffers would minimize sediment delivery to streams (s. 3.3.4.2). There are no units directly adjacent to the Collawash Riverbank (see maps in appendix A). The nearest unit (82) is approximately 620 feet from the Collawash River well outside the lines shown on the Watershed Analysis map (Fisheries Biological

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		Assessment, p. 9).
BARK	79. The Forest Service unfortunately chose not to decommission all the roads identified in the preferred alternative of the Increment 2 EA . By selecting Alternative 4 rather than the preferred alternative, the Forest Service only decommissioned 170 miles instead of 255 miles. While the Jazz PA talks at length about the roads that will be decommissioned, it does not admit that the choice not to decommission 85 miles of roads will result in an additional 156 stream crossings being left on the landscape and an additional 571 tons of sediment delivered into the Collawash Watershed. Inc. 2 EA at 63. Many of these roads were kept open to facilitate the Jazz timber sale. In this context, re-opening more than eleven miles of road - even if only “temporarily” - will have a cumulative impact that is never captured by the Jazz PA.	The EA for Increment 2 of road decommissioning disclosed the effects and benefits of the chosen alternative. The effects of the current road system and the effects of ongoing road decommissioning are assessed as cumulative effects in several places such as s. 3.0.2, s. 3.3.4.5 & s. 3.8.3.4.
BARK	80. Thinning projects still have an impact on the hydrology of the area, including soil compaction from hauling and landings, road building, sediment from hauling, etc. It is well-documented that road-building and landings greatly elevate soil loss in a persistent fashion. The loss of topsoil via erosion irretrievably reduces soil productivity.	The effects to these resources have been assessed (s. 3.4, s. 3.6).
BARK	81. It appears that for its determination of system vs non-system roads , the Forest Service simply relied on existing maps and did not field check the roads and that several of the “open system roads” are mischaracterized and would more accurately be listed as existing road alignments that need to be rebuilt.	Based on field inspections, the roads have been accurately depicted on the maps. A road may have small trees growing on it and still be considered a system road. The analysis file contains detailed information about the maintenance needs for each road. The costs are summarized in s. 3.12.
BARK	82. Bark is very disappointed that the Jazz Timber Sale, as proposed, will reopen many miles of actively or passively decommissioned roads .	The effects of road reconstruction have been assessed. Not all decommissioned roads were proposed for reconstruction; only those that had minimal impacts to resources (s. 1.6.1.1). The impacts of road reconstruction are assessed in several sections of the EA including Fish (s. 3.3) and Hydrology (s. 3.4).
BARK	83. More substantively, Bark believes that the economic and environmental impact of re-opening already decommissioned roads far outweighs the slight benefits of the proposed thinning project, and requests that the Forest Service prepare an Alternative that does not include re-opening any	This alternative was considered (s. 2.3.1). See response to comment #82.

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	previously decommissioned roads.	
BARK	84. Even when temporary roads or haul routes can be rejuvenated with minimal earth movement, significant and long-lasting environmental impacts occur. Forest health doesn't automatically return to its prior level as soon as a road has been decommissioned, just because the Forest Service removes the road from its inventory. It often can take 20 years to successfully revegetate a road; in the meantime, the environmental impacts of the road remain. This is especially true when "decommissioned" roads are never intended to disappear, but are essentially stored for future projects which further compact soils and re-impact the area. This type of "decommissioning for storage" negates many of the claims of ecological recovery touted in the assessment.	The effects of roads have been assessed. See response to comment #82.
BARK	85. The Jazz PA also acknowledges that " log hauling has the potential to introduce sediment in small quantities into streams." <i>PA at 77</i> . Again, this is the type of vague statement that frustrates public review. How much potential? How much is "small"? When taking into account the over 80 miles of roads used for hauling, is it a "small" amount overall, or "small" amount per mile – which could be quite significant. In an already heavily impacted watershed, what is the impact of adding even a "small" amount of sediment from hauling (as well as sediment from road construction, landing, erosion, etc)? Hauling and other road use greatly increases the negative impact of the road network on sediment delivery and runoff effects on affected streams. The amount of sediment significantly increases when a dormant, revegetated road becomes a resurfaced haul route. Please provide more specific and quantifiable information in the EA.	The Biological Assessment for fish found minimal impact to listed fish and the NMFS concurred that the project including log hauling would not likely adversely affect listed fish (s. 3.3.4.6).
BARK	86. Paved and rocked roads contribute to sediment from hauling and Bark has identified several places on the landscape where there is a hydrologic connection between roads and streams that the Forest Service must address in the EA.	Sediment is addressed (s. 3.3.4.2).
BARK	87. We are concerned about the large amount of Riparian Reserve logging included in this project. Not only is the Collawash watershed very susceptible to landslides, but the Riparian Reserves in these units are recovering quite well. All the streams we have seen were covered in healthy riparian plant species, and most units had a vibrant understory – including western red cedar – growing up. The Jazz units appear to be a perfect	The riparian reserves do not have the desired forest structure or composition (s. 1.3). The action alternative would result in desired riparian character faster than no action (s. 3.3.4.4).

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	example of an area that is capable of recovering on its own.	
BARK	88. Bark fails to understand how 48 skyline yarding corridors over perennial streams up to 15 feet wide each, and up to 5 corridors per 1000 feet, would not result in an increase of water temperature. In addition, the project will reopen at least 12 stream crossings on decommissioned roads, many of which have re-grown riparian vegetation. These are all distinct canopy openings that can and should be quantified in terms of potential to increase stream temperature on this already degraded watershed.	Even with small canopy openings near streams, the total level of shade would prevent measurable increases in stream temperature (s. 3.3.4.1).
BARK	89. In addition to temperature increase, thinning in Riparian Reserves also can lead to increased sediment.	Because of the protections of project design criteria including stream protection buffers, the analysis found minimal effect to temperature or sediment (s. 3.3.4, s. 3.4).
BARK	90. The Jazz timber sale is located in the Transient Snow Zone, in which removal of canopy could increase snowpack and during the inevitable rain-on-snow events, increase peak flows. The PA fails to adequately quantify all of the openings created by this project and acknowledge the site specific impacts of decreased canopy closure and increased flows. Nowhere does the peak flows analysis discuss the 61 acres of roads, skid trails and landings that would be constructed (PA at 94) or the 50 acres of bare skyline corridors (PA at 94) or the 25 acres of clearcuts for elk (PA at 16). These 126 acres of deforestation, in conjunction with the overall decrease in canopy closure as much as 40% over more than a thousand acres, will absolutely increase peak flows on local creeks in the project area. In addition, the PA does not disclose how long it will take Jazz units to hydrologically recover after the canopy is decreased to an undisclosed percent. This information is crucial to making informed decisions.	The analysis of hydrologic recovery includes the effect of tree removal (including skyline corridors, gaps, heavy thins and forage enhancement), roads, skid trails and landings (s. 3.4.1). The analysis shows a very slight change (s. 3.4.1.4). Forest Plan standards and guidelines for hydrologic recover would be met.
BARK	91. One of the closest is the Collawash LSR, with 74% late successional forest. North Willamette Late Successional Reserve Assessment (NWLsRA) at 4-36. Confusingly, the PA states that the “LSR is currently at approximately 45% late-successional habitat” and is below the desired future condition level of 70% late successional habitat. PA at 107. If, indeed, the LSR is already at 74% late-successional habitat, with only 4% mid-seral habitat, is it honestly necessary to actively manage that 4% and incur the negative environmental tradeoffs, including increased edge effect and decreases snags and down woody debris?	The 45% figure represents the entire Collawash Watershed and was mistakenly entered in the LSR section. The correct figure is 67% and is different from the LSR Assessment figure due to more recent aerial photo interpretation and recent wild fires (s. 3.7.5.4).

