

APPENDIX I - RESPONSE TO PUBLIC COMMENTS

DEIS Comments

Summary

	Name/Organization	Date	Type of Comment
1	Dan Becker	Emailed 11/23/2003	4 page letter; no attachments
2	Ronald S. Yockim/Grant County Court	Postmarked 12/2/2003	3 page letter; no attachments.
3	Judge Steven E. Grasty/Harney County Court	Postmarked 11/28/2003 Letter dated 11/24/2003	2 page letter; no attachments
4	Preston A. Sleeper/U.S. Dept. of Interior	Postmarked, Letter dated 11/25/2003	1 page letter; no attachments
5	Steven J. Courtney/Malheur Lumber Company	Emailed 12/5/2003	2 page letter; no attachments
6	Doug Heiken/ONRC	Letter emailed 12/5/2003 Map postmarked 12/8/2003	62 page letter with hardcopy map of un-inventoried roadless areas sent separately. Email letter contained attachment regarding 9 th Circuit Court Decision on Lolo Post Burn Project
7	Asante Riverwind/League of Wilderness Defenders – Blue Mountains Biodiversity Project	Letter, exhibits, and field survey all post-marked 12/8/2003.	36 page comment letter, 5 exhibits, field survey. Exhibit 1- 2 pages of project area photos; Exhibit 2 - Wildlife & Forest Health; Exhibit 3 - US House of Representatives testimony; Exhibit 4 - Decaying Logs study Karen Coulter's field survey sent separately - (12 pages of photos with captions)
8	Josh Laughlin/Cascadia Wildlands Project	Postmarked 12/8/2003	7 page letter; no attachments.
9	Kathleen Hitt/Northwest Environmental Defense Center	Emailed 12/8/2003	47 page letter; no attachments.
10	Judith Leckrone Lee/ U.S. Environmental Protection Agency	Postmarked 5/17/04	7 page letter

Letter #1 – Dan Becker Comment	Response #
Comments- DEIS Easy Fire Recovery Project. Reduce Dead Standing and Down Fuel (Chapter 1-3)	
Salvage of trees on this project will immediately increase fuel loadings. This is especially true in the 0-3” class of fuels, which are the most flammable. Thus from the onset, this project will in fact increase fuel loads rather than reduce them. Is that really a negative thing? Fuel Models (Chapter 1-9)	1-1
In paragraph one it is stated that the next wildland fire “can reasonably be expected to occur within 20 to 30 years from now”. It further states that the “fuel load will increase from FM 8, to FM 10, 11, and 12”. This is all expected to happen within 5 to 10 years. What is the mechanism that will cause this to occur in such a short time? How did you arrive at a fuel model 8? The existing fuel loads on the severely burned areas do not support a fuel model 8 (Aids to Determining Fuel Models, Anderson 1982)? Yet these are the only areas that have any probability of moving to a fuel model 11 or 12 in a decade.	1-2
So on what basis is it expected that there will be a fire occurring 20 to 30 years from now. Based on past fire occurrence it is likely that fires will start to occur as soon as 2 years from now. So what is your point? Are these fires expected to be high intensity and thus damaging?	1-3
As to the natural progression of fuel models, fuel model 10, 11, and 12 exist on large areas of the forest. In fact these fuels models exist directly adjacent to the easy fire and did not burn severely during that event. What were the previous Fuel Models? Were they unnatural across the whole of the proposed area?	1-4
The easy fire itself was driven by the open stands and high fuel loadings from harvest activities. It can easily be seen from the aerial photos and the ground that the fire intensified as it went through harvest units. For the most part it accelerated as it went into previously harvested units and then went back on the ground as it hit the shaded areas outside the unit. The exception was where it went into a rain unit with fuel loadings of 60+ tons/acre. This unit probably had the highest tonnages I have ever seen on the Malheur NF. After it hit this unit it truly accelerated burning most of the Old Growth and then spotting across the Clear Creek road. Yet once again the fire returned to a underburn outside harvested units.	1-5
In addition most of the high intensity fire in the Reynolds Creek Drainage was a result of backfiring.	
In paragraph 2 you comment that “native grass and brush species that will increase flame lengths generated during the wildland fire event” 20 to 30 years from now.	1-6
From a strictly model based approach you can make that argument. However we can take the example of the 1939 Big Cow Burn which burned 40,000 acres. It is currently filled with high fuel loads and brush and grass. Yet the 1989 Glacier Fire (11,000 acres), the 1990 Sheep Fire (11,000 acres) and the 2002 Monument fire (24,000 acres) all switched from a running crown fire to a spotty ground fire when running into this burn. Green hardwoods would usually be considered anti-fuel on the Malheur NF. Given the elevation and aspect of the Easy project it is likely that the grass and brush would rob a fire of most of it’s energy while drying these fuels to the point of ignition.	
In the last paragraph a statement is made about the economic savings to the public by treating the fuels under a salvage. What is you basis for this statement?	1-7
The cost of the treatments proposed would quickly drive the cost of treatment to an average of 75.00 an acre. While prescribed burning those same fuels 15 years from know would be 2.50 an acre.	
Short-term Desired Fuel Condition	1-8