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BARK	92. Logging operations increase the edge impacts around the mature forests that are currently providing ideal habitat for the northern spotted owl and create opportunity for species like the horned and barred owls to move in on the territory of the spotted owl. A high proportion of existing old-growth stands are largely edge habitat and would be subject to indirect effects of thinning of adjacent stands. The Jazz PA contained no analysis of the impact of increasing edge effects in LSOG stands through logging in LSRs.	The presence of clearcuts (and now plantations) adjacent to mature forest stands has resulted in fragmentation and edge impacts (s. 1.2, s. 3.2). These fragmented habitats are not considered ideal habitat for spotted owls. Barred owls are addressed in s. 3.7.4. Variable density thinning would accelerate the stands transition from dispersal habitat to nesting/roosting/foraging habitat (s. 1.6.1.3 & s. 3.7.5.2). As this transition occurs, the landscape would become less fragmented.
BARK	93. Another detrimental impact of logging in the LSR is the loss of existing snags and snag recruitment. Bark suggests that the Forest Service use a Mature drop and leave (MDL) prescription, which includes thinning conducted in stands where trees are large enough to be of commercial value which are not sold, but are left on the site. This alternative would obviate the need to build any roads, landings or skid trails to and in the LSRs, and the money saved could balance out the lost income.	Existing snags are very small (s. 3.8.2). There is no potential funding for this type of treatment. The deletion of LSR acres was considered (s. 2.3.2). If any of the small snags are lost for safety reasons, they would be left onsite and would improve site conditions for species that thrive in down wood environments such as flying squirrels, small mammals, amphibians and mollusks (s. 1.4.9.3). This option was considered (s. 2.3).
BARK	94. One of the most unique features about the LSR units is the diverse understory in many of the plantation stands, which speaks against the need to thin.	The LSR units do not have the desired forest structure or composition (s. 1.3). The action alternative would result in desired late-successional character faster than no action (s. 3.7.5.2). Understory plants will respond to thinning and accelerate forage production.
BARK	95. The Forest Service has not surveyed for owls in the Jazz Project area since 1994 – <i>over fifteen years ago</i> . Despite the utter lack of knowledge about how many Northern Spotted Owls are present in the area, and where their nest sites are, the Jazz PA makes that claim that this project is Not Likely to Adversely Affect (NLAA) Spotted Owls. As there are no surveys and thus the Forest Service cannot be sure where Spotted Owls are nesting, the USFWS developed “disruption distances” based on distance to the nest cannot possibly guarantee that nesting owls will not be disturbed by noise from the timber sale. <i>PA at 104</i> . Also, no surveys of owls means no surveys	The U. S. Fish and Wildlife Service has concurred that the project is not likely to adversely affect owls (s. 3.7.5.2). Because the project affects dispersal habitat, it is not critical to know the owls exact location (s. 3.7). Because the activity centers have not been verified recently, the disruption distances are expanded by an extra 300 meters (s. 3.7.4).

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	of Barred Owls - though the PA admits that they are thought to be increasing in the area.	
BARK	96. The Jazz sale will decrease snags, decrease canopy cover, decrease prey, increase competition and predation and increase noise and the Forest Service's assertion that Jazz is NLAA .	The U. S. Fish and Wildlife Service has concurred that the project is not likely to adversely affect owls (s. 3.7.5.2). The project is located in dispersal and not in nesting, roosting or foraging habitat for spotted owls. The project will accelerate tree growth to a size that is needed for suitable spotted owl habitat (s. 3.7.5.2).
BARK	97. While acknowledging that thinning reduces flying squirrel populations for 20-40 years, the PA failed to acknowledge that squirrel populations also decline in areas adjacent to thins, and failed to quantify what the affect of a decrease in its principle food source would mean for the spotted owl.	Owls forage over a very wide home range. The analysis shows that there is enough flying squirrel habitat within the home ranges to provide for foraging owls. The thinning would occur in dispersal habitat, which is not required to provide optimal spotted owl foraging opportunities (s. 3.7.5.2). Recent research indicates that skips and riparian protection buffers would provide sufficient flying squirrel habitat until late-seral conditions develop (s. 3.7.5.2).
BARK	98. In October, 2011, the U.S. Fish & Wildlife Service found that listing 29 mollusks under the ESA, many of which are currently Forest Service Sensitive Species , may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.	See response to comment #36.
BARK	99. Of particular concern in the Jazz Timber Sale is the Columbia duskysnail – a Sensitive Species. The Jazz PA admits that the Columbia duskysnail is known to exist in the project area, but that surveys were not done. The Columbia duskysnail often occurs in very small springs and is negatively impacted by timber harvest and road construction. Aquatic mollusks require clear, cold water with high dissolved oxygen levels. Logging degrades aquatic habitat via loss of shade, increased water temperature, decreased levels of dissolved oxygen, and increased sedimentation. Sedimentation can suffocate aquatic mollusks, interfere with their food supply, and kill their eggs. Bark requests that the Forest Service conduct surveys and provide the necessary buffers for the Columbia duskysnail.	The Columbia duskysnail is no longer on the Sensitive species list. The initial analysis found that the project may impact individuals or habitat, but would not likely contribute to a trend towards Federal listing or loss of viability to the population or species due to the protections provided by stream buffers. The EA has been corrected to show the Columbia duskysnail is not a sensitive species (s. 3.3.3 & s. 3.8.1.1).
BARK	100. The Jazz timber sale would result in 3-5 acre clearcuts in five different	The forage areas are not clear cuts but would

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	units, resulting in up to 25 acres of clearcuts in the sale area. <i>PA at 16</i> . This raises several questions for Bark, including: What monitoring, if any, has the Forest Service done to determine whether or not elk are using the gaps created in recent projects, like the 2007 Thin? What is the demonstrated need to create such gaps? Is there really a limit in forage? Are elk going hungry? Or is there a lack of elk in the ecosystem, and the Forest Service believes more may be recruited with more forage? Are such gaps the best way to provide forage? Why wouldn't the gaps naturally created from laminated root rot suffice? The PA does not address the necessity nor the effectiveness of these clear cuts.	retain 40 trees per acre (s. 1.4.5). Forage creation was requested during scoping. The need is described in s. 3.8.3.4.
BARK	101. Creating small clearcuts to increase browse for elk is discredited in scientific literature.	The research cited is for clearcuts in drier habitats and does not discredit the proposed treatment. The units proposed for forage enhancement were carefully selected after field inspection and contain desirable species that will respond after treatment (s. 1.4.5).
BARK	102. Several landscape features already offer early successional habitat for elk forage. There is a powerline corridor that goes through the area that is required to be kept in a permanent clearcut, and the View Lake Fire on the east side of the Bull of the Woods wilderness recently created significant early seral habitat.	These areas have been included in the analysis but do not provide enough forage at the landscape scale (s. 3.8.3.4). Recent fires were primarily in very steep rocky areas and are not expected to provide much usable forage. A distribution of forage openings is beneficial and desirable for elk to be able to take advantage of the forage in different seasons. Recent fires and the power line do have some forage value but do not provide sufficient forage opportunities on their own. The proposed action would create a more healthy population by providing forage in calving areas, summer and winter range. Areas with current elk use, especially with favorable vegetation for elk, are highly beneficial to improving conditions for a species that is being suppressed due to lack of forage opportunities (s. 1.4.5, s. 3.8.3.4).
BARK	103. An additional twenty five acres of clearcuts in the project area increases impacts on earthflows, peak flows, invasive species and habitat loss for other	The forage areas were included in the analysis of all resource effects including those listed (e.g. s.

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	species – none of which were analyzed in the PA. Bark requests that these elk clearcuts be either substantially justified and analyzed or removed from the project.	3.4.1.1). Agency biologists and ODFW biologists concur that forage is needed (see comments 180 to 186 below).
BARK	104. The Forest Service should exclude stands with high snag densities from harvest, or utilize buffers in order to protect snags, particularly legacy snags.	Snags present in the units are very small. Large legacy snags were felled when the stands were clearcut (s. 3.8.2).
BARK	105. The Jazz PA does not take the necessary steps to protect or retain snags, and so exacerbates current snag deficits. For example, the PA states that “all non-hazardous snags will be retained” but that it is likely some snags would be cut down for “safety”. <i>PA at 115</i> . Since snags are not clearly buffered, and skips do not reliably encompass even clusters of snags, this project does not ensure that any particular snag will be protected. Most snags could be considered a safety hazard if logging takes place nearby, or they could simply be knocked over during logging.	All snags would be retained where safety permits. Small snags that might be lost but those provide minimal value to species. Some snags would be created (s. 1.4.9).
BARK	106. The PA states that snags may be created within the sale area, possibly by topping live trees. However, little evidence exists that snag creation, particularly snags created from tree topping, are used by wildlife at the same rate as naturally created snags, or even that they remain standing at the same rates.	There is no assertion that the created snags would be better than others snags. See response to comment #52.
BARK	107. Bark requests that stands containing high densities of snags and legacy features, or multiple pockets of snags, be specifically excluded from logging. In Jazz units, no-cut buffers around legacy snags or pockets containing multiple snags should be implemented. No-cut buffers should be clearly defined and large enough to guarantee the retention of key snags so as to avoid situations in which they are felled due to safety regulations. In addition, “key” snags should be clearly defined and identified so that adequate communication with contractors can be maintained in regards to retaining these features, and monitoring efforts can accurately ascertain retention rates. In our scoping comments, we highlighted units 4 and 18 as containing legacy snags that we observed during ground-truthing. Please buffer these legacy features.	The protections for snags provide for snag dependent species across the landscape (s. 3.8.2).
BARK	108. The Jazz PA tries to mitigate the loss of snags by saying that after thinning, the trees will grow faster quicker – leading to larger snags in the future. <i>PA at 115</i> . This does not account for the time lag needed for the growth, death and decay necessary for these new snags to serve as	The short and long-term snag effects have been addressed (s. 3.8.2). Local experience indicates that snags created within the last 10 years are being used (s. 3.8.2.3).