Letter #1 – Dan Becker Comment	Response #
<p>“The potential for extereme fire severity over extensive areas is reduced”. Currently there are thousands of acres of untreated, deforested by fire acres on the Malheur. All have had several fires in them with not a single one burning beyond 5 acres. What is the basis for this statement?</p>	
<p>Chapter 3 Insect and Disease in Live Trees Page 86 – Ponderosa pine. Ips beetles are cited as a potential to “spill over into remaining live trees”. Can you cite a specific instance on the Prairie City Ranger District with the highest large fire occurrence on the forest where there has been a Ips beetle outbreak? Also you discuss Bob Gara’s research with a increase of 300 to 1400 % mortality from pre-fire levels. What is the pre-fire beetle mortality for this area? In other words what is 1400% of 0? Some quantitative measure of pre-fire stand conditions needs to included to give this number relevance. In addition other examples of Bob Gara’s research state that certain bark beetles are attracted to the largest tree and not the weakest. Pitching is certainly the trees defense mechanism against attack.</p>	1-9
<p>ID team “concluded that ponderosa pine with less than 20% remaining live crown ratio are highly susceptible to latter mortality”. How many of these people are fire effects specialists or fire ecologists and what research are you using to back this up. There is a large body of research on this and yet no research is cited. At the same time using the opinion of a interdisciplinary team without the guidance of scientific knowledge of fire effects is in essence pointless and impossible to support the likelihood of mortality.</p>	1-10
<p>Page 91 – Fire Hazard to Live Trees. “Could Kill”. This is not quantifiable. What is the probability? As stated numerous times above there are dozens of examples of fires occurring in past fires where no fuel treatment has taken place. 99% of these fires were class A fires.</p>	1-11
<p>“The alternatives that harvest more snags reduce the future fire hazard more than the alternatives that harvest fewer dead or dying trees”. What does this mean? It is in fact meaningless. The harvest of merchantable trees does not in and of itself reduce the fire hazard. Boles do not significantly increase hazard compared to the 0 to 1” fuels that will exist regardless of harvest alternatives. Boles increase energy release, the difficulty of hand line construction, soil heating. Can you site an example of a re-burn occurring that was outside the range of a normal return interval on this forest?</p>	1-12
<p>Page 362 Second Paragraph. The statement that 50% of the fire starts are lightning is simply smoke and mirrors. The fires that occur in this area during a time when fire is a issue are 99% lightning caused. Native American burning of this area is pure conjecture. There has been no positive correlation between the early settlers accounts of widespread native American burning and direct evidence that it actually occurred. Given the natural lightning occurrence of this area native American burning would have probably been unnecessary.</p>	1-13
<p>Last paragraph “A need exists to reduce future fire hazard so that natural and prescribed fire can be used to maintain stands and fuels in more natural and resilient conditions”. This is at direct odds with your action alternatives. Once trees are planted on any site the value of the stand precludes the use of natural or prescribed fire for a minimum of 80 years. If no action were taken natural and prescribed fire could be implemented to reduce fuel accumulation in the first decade. At the same time it probable that the area would be in a healthy condition. Your statement is broad scale and lacks any specific information as to how and where this is needed. For instance would a lodgepole stand require fuel treatment? Stand replacement fire is the natural fire regime for lodgepole and whatever fuel loading might exist is natural. Would this not be true for any cool moist eco-class? If your snag fall down were correct burning would not be allowed because it would lower snag densities further.</p>	1-14
<p>It is also stated that “This project would reduce sedimentation in streams for existing roads and from the interactions between roads and post fire runoff”. Has this been analyzed. Would there not be increased sediment by the use of these roads by heavy equipment, the construction of temporary roads, the disturbance of the soil off the road by falling, skidding and piling? Numerous studies conclude that severe wildfires can and do increase sediment, but that it is usually minimal after the first couple of precipitation events. (McNabb and Fredireck 1990). As two winters will have occurred prior to any</p>	1-15

<p align="center">Letter #1 – Dan Becker Comment</p>	<p align="center">Response #</p>
<p>implementation of salvage any increased sediment would be caused by the salvage. This can be further affirmed by salvage on Snowshoe and Sheep fires. I am challenging the statement that this project would reduce sedimentation, not that the level of sedimentation caused by salvage is beyond what is considered acceptable. The statement about NFMA and that the Forest Service would not damage the integrity of soils is a interesting response to concerns about soil erosion. Has the Forest Service ever been found to have not met NFMA responsibilities? If it has happened before, could it happen again? Is monitoring that is a mitigation measure and never done following the law? Without the monitoring being done can cumulative effects really ever be analyzed?</p>	
<p>Page 363 paragraph 5 states “the Malheur Forest plan provides direction to initiate initial suppression action that provides for the most reasonable probability of minimizing fire suppression costs and resource damage”. This paragraph as well as most of the response to Betchsa is hair splitting to justify your position. It is not credible scientific opinion. But to the point, the Malheur Fire Management Action Plan, which is a part of the Forest Plan states that “Wildand fire will be used to protect, maintain, and enhance resources and, as nearly as possible, function in its natural ecological role”. This statement seems to be in support of the statement made by Betchsa et al. Your use of the Forest Plan is arbitrary and meant to deceive. Selective use of the Plan without full disclosure is not the intent of a DEIS, or is it?</p>	<p align="center">1-16</p>
<p>The Malheur National Forest Plan states “Natural ignitions may be managed as prescribed fires in predetermined areas under conditions that meet established prescriptions”. It would seem that a DEIS for this area would be the opportune time to lay the groundwork for this.</p>	<p align="center">1-17</p>
<p>The Malheur National Forest Plan states “Utilize the Regional fuels analysis process as a guide to determine the most cost effective fuel profile for fire protection purposes”. Was this done? What were the results by treatment type? What Regional fuels analysis process was used?</p>	
<p>Snag fall down rates. Raphael and White 1984 are cited and yet no reference appears in the DEIS. DecAid is also cited yet this model was not intended for snag fall down rates in Eastside Forests nor Fire Killed Trees. Very little research exists on this subject. What is the longevity of snags killed by fire during the midpoint of the growing season? The literature for fall down rates in several published papers do not support your contentions. Monitoring that was promised on the Snowshoe and Sheep recovery projects was never done. Had the Forest fulfilled it’s duty to monitor (which was a mitigation measure) perhaps there would be local information to justify this. However visual inspection of the Deardorf Fire (1986), Glacier (1989), Snowshoe/Sheep (1990) Wildcat (1994) do not support the fall down rates of 15 and 30 years. There are still snags standing from the 1939 Big Cow and Roberts Creek Fires. Your 15 and 30 year fall down rates are a major contention for future fuel loadings and thus needed treatment. Without credible research and monitoring you cannot make this leap.</p>	<p align="center">1-18</p>
<p>The fire mortality model that you are using for this project is unproven over predicts mortality and is extremely complex to implement in the field. There are several published papers in the FEIS on mortality. In addition GTR RMRS-GTR-42 Effects of Fire on Flora contains quantitative information on mortality of conifers. Also the process of using a hatchet on trees to determine if it has living cambium is a crude test and likely results in additional mortality. Why is the core hammer and enzyme test not being used? Trees continue to survive with very little living cambium and over time the living cambium can increase. The people making the mortality determination on the ground have little to no background in fire ecology or effects.</p>	<p align="center">1-19</p>
<p>There are already the examples of the Snowshoe and Sheep “Fire Recovery Projects”. Both these areas show the negative effects of fire salvage. In the areas that were salvaged the soils were further damaged to the point that only rocks and brush are growing on the site. Yet all of the areas that were left alone have grasses and soil in abundance</p>	<p align="center">1-20</p>
<p>For the same reasons I do not support the planting of conifers on this project. There are many mechanisms for natural regeneration beyond the 800’ seed tree radius. As stated earlier in these comments the planting of trees increases the investment in an area and would preclude the use of natural</p>	

Letter #1 – Dan Becker Comment	Response #
<p>and prescribed fire.</p> <p>This project is already revenue negative and adding the cost of fuel treatment and planting would further impact an already costly project.</p> <p>In Conclusion what are the cumulative effects of the proposed alternatives? You also discuss that continued fire suppression is required. What are the cumulative effects of fire suppression? In general there is a lack of quantifiable data with which to measure cumulative effects within the DEIS. 90% of the document is opinion without a basis of science to measure against. Was the monitoring of other fire salvage projects on the Prairie City Ranger District ever completed so as to provide a basis for cumulative effects on this project?</p> <p>It appears that the DEIS is doing its best to say that fuel treatment is necessary and is a primary reason for this project. As a Fire Behavior analyst with 27 years of experience on this specific area I find this discussion to be without merit. I believe the DEIS would be better served to focus on the merits of gaining economic benefit. Leaving fuel loadings up to 40 tons per acre in the 10” and greater material (Coarse Woody Debris, Brown, Reinhardt, Kramer 2003) would be a long term benefit for the area.</p> <p>As a last comment, my name appears in the DEIS as someone who requested and received a copy of the DEIS. Yet I never received a copy until I asked for one November 17th, 2003. Can you enlighten me on how I never was given a copy? I could have easily missed the opportunity to respond had I not seen a public announcement that it was available.</p> <p>I look forward to hearing from you and receiving any other materials that might become available.</p> <p>Sincerely, s/ Dan Becker PO Box 337 Prairie City, OR 97869 541-820-3806</p>	<p>1-21</p> <p>1-22</p> <p>1-23</p>