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	functioning habitat for cavity nesters. Neither will the creation of snags as a part of the Jazz Timber Sale address the immediate need of snag-dependent species that will lose their homes and food sources as a result of this action. Again, there is a time lag between the creation of snags and their utility as habitat. A study on the use of created snags found trees killed within the last 10 years had little decay and had neither ant colonies nor adequate nesting or roosting cavities.	
BARK	109. While we appreciate the emphasis put on invasives in the Jazz PA, very little information was provided about what specific design features will put the project in compliance with management plan amendments from the Regional Invasive Plant ROD. The project inevitably will increase invasives, that will persist on the landscape, how will the Forest Service ensure that this area does not become further contaminated with the very invasive species that the agency is currently trying to remove?	Project design criteria are included at sections 1.4.9.6&7.
BARK	110. One plant species that could be further threatened by the proposal is the Sensitive Species <i>Sisyrinchium sarmentosum</i> , which was found in Unit 32. <i>Sisyrinchium sarmentosum</i> grows in seasonally wet meadows and is only found in Clackamas County in Oregon. As many of the headwaters of the creeks in the planning area finger into these wet areas, we are concerned about this species in the area. We have found potential habitat for <i>S. sarmentosum</i> south of Unit 2, between Units 2 & 4, throughout Units 16 and 18, and in Unit 32. The most serious threat to the species is invasion of its habitat by trees and shrubs. Timber harvest and recreational activities are also potential threats. Road maintenance and altered hydrology could also impact the species at certain sites by increased peak flows which would further drain moisture from the landscape. According to the LRMP “Habitat for sensitive plants shall be protected or improved. (LRMP 4-69). Please explain how logging would improve habitat for this Sensitive Species?	The project may impact individuals or habitat but is not likely to lead to a trend toward federal listing (s. 3.13.1). The protections provided were identified by a professional botanist. The quoted Forest Plan standard and guideline is FW – 175. In 1995 questions arose about its interpretation and the Forest issued Forest Plan Management Direction #7. The current interpretation is that this standard would be met if the project does not move species toward listing or threaten their viability.
BARK	111. The PA also notes that <i>Pseudocyphellaria rainierensis</i> is present in Unit 68. We are concerned that limited skips will be inadequate to protect the species, and request this unit be dropped.	The project may impact individuals or habitat but not likely to lead to a trend toward federal listing (s. 3.13.1). The protections provided were identified by a professional botanist.
BARK	112. Bark is also concerned about the potential seeding of grass for erosion control after timber harvest. Seeding grass can have a negative effect on indigenous ectomycorrhizal communities and compete with trees for water	Native grass seed is applied to bare soils to prevent erosion on a very small portion of the landscape (s. 1.4.9.6).

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	and nutrients. These effects are not seen with native grasses, and are exaggerated with exotic, non-mycorrhizae forming weeds such as canary grass, which is already present in the landscape.	
BARK	113. The Collawash watershed contains some of the most geologically unstable terrain in Mt. Hood National Forest. The CHSWA further recommends that roads built on unstable topography be removed in order to “maintain or restore natural flows” (CHWA, 1-7). Yet this project proposes to reopen at least 11 miles and construct 0.75 new miles of roads.	Geologic stability is addressed in section 3.5. The roads were examined by the Forest stability specialist and found to be stable.
BARK	114. The B8 Earthflow designation under the Mt. Hood National Forest LRMP gives explicit guidance for areas of high earthflow, including: “Ground machine yarding of logs should not occur.” (B8-036); “Soil Compaction should not exceed 8%.” (B8-40). Bark objects to the Forest Service specifically exempting itself from these two key guidances in the Jazz Timber Sale	Where there are existing skid trails and landings, it makes sense to reuse them. Design criteria minimize additional soil disturbance (s. 1.4.9, s. 3.6.5, s. 3.6.9). The Forest Plan provides a mechanism for making exceptions based on site-specific conditions and documentation (s. 1.2.2.2).
BARK	115. Almost every road Bark groundtruthers ventured up had landslides or significant slumping. In earthflow areas such as the Collawash, it is conceivable that entire road prisms, and all the aggregate and pollutants they contain, will fail and slide. The Forest Service cannot predict the movements of earthflows, and any projects that decrease canopy and increase soil compaction could lead to similar blowouts <i>even after</i> road repair.	A stability specialist examined the units and roads and made recommendations for modifications (s. 3.5).
BARK	116. All this to say that this is a highly unstable landscape!! And that roads and slopes are moving, and will continue to move, and that the Jazz Timber Sale is exacerbating all of the factors that activate earthflows. Bark strongly believes that continuing the pattern of active management in this unstable watershed is going to continue the occurrence of slumping, sliding and failing roads and slopes. The Forest Service should adhere to its statement in the PA that “known unstable or potentially unstable areas have already been deleted from the proposed thinning units” (<i>PA at 84</i>) and remove all units in High Earthflow areas, as they are inherently unstable.	The thinning would not exacerbate or activate earthflows (s. 3.5).
BARK	117. The majority of observable ground disturbances in the Jazz sale area are heavily compacted old skid trails, landings and temporary roads from the logging 40-60 years ago. <i>PA at 95</i> . All ground based units still show signs of skid trail compaction, without substantial recovery – even on gentle slopes. The soil remains detrimentally compacted far in excess of Forest Plan standards. Yet, despite the heavy compaction already present on these	Existing skid trails and landings would be reused (s. 1.4.9.5, s. 3.6).

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	unstable and degraded soils, the Jazz timber sale would increase compaction across the landscape.	
BARK	118. This is not the first timber sale in the Collawash watershed that has high compaction , and exempted itself from compliance with Forest Plan rules. Recent timber sales in the area have similarly exempted from the standards using the <i>exact same</i> boilerplate language for the exemptions. This clearly shows that the Forest Service is not making a thorough, site specific determination that this exemption is warranted. Bark is very concerned that the Forest Service will continue to exempt itself from Forest Plan standards in each and every timber sale, <i>and</i> will be disturbing the areas again.	The Forest Plan provides a mechanism for making exceptions based on site-specific conditions and documentation (s. 1.2.2.2, s. 3.6.9).
BARK	119. Rather than a timber sale that allows for almost triple to amount of compaction in earthflows, Bark suggests that the sale be modified so that NO new skid trails, landings or temporary roads are constructed in high Earthflow areas. With this alteration, ground-based yarding could occur only if it takes place on pre-existing alignments and results in no additional compaction.	Existing skid trails and landings would be reused (s. 1.4.9.5). The proposed actions would result in minor levels of additional compaction (s. 3.6). The objectives of earthflow stability would be met (s. 3.5). This option was considered (s. 2.3).
BARK	120. Though well established as one of the most important components of a forest ecosystem, which is adversely impacted by logging related activities, the Jazz PA contains no information about the impacts on Mycorrhizal fungi . If the Forest Service proposes to manage this stand for the forest health, it should definitely discuss the impacts to mycorrhizae—indeed 80% of all plants have mycorrhizal connections. The failure to discuss Mycorrhizal fungi is a glaring omission.	Design criteria minimize impact to micorrhizal fungi (s. 1.4.9, s. 3.6.2, s. 3.14.1).
BARK	121. Soil erosion would increase with the proposed action because bare soil would be exposed during implementation. The PA does not account for the inevitable time lag between project implementation and soil revegetation when it concludes that there will be “little effect to erosion” from the project. By not quantifying the amount of soil that will be lost, and the time necessary for revegetation, the PA does not capture the true impacts from soil erosion. Please correct this omission in the EA.	Erosion potential was found to be minimal (s. 3.6.6).
BARK	122. Removal of biomass from any forest limits said forest’s ability to sequester carbon for a period after the disturbance and can even turn the forest into a carbon source. Not only that, but the act of removing trees requires carbon emission. Moreover, reducing tree densities increases weatherization of dead biomass, which would increase carbon emissions	Carbon sequestration is addressed in s. 3.18.

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	from the forest more.	
BARK	123. Perhaps the Forest Service can learn a bit from the BLM about quantifying climate change numbers, then take it a step further and provide active mitigation measures to offset the carbon emitted and the loss of carbon sequestered by the sale. Please do so in the EA.	Climate change has been assessed (s. 3.18).
BARK	124. This extremely brief section of the PA read like an afterthought, and not an actual examination of the impacts of this project on recreation . A brief mention that “several roads access wilderness trail heads and Bagby Hotsprings” does no justice to how many people actually rely on this area for quiet recreation, nor what an impact hundreds of log trucks and the sounds and sights of heavy machinery – including helicopters – would have. We know that Mt. Hood National Forest has recreation specialists. Please have one write a real analysis on the impacts to recreation for the EA.	The effects to recreation have been assessed (s. 3.10).
BARK	125. The Forest Service assumes that the implementation of BMPs will sufficiently mitigate any problems that the proposed project will have on aquatic systems, but offers no proof of this assertion.	The Forest has conducted a review of BMPs (s. 3.4). Project design criteria were site-specifically developed to further minimize impacts (s. 1.4.9). The effects of the proposed action with BMPs and PDCs were assessed (s. 3.3, s. 3.4).
BARK	126. As this sale is almost certainly going to be implemented through a Stewardship Contract, with a Designation by Prescription, it is imperative that the Forest Service create specific monitoring points to ensure that the private company tasked to complete the project thoroughly understands variable density thinning, and complies with every single BMP, and throughout the marking, logging, hauling and completing the project.	The Forest has a process for tracking the development of contracts to ensure that requirements of the EA are included (s. 1.4.9.10). Certified contract administrators work with contractors to ensure compliance.
BARK	127. Not only does the size of the sale make it difficult for Bark to provide accurate public scrutiny, a project of this size is extremely challenging for the Forest Service itself to accurately analyze. Like Bark, expert agencies find themselves in a bind when a project area is as large as Jazz. In its NEPA documents, the Forest Service does not list key landscape features within the units, likely because the size of this project made it impossible to field check it in its entirety. As evidenced in the previous sections of this comment, the Forest Service has not provided specific or accurate information in the PA, making it impossible to comply with NEPA’s requirement to "insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken." We request that this	The project is not larger than similar projects in previous years. The project was developed in early 2010 allowing parts of three field seasons. All units were visited by multiple agency personnel. Project and resource detail has been obtained and summarized in the EA. In BARK’s November 2010 scoping letter, BARK indicates that it has visited most but not all of the units.

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	project be withdrawn until all logging units have been field checked by Forest Service personnel and documents redrafted with specific information.	
BARK	128. When an EA is issued for the project, we request that the Forest Service open an additional 30-day comment period to allow the public to offer our comments on what we hope will be a much more thorough analysis of the environmental effects and alternatives to the proposed action. This would allow the public time to determine whether the mistakes in the PA have been corrected. It would also help create a transparent proposal so the public can have a meaningful say in their public lands, and the agency can help foster trust with the public.	There is no provision in the regulations for multiple comment periods. The Decision and EA will be available for review during the appeal period.
BARK	129. To the best of our knowledge, it appears that active logging could occur on part or all of the timber sales covered by the following NEPA decisions: Collawash Thin, No Whiskey, South Fork Thin, Cloak, 2007 Thin, Upper Clack Thin and ReThin – together these sales impact over 10,000 acres in the Clackamas River Watershed resulting in cumulative effects .	Many of these listed projects are completed. Approximately 5,000 acres remain under contract with these projects. The majority of those are not in the Collawash Watershed. Cumulative effects for these projects whether completed or uncompleted were assessed in each resource section where applicable (e.g. s. 3.7.5.3).
BARK	130. Many units of the Jazz timber sale are directly adjacent to units of other thinning sales – thus increasing the impact of the sale. The PA tries to minimize the cumulative impacts in two ways; 1) by understating the direct impacts of the Jazz sale, especially to water quality, soils, wildlife and invasive plants, and 2) by only discussing cumulative impacts on a resource by resource basis – so the real impacts to all the resources from all the projects is never quantified or discussed.	The direct, indirect and cumulative effects to these resources were assessed in detail in the EA (s. 3).
BARK	131. As many of these timber sales have not yet been logged, and could be logged, yarded, hauled, etc. concurrently with Jazz, the actual impact to the watershed is far greater than ever analyzed in the PA. Until the actual impacts of the extensive concurrent logging already planned in the Clackamas watershed are actually known, the Forest Service cannot possibly make an accurate assessment of the additional impact of the Jazz sale. Planning yet another landscape level project in the Clackamas while there are thousands of lingering acres from projects past presents an unnecessary risk to the health of the watershed .	The cumulative effects associated with ongoing contracts was assessed (e.g. s. 3.7.5.3).
BARK	132. The EA needs to quantify the extent of the backlog of logging in the Clackamas River watershed, specifically in the Collawash, analyze the	The cumulative effects associated with ongoing contracts was assessed (e.g. s. 3.4.1.1 & s.

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	actual impacts of the road building, logging and hauling in the watershed, and meaningfully discuss the additional impact of the Jazz project on the environment.	3.7.5.3).
BARK	<p>133. We include this section so that the Forest Service can modify the Jazz sale to remove these units and protect these special areas of concern, where thinning and road building will do much more ecological harm than good.</p> <p><i>Unit 2:</i> Has a wetland to the west of unit, and a stream to the east. The unit itself is on a small hillock right above these wet features, containing rhodies, chinkapin, and salal. This plant community at the top of the hillock signifies a dry area which means that water is moving quickly out of the area and into these wet meadows below. Logging will only expedite the moisture from the area, and add sediment to the meadow below. Too much sediment in a meadow could fill it in and alter the conditions.</p> <p><i>Unit 4:</i> To the north of the unit is a wet meadow filling in with cattails. Cattails are normally only present as early successional species. All around this are giant cedar stumps. Logging the riparian areas in the past hugely altered the landscape, and Jazz would continue that trend. There is also old growth that borders the southern portion of the unit and no roadway that leads into the unit.</p> <p><i>Unit 18:</i> Slide Creek, as its name suggests, has a wide flood plain and there are plenty of instances of channel jumping. In some areas there are cattails and alders growing along the banks in an area that should be forested. The “existing alignment that goes into the unit from the south is non-existent, would require a log crossing and would drive over the roots of a giant cedar. This unit is very wet, very open, and shows signs of plenty of natural recovery already.</p> <p><i>Unit 44:</i> Has rocky outcrops, wet areas with skunk cabbage, a creek along the N. boundary that is not marked on maps, more snags than most units in the sale (some even with a 5 feet dbh), a more mixed forest with Noble Fir, a decent amount of downed wood in various decay states, and a more open canopy which allows a diverse understory including calypso orchids.</p>	<p>Thinning these units was found to be appropriate.</p> <p>Unit 2 is a helicopter thinning and was found to protect and enhance riparian reserves.</p> <p>Unit 4 is a helicopter thinning and was found to protect and enhance riparian reserves.</p> <p>The term ‘flood plain’ is inappropriate for this stream. The road into unit 18 does exist and was never decommissioned.</p> <p>Rock outcrops, wet areas and streams would be buffered or included in skips.</p>