Letter #2 – Ronald S. Yockim, Grant County Court Comment	Response #
<p style="text-align: center;">December 1, 2003</p> <p>Eric Ornberg, IDT Leader Middle Fork Ranger Station 46375 Highway 58 Westfir, Oregon 97492</p> <p>Dear Mr. Ornberg:</p> <p>On behalf of the Grant County Court I would like to thank you for affording the public the opportunity to review and comment on the Draft Environmental Impact Statement ("DEIS") for the Easy Fire Recovery project. The Grant County Court appreciates your attempts to address the issues relating to restoring this area to the desired condition.</p> <p>After reviewing the DEIS on behalf of the Grant County Court I would like to offer the following comments:</p> <ol style="list-style-type: none"> <li>1. Of the 3,002 acres that burned with high severity and the 1,870 acres with moderate severity, it is assumed that 3,937 acres will not survive (100% of the 3,002 acres and 50% of the 1,870 acres per Appendix B-2). While the proposed action does not salvage or regeneration harvest the 3,937 acres that will die, of the various alternatives the preferred option is the salvage as proposed in the preferred alternative. <li>2. An important issue not addressed in the DEIS is the need to remove the standing dead and dying material in a timely manner in order to facilitate reforestation. If this material is not removed in a timely manner it will be difficult under current OSHA rules, to safely send reforestation crews into the area. Absent timely reforestation these burned areas will not restore desired ecosystem or environmental functions in a timely manner. <li>3. In addition to the OSHA restrictions, the absence of a timely removal of the standing dead and dying material will create unacceptable fuel loads and pre-destine this area for repeat burns in the next few decades. With the heavy fuel loads created by the dead and dying material and the regrowth of brush, these repeat fires will burn hot and create more resource damage. It is the Grant County Court's position that the majority of the fuel loadings be removed during these entries to reduce the danger of repeat fires and threats to adjacent lands. There are numerous examples of repeat fires in the dead material left from previous fires and the brush fields that occurred. Among these examples is the Biscuit Fire originated in an area previously burned in the 1987 Silver Fire. Similarly, the Apple Fire also originated in a recent fire. In both cases the post fire fuel loads were not reduced to acceptable levels after the fire. <li>4. The quick removal of the dead and dying material is necessary to insure prompt and effective reforestation. With the quick reestablishment of brush and lodge pole pine in burned areas, if reforestation of desirable species is to be effective it will be necessary to promptly replant the area. As Drs' Sessions, Buckman, Newton and Hamann, observed in their report, "The Biscuit Fire: Management Options for Forest Regeneration, Fire and Insect Risk Reduction and Timber Salvage," seeding and planting, to be effective, must be implemented immediately. Delays in restocking the area will result in high mortality to seedlings and will necessitate manual release or the use of herbicides to promote growth and achieve desired stocking levels. (id. p. 27). <li>5. Due to the time constraints in restoring the lands to the desired future condition, the Malheur National Forest should examine ways to expedite the recovery projects. 	<p style="text-align: center;">2-1</p> <p style="text-align: center;">2-2</p> <p style="text-align: center;">2-3</p> <p style="text-align: center;">2-4</p> <p style="text-align: center;">2-5</p>

<p align="center">Letter #2 – Ronald S. Yockim, Grant County Court Comment</p>	<p align="center">Response #</p>
<p>6. Due to the uncertainty in the amount of dying material, the marking crews should layout the timber sales in a manner that considers the potentially dying material in their snag calculations and group the snags rather than dispersing across the landscape.</p>	<p align="center">2-6</p>
<p>7. In designing the fire recovery projects, the Forest Service should consult with the range permittees to determine the effects of the recovery projects on their livestock management. The allottees' knowledge of the land will be invaluable, and in most cases, is of significantly longer duration than the current Forest Service staff who are designing these projects.</p>	<p align="center">2-7</p>
<p>8. As former Regional Forester noted when he examined the Summit Fire, the benefits of salvaging the burned areas are (1) to reduce the long term risk of a major severe reburn 20-50 years into the future by removing the heaving fuels; (2) to recover the economic value of the wood productions; (3) reduction in possible insect movement from the dead trees to live ones; (4) reducing fuels to historical levels to allow the use of prescribed burning programs permitting the ecosystem to function more normally; and, (5) to provide funds to do rehabilitation work without depending upon monies from other sources (ie. reforestation, road closing, and repair).</p>	<p align="center">2-8</p>
<p>9. If the lands are not promptly reforested the costs to plant will double or triple in four to six years. There are several examples on the Malheur National Forest where delays in reforestation have resulted in brush fields and limited regeneration. To avoid these difficulties, the Forest Service needs to promptly remove the dead material and plant those stands where there is not an adequate seed source.</p>	<p align="center">2-9</p>
<p>In conclusion, on behalf of the Grant County Court, I wish to express their appreciation for your efforts to timely respond to the recovery needs of the Easy Fire. As noted above given the impacts of delay, it is imperative that the dead timber be removed as expeditiously as possible to allow restocking of the stands to occur in a prompt and safe manner.</p> <p>Sincerely,</p> <p>Ronald S. Yockim</p> <p>cc. Grant County Court</p>	<p align="center">2-10</p>