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	<p><i>Unit 56:</i> On a 50 to 60% slope to the west. 6310 switchbacks through the unit, making two roads only 100 feet apart on this steep slope. On 6/18/2011, small rock slides were noted in FSR6310. It's likely that only the trees are holding this fragile hill together and loss of tree roots could lead to more landslides.</p> <p><i>Unit 70:</i> This unit is approximately 1/3 of a mile down a road that was nicely decommissioned just last year. This unit has old growth on both the east and west sides, borders the new wilderness expansion of Bull of the Woods, and cutthroat trout are present in Buckeye Creek which runs about an 1/8 of a mile to the north of the unit. The unit itself has a nice rolling topography with microclimate pockets throughout and is naturally restoring.</p> <p><i>Units 104 and 106:</i> While these stands are even-aged, there is a diversity of hardwoods and shrubs in the understory such as rhodies, vine maples, and a rich herbaceous understory. Also some of these canopy trees are starting to hit the forest floor showing that the stand is taking care of itself.</p>	<p>A stability specialist examined unit 56 and adjusted the boundary. The remaining unit shape had no concerns (s. 3.5.3).</p> <p>Variable density thinning and temporarily reopening the road were assessed and found to be appropriate.</p> <p>Variable density thinning was assessed and found to be appropriate.</p>
BARK	<p>134. Summary of BARK's form email.</p> <p>I oppose the Jazz Timber Sale due to its vast size, the threats it poses to water quality, and the re-opening of previously decommissioned roads.</p>	<p>The following 4 paragraphs were received approximately 300 times from individuals that visited the BARK web site.</p>
	<p>135. The Collawash Watershed has extremely unstable geology and is very prone to landslide. In such a wet area of the forest with soils that have been disturbed from a long history of heavy logging, how is it possible that more logging and road development won't further degrade soils and threaten water quality? I'm concerned about the threats that logging activity pose to aquatic habitat and water quality in this drinking watershed, especially as it provides key habitat for the last wild run of winter coho salmon.</p>	<p>The issues raised are discussed in the EA (s. 3.3, s. 3.4, 3.5).</p>
	<p>136. I am opposed to the Forest Service re-opening eleven miles of previously decommissioned roads at the behest of timber interests. These roads are recovering on the landscape and the re-construction of these alignments represents short-sighted planning that will undo the good work of past decommissioning and the use of public dollars for that work. It is especially frustrating that roads slated for decommissioning in the Increment</p>	<p>Of these reused road alignments, 5 miles were not actively decommissioned (s. 1.4.6.2). However all of these alignments will be decommissioned after harvest. The effects of reopening roads are discussed in various parts of the EA (e.g. s. 3.3.4.2). The option of not building</p>

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	II Road Decommissioning project were left on the landscape for this timber sale, while still more roads that lead to quiet recreation opportunities remain unimproved and continue to degrade water quality. The Jazz Timber Sale should not be planned in such a way that it re-opens roads that are already decommissioned and recovering.	roads was considered (s. 2.3.1).
	137. The Jazz Timber Sale is too large for meaningful public review. As a member of the public it is extremely difficult to understand, assess, or witness the true impacts of this sale because it is so large and spread over such a vast area. As much of the sale is now under snow and difficult to reach, how am I as a member of the public able to see for myself what is happening on the ground in this sale?	Because scoping began in September of 2010, there has been ample time free of snow to examine the project area (s. 1.6). The project is not any larger than projects that have been planned in the past 8 years. The size of the project makes planning more efficient than conducting 2 or 3 simultaneous planning efforts and facilitates cumulative effects analysis. See response to comment 127.
	138. It is time for the Forest Service to recognize that continued logging of landscapes recovering from a long history of mismanagement and clearcuts is not the way to restore the forest. The Timber Program in Mt. Hood should not be dictating road management or restoration activities. Make a better choice. Start with the Jazz Timber Sale. Please cancel this project.	Decisions about timber management and road decommissioning have been made separately (s. 3.12.4).
	The following 6 individuals from the BARK web site form email inserted additional or modified comments:	
Melanie Mintmier	139. I strongly oppose the Jazz Timber Sale because neither Mt Hood, Oregon, the U.S., nor the world can tolerate another 2000 acres of logging. And profits from this activity are simply not benefitting the people of the U.S. or Oregon state to any justifiable extent (and filling the coffers of timber firms, pulp mills, and the like should also not be supported by Federal Agencies using OUR land and natural resources).	The purpose and need for the project do not include profits; however the benefits to local and regional economies was assessed (s. 1.3 & 3.16).
Mark Ottenad	140. The Collawash Watershed is a major tributary of the Clackamas River, a key domestic water source for approximately 500,00 Portland-area residents. The cities of Estacada, Lake Oswego, Gladstone, Oregon City and West Linn and several water districts—including Clackamas River Water, North Clackamas County Water Commission, Oak Lodge Water District, Sunrise Water Authority, South Fork Water Board—are all dependent on a clean, consistent-flow of water from the Clackamas River.	The project with design criteria would protect water quality (s. 3.3 & s. 3.4).
Marilyn	141. Normally, I write my own letter, to express only my family's concerns,	

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Dunham Jeff Dunham	<p>which are not necessarily those of whichever group is organizing a letter campaign. but the pre-written letter following my comments really nails it for me.</p> <p>Our current economy definitely needs the jobs such a timber sale would generate. And finding another way to create so many jobs will be tough. But the employment generated by this timber sale comes at a major cost: consumers will face increased water safety expenses as the watershed is disrupted. And the reduced habitat for a commercially important wild animal- the salmon- will further crush an already struggling job sector. These economic factors will be long term. The environmental damage will also be long term. In fact, it is unclear how much more habitat degradation the salmon species can survive. Destroying natural resources destroys long-term economic benefits.</p>	The project with design criteria would protect water quality and fisheries (s. 3.3 & 3.4).
Tina Mohler	142. Finally, while there is an old argument that we "need" to log in order to provide ourselves with materials made from lumber , it is clear at this point that we are becoming a timber colony to asia. If the timber goes to asia, it is clearly not serving tangible needs we have here in Oregon.	The logs from federal forests are not exported. After forest products are manufactured there are fewer restrictions on their ultimate destination. The United States is a net importer of lumber.
Borden Beck	143. I read about the Fish and Wildlife Dept. releasing bull trout into the Collawash in an effort to reestablish a population because it remains one of the last relatively pristine west Cascade watersheds.	Bull trout were not released in the Collawash River but in the Clackamas River (s. 3.3.2).
Borden Beck	144. Yes clear-cutting timber provides jobs, but that should not be seen as the primary use of our natural public resources and in this case is a poor choice driven by timber companies and their beholden.	The project does not include any clearcutting (s. 1.4).
Jim Rice	145. I support the Jazz Timber Sale due to its vast size , the protections provide for water quality, and the re-opening of previously decommissioned roads. The Collawash Watershed is in need of commercial thinning. In such a wet area of the forest with highly productive soils the trees grow so fast that thinning is needed even sooner than other areas within the Clackamas watershed. The area needs more logging, thinning and good forestry practices to reduce the threats to the aquatic habitats and water quality? I'm NOT concerned about the threats that logging activity pose to aquatic habitat and water quality in this drinking watershed, especially since key habitat for the last wild run of winter coho salmon and the spotted owl are protected.	The issues raised are discussed in the EA (s. 3.3, s. 3.4, & 3.5).
Jim Rice	146. I totally support the Forest Service re-opening eleven miles of	Of these reused road alignments, 5 miles were not

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	previously decommissioned roads at the behest of forest restoration interests. These roads are needed on the landscape for good forest management. It is especially fulfilling that roads slated for decommissioning in the Increment II Road Decommissioning project were left on the landscape for this timber sale, while still more roads that lead to elitist recreation opportunities will get road the road maintenance that they need. The Jazz Timber Sale has been planned in such a way that it re-opens only the roads that are needed for good forestry and restoration work.	actively decommissioned (s. 1.4.6.2). The effects of reopening roads are discussed in various parts of the EA (e.g. s. 3.3.4.2).
Jim Rice	147. The Jazz Timber Sale is the perfect size for meaningful public review. As a member of the public it is easy to understand, assess, and witness the true impacts of this sale because of the lengthy public involvement process, collaboration and excellent planning work done by the resource professionals of the Clackamas River RD. I am totally confident that the USFS employees will proceed with this project in a timely manner that protects all of the resources.	Scoping began in September of 2010 (s. 1.6). The project is similar in size compared to projects that have been planned in the past 8 years.
Jim Rice	148. It is time for the Forest Service to recognize that continued large scale logging of landscapes using restoration forestry practices is exactly what is needed. The Timber Program in Mt. Hood should also be proposing road management or restoration activities. This project was a good choice. Start with the Jazz Timber Sale. Please hurry up and implement this project.	Decisions about timber management and road decommissioning have been made separately (s. 3.12.4).
BARK	Summary of BARK's form paper input.	Approximately 2,000 preprinted form letters were received in two versions; the first 2 paragraphs were most common but many contained the text from the 3 rd and 4 th paragraphs below. These form letters were gathered, boxed and mailed by BARK. Some individuals signed more than one copy and some also submitted the email form discussed above.
	149. I am writing concerning the Jazz Timber Sale in Mt. Hood National Forest. The Jazz sale would log 2,000 acres spanning about 30 square miles, preventing the public, let alone the Forest Service, from gauging the environmental effects of this proposal. The Collawash Watershed includes some of the most geologically unstable terrain in Mt. Hood National Forest, yet it is home to threatened steelhead and salmon, including a rare stock of winter run coho, once widespread through the Columbia River Basin but	The issues raised are discussed in the EA (s. 3.3, s. 3.4, & 3.5). The size of the project makes planning more efficient and facilitates consideration of cumulative effects.

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	now restricted to the lower Clackamas River, of which the Collawash is the biggest tributary.	
	<p>150. The Jazz sale includes logging in the Wild and Scenic River corridor, adjacent to the Bull of the Woods, and in Late Successional Reserves that are supposed to be managed for species dependent on old growth forest.</p> <p>Finally, it requires the construction of 12 miles of roads that the Forest Service already spent money to decommission! The Jazz Timber Sale damages a world-class watershed and the proposal should be withdrawn.</p>	<p>The proposed treatments were found to enhance vegetative structure and composition in these lands (s. 1.2.2.1).</p> <p>Five miles of these alignments were not actively decommissioned (s. 1.4.6.2). However, all of these alignments will be decommissioned after harvest. The effects of reopening roads are discussed in various parts of the EA (e.g. s. 3.3.4.2). The no action alternative was considered (s. 2.1).</p>
	<p>151. I am writing to oppose the Jazz Timber Sale in the Collawash Watershed of the Mt. Hood National Forest. The Jazz sale would log 2000 acres spanning about 40 square miles in the most geologically unstable watershed in the Mt. Hood and the comment period is being held while much of the sale is under snow. These conditions make it more difficult for the public to review the sale as it is widely dispersed over the landscape.? The Jazz Timber sale will re-build 11 miles of previously decommissioned roads and degrade soil, water quality and wildlife habitat across the watershed. I'm concerned about the adverse impacts of this sale to adjacent old growth stands, the 'Outstandingly Remarkable' conditions of the Collawash Watershed, the last wild run of Winter Coho Salmon that were once widespread through the Columbia River Basin, and the visual impact of logging adjacent to the Bull of the Woods Wilderness.</p>	<p>Because scoping began in September of 2010, there has been ample time free of snow to examine the project area (s. 1.6). See responses to comments 127, 135, 136, 149.</p>
	<p>152. This land is in recovery from decades of mismanagement and overlogging. How is it possible that continued logging and road building will improve the soils, waterways, or wildlife and plant habitat in this area? Please cancel the Jazz Timber Sale.</p>	<p>The issues raised are discussed in the EA (s. 3.3, s. 3.4, s. 3.5.6, & s. 3.7).</p>
BARK	<p>153. Several hand written cards have been received from BARK from folks that attended their field trips to Jazz.</p>	<p>Some of the cards came from individuals that also submitted email or form letter input. Many have no names. While each card is different, they contain essentially similar comments to those expressed in the email and form letter campaign</p>

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		addressed above in comments 134 to 152 and 163 to 168.
Charlie Ferranti	<p>154. The 30' no-harvest/no-cut buffer on intermittent/ephemeral streams provides insufficient ecosystem protection. As made utterly and completely clear by Forest Ecosystem Management Assessment Team [FEMAT] and Northwest Forest Plan [NFP], The Riparian Reserve buffer system is focused on both aquatic <u>and terrestrial environments</u>. The current protection buffer of 30' for intermittent streams is insufficient for that purpose.</p> <p>Extending the intermittent stream buffers to either the feature-based approach (p. 25) or a 50' buffer for all intermittent streams would reduce the negative impact of the Jazz Thinning on Survey and Manage species, especially amphibians. The current intermittent stream buffer plan is in place to protect TES listed fish species and appears to forget an important piece of the Northwest Forest Plan's Reserve concept, namely protecting a broad array of forest dependent species.</p>	<p>The 30-foot protection buffer would provide for aquatic and terrestrial species (s. 3.3, 3.8.1). Thinning in the rest of the riparian reserve was found to be desirable to benefit late-successional dependent species (s. 3.3.4.4).</p>
Charlie Ferranti	<p>155. Regardless of the Pechman exemptions, the Jazz PA's assertion that there is no impact to the Oregon Slender Salamander because the stands are too young is in error. Numerous studies of the Oregon Slender Salamander report that its habitat is closely related to medium to large down woody debris in decay class 4-5. The assertion that "there are no known existing sites for survey and manage species in the proposed thinning units" is only true because Pechman allows for the agency to be actively uninformed. To know, one needs to look.</p>	<p>The Pechman exemption applies to survey and manage species. The Oregon slender salamander is not on the survey and manage list. This species was listed as a sensitive species but it has been removed from the most recent list due to its abundance throughout its range. The EA has been corrected to remove this species from the sensitive species discussion (s. 3.8.1.1). The down logs that provide potential habitat for this species would be retained (s. 1.4.9.3).</p>
Jeremy Mills	<p>156. In the media I have heard that there are municipal water sources in the Collawash Watershed. If this is correct the impacts on these water systems should be analyzed. This analysis should include the socioeconomic impacts on communities that draw municipal water from the Collawash Watershed.</p>	<p>The effects to water quality were assessed (s. 3.4). No water is directly withdrawn from the Collawash River for municipal use. The first water withdrawal for municipal use is many miles downstream on the Clackamas River for the City of Estacada.</p>
Jeremy Mills	<p>157. There should be a well developed monitoring plan to determine whether the Purpose and Need for the project is reached through the proposed action. This monitoring plan should include comparable control and treatment stands so that the impacts over time can be measured. The monitoring</p>	<p>Monitoring is discussed in s. 1.4.9. Past research and monitoring has been conducted to evaluate the impacts of this type of treatment. The cause and effect relationships for this type of project are</p>

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	should look at wildlife impacts including the impact on flying squirrels as discussed in the December 18, 2011 Oregonian on page B1.	understood and project level monitoring is not warranted.
Jeremy Mills	158. Would planting other tree species in the openings created by the proposed thinning be an effective way of achieving the purpose and need of a “mix of tree species?”	It is likely that tree species such as hemlock and alder would naturally seed in to gaps and forge openings.
Jeremy Mills	159. It is unclear what volume of timber will be harvested.	This is included at sections 2.4 & 3.16.
Jeremy Mills	160. The economics and financial analysis section (3.16 page 147) does not fully explain how costs are assigned to the project. As discussed on page 139 in the response to comments, the “biggest cost centers for the Jazz project are not the temporary roads but costs associated with maintaining and repairing certain system roads that are needed for long-term management such as road 63 and 6340 which access wilderness trail heads.” If the roads are needed primarily for recreation management, why are they not paid for out of the recreation budget? If the project had to pay a smaller portion of the costs to maintain system roads such as road 63 and 6340 could the thinning be better targeted?	There is no funding in the recreation budget to repair or maintain these roads. Contractors that use roads for timber haul are required to perform maintenance and repairs commensurate with their level of use (s. 3.12).
Jeremy Mills	161. I am concerned about the amount of activity proposed in riparian reserves and how this will affect riparian and aquatic species. What is the relationship between the NOAA Fisheries Letter of Concurrence discussed here and the November 6, 2009 NOAA letter of nonconcurrence on the 2007-2009 Low-Risk Thinning Timber Sales Programmatic Action for the Lower Columbia/Willamette Recovery Domain? How does the thinning proposed in the Jazz Timber Sale differ from the Low-Risk Thinning Timber Sales Programmatic Action for the Lower Columbia/Willamette Recovery Domain?	The Jazz project is not covered by that programmatic consultation document. Jazz has project specific consultation (s. 3.3). The Jazz project with its design criteria are similar to the types of projects included in the previous programmatic documents.
Jeremy Mills	162. The botany section (3.13) is inconsistent and does not provide complete information for a reviewer. There should be brief discussions and common names of the rare species discussed similar to the discussions of invasive plants and unwanted vegetation. In section (3.14) it should be made more clear that Equisetum telmatei is a native plant.	The Botany Biological Evaluation has detailed information on these species.
Michael Krochta	163. The Jazz timber sale must not come to pass because of its sheer size and cumulative impacts on the Collawash Watershed, and because of the unacceptable federal spending on reconstruction of logging roads which were just recently decommissioned. The combined units included within the Jazz thin, according to the Jazz PA, are predominantly LSRs, riparian	See response to comments 74, 79, 82, 127, 137.