Letter #3 – Judge Steven E. Grasty/Harney County Court Comment	Response #
<p>November 24, 2003</p> <p>Eric Ornberg, IDT Leader Middle Fork Ranger Station 46375 Highway 58 Westfir, Oregon 97492</p> <p>Re: Easy Fire Recovery; our File No. 93172</p> <p>Dear Mr. Ornberg:</p> <p>On behalf of the Harney County Court I would like to thank you for affording the public the opportunity to review and comment on the Draft Environmental Impact Statement ("DEIS") for the Easy Fire Recovery project. The Harney County Court appreciates your attempts to address the issues relating to restoring this area to the desired condition.</p> <p>After reviewing the DEIS I would like to offer the following comments:</p> <ol style="list-style-type: none"> <li>1. Of the 3,002 acres that burned with high severity and the 1,870 acres with moderate severity, it is assumed that 3,937 acres will not survive (100% of the 3,002 acres and 50% of the 1,870 acres per Appendix B-2). While the proposed action does not salvage or regeneration harvest the 3,937 acres that will die, we support the salvage proposed in the preferred alternative. <li>2. An important issue not addressed in the DEIS is the need to remove the standing dead and dying material in a timely manner in order to facilitate reforestation. If this material is not removed in a timely manner it will be difficult under current OSHA rules, to safely send reforestation crews into the area. Absent timely artificial reforestation these burned areas will not restore desired ecosystem or environmental functions in a timely manner. <li>3. In addition to the OSHA restrictions, we note that the absence of a timely removal of the standing dead and dying material will create unacceptable fuel loads and pre-destine this area for repeat burns in the next few decades. With the heavy fuel loads created by the dead and dying material and the regrowth of brush, these repeat fires will burn hot and create more resource damage. It is the Harney County Court's position that the majority of the fuel loadings be removed during these entries to reduce the danger of repeat fires and threats to adjacent lands. <ol style="list-style-type: none"> <li>i. We note that the Biscuit Fire originated in an area previously burned in the 1987 Silver Fire. Similarly, the Apple Fire also originated in a recent fire. In both cases the post fire fuel loads were not reduced to acceptable levels after the fire. <li>4. The quick removal of the dead and dying material is necessary to insure prompt and effective reforestation. With the quick reestablishment of brush and lodge pole pine in burned areas, if 	<p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p>3-1</p> <p>3-2</p> <p>3-3</p> <p>3-4</p>

<p>Letter #3 – Judge Steven E. Grasty/Harney County Court Comment</p>	<p>Response #</p>
<p>reforestation of desirable species is to be effective it will be necessary to promptly replant the area. As Drs' Sessions, Buckman, Newton and Hamann, observed in their report, "The Biscuit Fire: Management Options for Forest Regeneration, Fire and Insect Risk Reduction and Timber Salvage," seeding and planting, to be effective, must be implemented immediately. Delays in restocking the area will result in high mortality to seedlings and will necessitate manual release or the use of herbicides to promote growth and achieve desired stocking levels. (id. p. 27).</p> <p>5. Due to the time constraints in restoring the lands to the desired future condition, we suggest that the Malheur National Forest examine ways to expedite the recovery projects.</p> <p>6. We suggest that due to the uncertainty in the amount of dying material, the marking crews layout the timber sales in a manner that considers the potentially dying material in their snag calculations and group the snags rather than dispersing across the landscape.</p> <p>7. In designing the fire recovery projects we encourage the Forest Service to consult with the range allottees to determine the effects of the recovery projects on their livestock management. We believe that the allottees' knowledge of the land will be invaluable, and in most cases, is of significantly longer duration than the current Forest Service staff who are designing these projects.</p> <p>In conclusion, on behalf of myself and the Harney County Court, I would like to express our appreciation for your efforts to timely respond to the recovery needs of the Easy Fire.</p> <p>Sincerely,</p> <p>Steven E. Grasty Judge, Harney County Court</p> <p>SEG;sj</p>	<p></p> <p>3-5</p> <p>3-6</p> <p>3-7</p>

<p align="center">Letter #4 – Preston A. Sleeper, U.S. Dept. of Interior Comment</p>	<p align="center">Response #</p>
<p align="center">November 25, 2003</p> <p>ER 03/874</p> <p>Eric Ormberg, IDT Leader Middle Fork Ranger Station 46375 Highway 58 Westfir, Oregon 97492</p> <p>Dear Mr. Ormberg:</p> <p>The Department of the Interior has reviewed the Draft Environmental Impact Statement for the Easy Fire Recovery Project and Proposed Nonsignificant Forest Plan Amendments, Malheur National Forest, Grant County, Oregon. The Department does not have any comments to offer.</p> <p>We appreciate the opportunity to comment.</p> <p align="center">Sincerely,</p> <p align="center">Preston A. Sleeper</p>	<p align="center">No response needed</p>