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	reserves, and earthflows (3/4 of the area managed under this sale are under at least one of these classifications). This does not harmonize well with the USFS’s mission to “sustain the health, diversity, and productivity of the nation’s forests” in my opinion.	
Michael Krochta	164. I had the chance to visit unit 70 of the Jazz sale in August of this year. Alongside the unit, between it and the Bull of the Woods Wilderness Area, ran a lengthy decommissioned road complete with several berms and tilled-up earth. It appeared that much work (and money) had already been put into building and then recently decommissioning this road. Much to my dismay I found out that 11 miles of decommissioned roads like this, which are the product of lots of great work by the Forest Service, are proposed to be reconstructed for timber extraction. This to me seems quite backwards and a huge waste of resources. On top of this, it seems very unlikely that Mt. Hood National Forest stakeholders will ever be able to convince Congress to invest funds in programs like Legacy Roads if a pattern of decommissioned roads being reconstructed within very short time frames exists. When I walked the unnamed road alongside unit 70, I noticed the same thing I have seen along many other logging roads in the forest: invasive species. <i>Hypericum perforatum</i> grew all along the road. The more roads that are rebuilt in the forest, the more aid we give to establishing even more dangerously invasive plants to the ecosystem. From what I have seen in the forest, it does not seem like removal of these kinds of species has been a priority along roads like this.	See response to comments 109, 133, 136.
Michael Krochta	165. According to the Jazz PA, the Collawash Watershed contains some of the most geologically unstable areas in the forest. I have been to some other timber sale units (Rethin, Wildcat, 2007 Thin) after thinning has taken place and seen first-hand how the operations seem to not be able to help but rip up a large amount of earth and anchoring vegetation. The amount of damaged roads and landslides in the Collawash Watershed can surely be attributed to giant earthflows that exist in the area, and these effects will surely be exacerbated by logging operations.	See response to comment 135.
Michael Krochta	166. In the Jazz PA, a main purpose for thinning within the units is to create gaps which will bring in more sunlight for trees left standing and promote healthy growth for the stands. The document makes reference to “suppression-caused mortality” of tree species within the units. It seems to	Creating gaps is not one of the main purposes for the project. It is one of many elements of variable density thinning including skips and retaining minor species (s. 1.3, s. 1.4.1). The effects of

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	me that this kind of mortality will eventually create the gaps the Forest Service desires for these areas, as well as snags and downed wood which would enhance the habitat within the unit boundaries designated as “critical” for the Northern Spotted Owl. I am not a forestry expert by any means, but I do wonder: what do tree mortalities in overcrowded stands effect negatively, besides timber harvesting?	taking no action are described in s. 1.2 & s. 3.1.
Michael Krochta	167. In 2011, a USFS survey calculated the annual number of recreational visits to Oregon’s national forests at 11 million. Recreation within Oregon’s national forests provides jobs for an estimated 15,000 people in local communities and \$440 million is spent annually by those who visit our forests. With numbers this high, it seems that recreation should hold much higher priority in proposals like this than it seems to in the Jazz PA. The document predicts a definite impact to local recreation due to the project’s proximity to several campsites, hiking trails and to Bagby hot springs. Is this kind of impact sensible when considering the costs in carrying out such an operation?	Recreation is addressed in s. 3.10. The proposed action would not likely reduce the number of recreators on the Forest or reduce the amount of money people spend on recreation. The project would not affect campsites, hiking trails or Bagby Hot Springs (s. 3.10).
Michael Krochta	168. I ask for the Forest Service to cancel the Jazz thin and to manage the area for: prevention of future landslides and other damaging geological phenomena, enhancement of sustainable recreation, healthy populations of Chinook, Coho, Steelhead, Cutthroat and Bull trout, improvement and preservation of critical habitat for the Northern Spotted Owl, clean drinking water for Clackamas County residents, and further decommissioning of forest roads which fragment critical habitat, aid the spread of invasive species and are a major contributor to the sedimentation of forest streams.	See response to comments 135, 149, 151.
AFRC	169. AFRC is very supportive of the Jazz Thin Project.	
AFRC	170. The assessment also says that “This action is proposed by the Forest Service in collaboration with the Clackamas Stewardship Partners.” Collaboration has been identified as a critical element in the development of projects and AFRC hopes that the Forest Service is giving due emphasis to projects, such as Jazz Thin, that have been through the collaborative process.	s. 1.4, s. 1.6.
AFRC	171. AFRC fully supports the proposed action. Vegetative manipulation is required in order to meet the three needs identified and careful implementation of that manipulation will move stands toward desired conditions and create a supply of wood products for local infrastructure and economies in the process.	s. 1.3, s. 1.4.

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AFRC	172. With regard to road decommissioning , it is critical that a careful long term transportation plan be in place that addresses current as well as future access needs. Permanently closing roads that will be needed at a later date is not prudent and other means of mitigating problems that those roads may be causing in the present should be identified.	The proposed action would decommission temporary roads (s. 1.4.6.2). Other decommissioning in the project area was included in a separate EA.
Pacific Rivers Council	173. Pacific Rivers Council recognizes that available science does not always make it clear whether active management, including thinning in riparian areas, will be ecologically beneficial, ecologically neutral or benign, or result in adverse ecological impacts over the short or long-term. Because of this uncertainty , Pacific Rivers Council recommends that thinning in riparian areas only occur after applying the following screening criteria to minimize the likelihood of short or long-term adverse ecological impacts: 1) Field inventory and analysis supports a site-specific objective and treatment, 2) Canopy reduction will not cause warming of streams or wetlands, 3) All larger woody material is retained on site 4) Treatment can be accomplished from existing roads 5) Cumulative areas of Riparian Reserves impacted by silvicultural treatment, yarding, and transportation does not exceed 10% in any ten-year period in any sixth-field Subwatershed, 6) Firm agency commitment exists to monitor and report silvicultural and environmental outcomes.	<p>The analysis found sufficient scientific certainty that the effects and benefits described for variable density thinning with the prescribed design criteria are adequate to make an informed decision.</p> <p>The project design criteria in section 1.4.9 result in attainment of the Aquatic Conservation Strategy objectives (s. 3.3.4.7).</p> <p>The Jazz project when added to all the described management actions in the past 10 years and all of the projects under contract but not yet completed affect between 0.2% and 6.5% of the riparian reserves of the various 6th field watersheds (s. 3.3.4.5).</p>
Pacific Rivers Council	174. While the proposed action analyzed in the Jazz Thin Preliminary Assessment might meet some of these criteria, temporary roads will be constructed, reconstructed, and used in and near riparian areas, some at grades up to 12%. Temporary roads near streams raise concerns about overall adverse impacts relative to any speculative ecological benefits from the proposed action.	The effects of road construction and reconstruction have been disclosed (s. 3.3.4).
Pacific Rivers Council	175. The Northwest Forest Plan directs the Forest Service to “minimize” roads in Riparian Reserves . The Preliminary Assessment does not make clear why expansion of the road network is necessary to access the proposed thinning units. To strive for more consistency with the Aquatic Conservation Strategy Objectives and to avoid adverse impacts to streams, aquatic habitat, and drinking water, units not accessible by existing roads should not be thinned.	Through various road decommissioning efforts, road have been reduced in riparian reserves. New road construction would not occur in riparian reserves and road reconstruction has been carefully designed in riparian reserves (s. 1.4.6.3). This option was considered (s. 2.3).
Pacific Rivers Council	176. Further, the Forest Service should provide clearer documentation to support site-specific treatment in each of the proposed units, as well as	Site-specific data has been gathered. The EA is a summary of that information sufficient to describe

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	information on the cumulative area impacted in the respective sixth-field subwatersheds over the past ten years and through the life of this project. Also, the Forest Service should clarify how it intends to monitor and report the silvicultural and environmental outcomes of the Jazz Thin Project. As noted by researchers, “[w]ell-designed monitoring . . . is needed to provide a scientifically-defensible basis for the continued and growing implementation of these treatments.”	the benefits and effects (s. 3.3.1, s. 3.5.3, s. 3.6.1, s. 3.8.1, s. 3.12.6, s. 3.13). Cumulative effects were addressed in each resource section (e.g. s. 3.4.1). Monitoring is discussed in s. 1.4.9. The cause and effect relationships for this type of project are understood.
Pacific Rivers Council	177. Although the Forest Service asserts the draft Pollock paper referenced in our scoping comments has been found to be seriously flawed, the underlying science that supports the draft paper remains solid. Further, data and modeling projections from Forest Service and BLM environmental assessments and environmental impact statements compiled by Heiken (2010) indicate dead wood recruitment to streams may be delayed by thinning.	The project relies on modeling done for this project with site-specific data rather than generic assertions extrapolated from other analyses (s. 3.3, s. 3.8.2). Stream protection buffers would provide an abundance of down wood into streams as suppressed trees die at similar rates as shown for No Action (s. 3.8.2.3). In the future, live trees within or outside the protection buffers could be felled if necessary to enhance in-stream woody debris. Appropriate sized trees could be felled toward the stream instead of relying on natural mortality and the uncertain direction of snag fall.
Pacific Rivers Council	178. Ultimately, riparian thinning trades off speculative long-term benefits against likely adverse effects, including near-stream soil disturbance and sediment delivery, depletion of near and medium-term recruitment of woody debris, risk of thermal and microclimate stress from canopy removal, depletion of green-tree diversity, and impacts from road networks. Pacific Rivers Council asks that the Forest Service thoroughly review, consider, and respond to the literature and information cited in our comments and footnotes.	The benefits of upland riparian thinning with appropriate stream protection buffers are not speculative but are supported by recent science (s. 3.3). Design criteria including stream protection buffers that have been made wider in some units, would provide shade, minimize erosion and provide high levels of woody debris (s. 1.4.9).
Pacific Rivers Council	179. Further, we strongly urge the Forest Service not to expand the road network in the Jazz Thin Project area, even temporarily. Instead, to best protect, maintain, and restore habitat for aquatic species, promote the survival and recovery of species listed under the Endangered Species Act, and provide clean drinking water supplies for downstream human communities, any thinning activities should only be undertaken with contemporaneous reductions in the road network through active decommissioning in the relevant subwatersheds, along with storm-proofing	The option of eliminating road construction was considered (s. 2.3.1). The proposed action provides protection to listed species and water quality (s. 3.3, s. 3.4). The design criteria would minimize impact to streams and fish (s. 1.4.9). Road decommissioning planning in the watershed was assessed under a separate EA. Approximately 200 miles of roads in the watershed have been

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	and other means of hydrologically disconnecting roads from streams.	decommissioned or are planned (s. 1.2).
Oregon Department of Fish and Wildlife	180. There has been a significant reduction in forest openings . Only 13% of the Collawash watershed is in early seral stage. Forest openings provided essential structural complexity, plant diversity and contribute to overall forest health. In addition, forest openings provide forage and nesting habitats for a suite of early seral species including: deer, elk, black bear, ruffed grouse, olive-sided flycatcher, willow flycatchers, orange-crowned warblers, MacGillivray’s warblers, white-crowned sparrows, fox sparrows, and common nighthawk. Snags in open areas are important habitat components for purple martins, western bluebirds and mountain bluebirds. The current management emphasis on older successional forest stages coupled with long-term fire suppression has resulted in a declining food base for deer and elk, and a loss of nesting and forage habitat for some songbirds. The current viability trend for deer and elk populations on MHNH is declining due, in part, to a reduction of quality forage on summer and winter range. The Jazz Thin project and other projects in the Collawash watershed that enhance the nutritional quality and availability of summer and winter forage for big game through early seral prescriptions may help to stabilize local populations.	Forage enhancement is included with the proposed action (s. 1.4.5, s. 3.8.3.4). Recent fires in the Collawash Watershed have helped improve forage openings as well as providing snags in open areas that will benefit some of these species (s. 3.8.3.4).
Oregon Department of Fish and Wildlife	181. The Oregon Department of Fish and Wildlife North Willamette Watershed District (NWW) supports the creation of gaps and variable density thinning of scattered plantations within winter range , which could improve deer and elk health in the watershed. Protect wintering elk through the implementation of actions identified in the 1989 MOU between ODFW and MHNH.	Seasonal restrictions are included to protect wintering deer and elk (s. 1.4.9).
Oregon Department of Fish and Wildlife	182. Recent findings suggest that summer range may be the most important driver in determining the viability of elk populations in Western Oregon. This is because winter survival depends on the amount of fat reserves that elk can attain during summer and fall months; therefore, the quality of summer forage that persists into early fall is crucial to elk viability.	Some of the proposed forage enhancement is in summer range.
Oregon Department of Fish and Wildlife	183. Variable density thinning of scattered plantations within summer range could improve deer and elk health in the watershed. Best management practices (FW-194 and 195) for the Pacific Northwest recommend a consistent acreage quantity of early seral plant communities be created by timber harvest activities in all stand decades.	The Forest has transitioned away from large scale regeneration harvest. Forage enhancement in thinning proposals provides some forage benefit.

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Oregon Department of Fish and Wildlife	184. The elk telemetry study conducted in the Clackamas drainage from 1987 to 1992 suggests that the Hot Springs Fork drainage may be an elk calving area based on favorable habitat conditions and radio-collared females utilizing the area in May and June. Activities within calving areas may need to be restricted to minimize interactions between humans and wildlife. Timber felling, yarding and hauling during fawning, calving and rearing seasons, generally from April 1 to July 30, would be detrimental (Forest Plan, B11-024). ODFW recommends minimizing timber harvest operations and access activities within fawning and calving areas for deer and elk. Further discussions with NWWD staff should occur prior to initiating operations within these areas.	<p>The applicable Forest Plan standards and guidelines are in the Forest Wide Section (FW-187 to 213). The project is not in the B11 land allocation – this standard is not applicable.</p> <p>The Forest is committed to working with ODFW to refine the location for appropriate seasonal restrictions.</p>
Oregon Department of Fish and Wildlife	185. The combined proposed percentage (10% of each unit) of forage enhancement and other treatments like brushing and cutting of small trees to stimulate growth for deer and elk would occur in the matrix lands of the Jazz Thin project. This would meet Forest Plan objective B11-009 that directs 10-15% of the area where vegetation can be manipulated (excluding natural meadows), should be maintained in forage condition for deer and elk (USDA Forest Service, 1990). The Forest Plan also provides the guideline that timber harvest units should be seeded with high quality deer and elk forage species (preferably natives) along with fertilizing prescriptions (B11-012). The Forest Plan recommends (B10-023) that at least 80% of all commercial thinning harvest units provide nutritional forage enhancement for deer and elk, including seeding, planting, prescribed fire and fertilizing.	<p>The interdisciplinary team has identified the best places where forage species are likely to thrive (s. 1.4.5).</p> <p>While both agencies recognize the trend of declining forage, the applicable Forest Plan standards and guidelines are in the Forest Wide Section (FW-187 to 213). The project is not in the B11 or B10 land allocations – these standards are not applicable.</p>
Oregon Department of Fish and Wildlife	186. ODFW requests that monitoring be conducted to determine effectiveness of variable density thinning activities on deer and elk utilization of units in the Jazz Thin project. There are opportunities to collaborate with conservation groups such as the Oregon Hunters Association, Rocky Mountain Elk Foundation, Mule Deer Foundation and others to accomplish this monitoring (both funding and volunteers).	The benefits of forage creation are sufficiently known to make an informed decision. The Forest would welcome effectiveness monitoring efforts.