<p align="center">Letter #5 – Steven J. Courtney/Malheur Lumber Company Comment</p>	<p align="center">Response #</p>
<p>December 5, 2003</p> <p>Eric Ornberg, IDT Leader Middle Fork Ranger Dist. 46375 Highway 58 Westfir, OR 97492</p> <p>RE: Easy Fire Recovery Project</p> <p>Dear Mr. Ornberg,</p> <p>Thank you for providing an opportunity to comment on the Easy Fire Recovery project. At this point our primary concern is that the salvage operations take place soon enough to capture the value of the killed trees. The viability of salvaging the ponderosa pine and white fir will be marginal in the summer of 2004. After this summer the Douglas-fir may not viable either. Therefore this analysis needs to be finished in an expeditious manner.</p> <p>An item of particular concern is the elevated snag levels in Alternative 3. After a fire when so many trees are killed, leaving an extraordinary amount of dead trees does not make sense. A tremendous amount of snags will remain post harvest in the RHCA and untreated areas. Increasing this amount based on an experimental model, thus greatly reducing the value and volume of timber available, is very disturbing to us.</p> <p>Since time is of the essence on this project, I will refrain from our usual discussion concerning the use of efficient logging operations. I will however mention that helicopter logging wood that has been dead for two years will yield little or no stumpage value.</p> <p>I look forward to the decision on the Easy Fire restoration project.</p> <p>Sincerely,</p>	<p>5-1</p> <p>5-2</p> <p>5-3</p>

Letter #5 – Steven J. Courtney/Malheur Lumber Company Comment	Response #
Steven J. Courtney, CF Operations Forester Malheur Lumber Co. P.O. Box 160 John Day, OR 97845 (541) 575-2921	

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>FROM: Doug Heiken Oregon Natural Resources Council PO Box 11648, Eugene OR 97440 541-344-0675, dh@onrc.org http://www.onrc.org</p> <p>To: Eric Ormberg, Easy Fire Salvage ID Team Leader Middle Fork Ranger District 46375 Highway 58 Westfir OR 97492 Comments-pacificnorthwest-willamette-middlefork@fs.fed.us</p> <p>DATE: 5 December 2003</p> <p>SUBJECT: ONRC comments on the Easy Fire Salvage DEIS</p> <p>Please accept the following comments from Oregon Natural Resources Council (ONRC) concerning Easy Fire Salvage DEIS. ONRC represents over 7,000 members who support our mission to protect and restore Oregon’s wildlands, wildlife, and waters as an enduring legacy. We seek to permanently protect and restore Oregon wild forests, protect and restore essential habitat for native species, and protect and restore the Klamath Basin from the headwaters to the sea.</p> <p>Though we have not yet decided whether or not to appeal, and we sincerely hope that the agency makes a sound decision that avoids the necessity of an appeal, ONRC wishes to maintain eligibility to appeal this project, so we provide the following information pursuant to 36 CFR §215.6(a)(3):</p> <p>Name and address: Doug Heiken Policy and Litigation Coordinator Oregon Natural Resources Council PO Box 11648 Eugene OR 97440 541-344-0675 dh@onrc.org</p> <p>Title of the Proposed Action: Draft Environmental Impact Statement Easy Fire Recovery and Nonsignificant Forest Plan Amendments, dated October 2003.</p> <p>Signature of Author: <u>/s/ Doug Heiken</u> for Oregon Natural Resources Council. (Verification of Identity Available upon request.)</p> <p>Agency-Preferred Alternative 3 includes:</p> <ul style="list-style-type: none"> 2667 acres of post-fire “salvage/regen” <ul style="list-style-type: none"> 1608 acres tractor 618 acres on moderate-to-high severity burn areas 12 mmbf 336 acres of landings plan amendment to allow only 1 snag/acre retained for down woody debris snags retained in patches >75 acres 30-50% DecAID tolerance level (short-term) for cavity dependent species 1.5 miles of temporary road construction 5.2 miles of road closed 14 miles of haul routes in riparian areas 	

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>leaving untreated 60 tons of available fuel per acre <6” negative \$3 million NPV 3918 acres replanting</p>	
<p>Specific Substantive Comments and Supporting Reasons:</p>	
<p>ONRC opposes post-fire salvage logging that removes the largest material that should be left to form long-lasting structural legacies and provide the functions and processes essential for developing complex natural forests. Post-fire logging and replanting will simplify the future forest and truncate successional stages and leave behind more of a tree-farm and less of a forest. If any logging is conducted post-fire it should be done outside sensitive areas and it should remove only a portion of the small fuels (i.e. consistent with the recommendations of the Beschta report).</p>	
<p>1. We support the proposed closure of the 391 road. The Forest Service should also permanently close the 793 road, the 329 road, and the 2635 road that seriously degrades Clear Creek.</p>	6-1
<p>2. All trees with any green needles on them should be retained for several reasons: a. Live trees provide habitat for species that need live or dying trees. b. Live trees will provide some future snag recruitment during the “snag gap,” c. Live trees help beneficial soil organisms hold over until vegetation cover is re-established. d. The EIS must address these benefits of live tree retention.</p>	6-2
<p>3. All large snags should be retained to provide <i>long-term</i> habitat for species dependent upon snags and down wood. The EIS admits on pages 3-134 and 139 that not salvaging the are will leave enough snags to remain in compliance with snag retention requirements for 30 years, whereas the preferred alternative will remove so many of the largest longest lasting snags to be in violation of snag requirements at year 15 after the fire. The FS cannot knowingly violate the law in this regard. Furthermore, the Forest Service must disclose and consider the value of the large snags that will be lost. The Forest Service is only hoping that tree planting will accelerate the growth of future large trees/snags but the Forest Service has no evidence showing that they can and will do that. The Forest Service is killing all its chickens today and then counting their future chickens before they hatch.</p>	6-3
<p>4. The Forest Service has not used the DecAID tool appropriately. The agency must address snag fall rates and snag recruitment rates which are not accounted for in the DecAID advisor. The agency relies on DecAID to analyze impacts on snag dependent species, but the agency fails to recognize that “DecAID is NOT: ... a snag and down wood decay simulator or recruitment model [or] a wildlife population simulator or analysis of wildlife population viability. ... Because DecAID is not a time-dynamic simulator ... it does not account for potential temporal changes in vegetation and other environmental conditions, ... DecAID could be consulted to review potential conditions <u>at specific time intervals</u> and for a specific set of conditions, but <u>dynamic changes in forest and landscape conditions would have to be modeled or evaluated outside the confines of the DecAID Advisor.</u>” Marcot, B. G., K. Mellen, J. L. Ohmann, K. L. Waddell, E. A. Willhite, B. B. Hostetler, S. A. Livingston, C. Ogden, and T. Dreisbach. In prep. “DecAID -- work in progress on a decayed wood advisor for Washington and Oregon forests.” Research Note PNW-RN-XXX. USDA Forest Service, Pacific Northwest Region, Portland OR. (pre-print) http://www.notes.fs.fed.us:81/pnw/DecAID/DecAID.nsf/Home PageLinks/44C813BC574BDFCC88256B3E006C63DF (“The inventory data likely do not represent recent post-fire conditions very well ... young stands originating after recent wildfire are not well represented because they are an extremely small proportion of the current landscape ... The dead wood summaries cannot be assumed to apply to areas that are not represented in the inventory data.” “DecAID caveats” http://www.notes.fs.fed.us:81/pnw/DecAID/DecAID.nsf).</p>	6-4
<p>5. The proposal to leave snags in clumps is insufficient to meet ecosystem requirements</p>	6-5

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>or LRMP requirements. Snag retention should be both clumped <u>and well-distributed</u>, not all clumped. Some of the functions provided by snags are best provided in clumps, but other functions are best provided by well-dispersed snags. These latter functions include:</p>	
<ul style="list-style-type: none"> • Cover for deer and elk and other wildlife; 	6-5a
<ul style="list-style-type: none"> • Shade and microclimate for germination and seedling survival; 	6-5b
<ul style="list-style-type: none"> • Young stand thinning functions provided by falling snags; 	6-5c
<ul style="list-style-type: none"> • Soil functions such as nutrient cycling; erosion control and sediment trapping; 	6-5d
<ul style="list-style-type: none"> • Hydrologic effects such as water retention in both wood and soil, and dissipation of energy in surface flow, favorable effects on snow dynamics; 	6-5e
<ul style="list-style-type: none"> • Favorable microsites for seed germination and seedling survival; 	6-5f
<ul style="list-style-type: none"> • Habitat for small mammals and amphibians; 	6-5g
<ul style="list-style-type: none"> • Habitat connectivity corridors; 	6-5h
<p>Soil development processes are the quintessential process that must be well-distributed. Roger Hungerford, writing in <i>Effects of Fire or Fire Exclusion on Soil Sustainability New Perspectives</i> a workshop given Nov. 18-20, 1991, at Coeur d'Alene, said "Evidence does exist that much of the soil wood and organic components originated from fire killed trees." We are concerned that the salvage logging will continue the trend of loss of site productivity, depleting nutrients through biomass removal, and interfering with ecological and hydrological processes that should be well-distributed, not clumped.</p>	6-6
<p>7. The EIS failed to explain that deer and elk use burned trees as cover (see the 2003 DEIS for the WWNF Monument Fire Salvage project) and that salvage logging will remove cover and reduce already severely degraded big game cover in violation of the LRMP.</p>	6-7
<p>8. The plan amendment to reduce the number of retained snags is inappropriate. The eastside screens (and the ICBEMP process) were instituted largely to address concerns about cavity dependent species, yet this proposed plan amendment will degrade habitat for the very species most at risk.</p>	6-8
<p>9. This proposed plan amendment (allowing reduced snag retention) is significant and requires a comprehensive review of the viability of all species associated with snags and down wood and the cumulative effects of widespread post-fire salvage as proposed in this and many other fire salvage sales.</p>	6-9
<p>10. The eastside screens require the Forest Service to use the most current methods to consider the needs of cavity dependent species.</p> <ul style="list-style-type: none"> a. Recent science indicates that the pileated woodpecker needs more and larger roosting sites than nesting sites, so determining pileated woodpeckers population potential based on nesting sites is inadequate. The EIS must address this new scientific information. See <i>Science Findings</i> Issue 57 (October 2003) Coming home to roost: the pileated woodpecker as ecosystem engineer, by Keith Aubry, and Catherine Raley http://www.fs.fed.us/pnw/sciencef/scifi57.pdf 	6-10
<p>11. The eastside screens require the Forest Service to provide for 100% potential population levels of cavity dependent species.</p> <ul style="list-style-type: none"> a. While the DecAID tolerance thresholds are not directly comparable to the potential population methods, the Forest Service is clearly not meeting the 	6-11

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>objective of healthy woodpecker populations when post-fire landscapes (which should be the most favorable landscape for snag- and cavity-dependent species) are being severely degraded by salvage logging and only support 30-50% tolerance levels for these species.</p>	
<p>12. The Forest Service has not recognized and analyzed all the many values served by decaying wood and the harms caused by removal of that wood. Dead wood serves many significant and irreplaceable structures, functions, and processes. Removal of most of the large wood will prevent or degrade these values. The EIS must carefully analyze and disclose all these impacts. See Rose et al excerpted below.</p>	6-12
<p>13. Salvage logging without fuel treatment will unacceptably increase short-term fuel hazard. This is caused when logging moves large quantities of small fuel (branches and tops) from the canopy, where it is generally unavailable, to the ground where it is available. The preferred alternative leaves untreated and “available” 60 tons of small fuel per acre.</p> <p>a. Salvage and replanting also creates large expanses of dense, uniform “reprod” that is well-known to be a hazardous fuel condition. Natural regen will be much more patchy and therefore less hazardous due to its reduced continuity and increased variability. The EIS does not disclose and consider this.</p> <p>b. The EIS should clearly explain whether and how the salvage will comply with LRMP requirements for fuel loading.</p>	6-13
<p>14. Soil and water quality will be unacceptable degraded through over 1600 acres of ground based logging, 1.5 miles of road construction, 336 acres of intense landing impacts, and thousands of trips of log hauling on 14 miles of roads located in RHCAs.</p> <p>a. Soil quality is the foundation of all habitat and must be conserved. The Forest Service salvage proposal will clearly harm soils via ground based logging and yarding, yarding with tops and limbs attached which will seriously gouge the soil, new roads and landings that permanently compact the soil, etc.</p> <p>b. Clear Creek is already water quality limited. Conducting further disturbance of fragile soils in an already degraded system will violate the Clean Water Act.</p> <p>c. Log haling on road 2635 will clearly have serious adverse effects on Clear Creek, but this was not adequately discussed in the EIS.</p>	6-14
<p>15. Salvage logging will set-back vegetation and soil recovery that has already started and retard recovery of Riparian Management Objectives in violation of INFISH.</p> <p>a. Recovery of natural sediment regimes after a fire is closely associated with vegetation recovery. The disturbance cause by salvage logging and yarding and roads and landings will churn delicate soils and kill many plants and disrupt soil and vegetation recovery processes.</p> <p>b. Since riparian areas also burned during the fire, the Forest Service cannot rely on the filtering effect of soil litter and vegetation in riparian areas to mitigate for disturbance outside of those area. Disturbance outside RHCAs is much more likely to affect streams after a fire.</p>	6-15
<p>16. Bull trout, summer steelhead, and redband trout that use Clear Creek will be seriously adversely affected by the proposed salvage logging. The EIS did not adequately consider these impacts.</p> <p>a. Sediment delivered to streams will reduce population of invertebrate species that provide food for fish as well as fill pools that provide vital fish habitat.</p> <p>b. Salvage logging will also reduce the recruitment of large woody debris that is so important to developing complex and resilient stream habitat.</p> <p>c. The temporary road in section 15 will likely deliver sediment to Clear Creek because it is relatively near the stream and located perpendicular to the contour.</p> <p>d. The logging will only add to the existing serious adverse effects of the fire-</p>	6-16

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>fighting which include many dozer lines that went right down to the creek and didn't stop the fire.</p>	
<p>17. Unit 66 is in an uninventoried roadless area >1,000 acres. See ONRC roadless map sent under separate cover. National Forest Management Act regulations define unroaded areas as any area without the presence of classified roads, and of a size and configuration sufficient to protect the inherent characteristics associated with its roadless condition. Unroaded areas greater than about 1,000 acres, whether they have been inventoried or not provide valuable natural resource attributes that must be protected. These include: water quality; healthy soils; fish and wildlife refugia; centers for dispersal, recolonization, and restoration of adjacent disturbed sites; reference sites for research; non-motorized, low-impact recreation; carbon sequestration; refugia that are relatively less at-risk from noxious weeds and other invasive non-native species, and many other significant values. See Forest Service Roadless Area Conservation FEIS, November 2000. This project involves activities in such unroaded areas. The NEPA analysis for this project does not adequately discuss the impacts of proposed activities on all the many significant values of roadless/unroaded areas.</p>	<p align="center">6-17</p>
<p>18. Please consider the 9th Circuit's recent decision to require NEPA analysis of impacts to uninventoried roadless areas in a salvage sale on the Lolo National Forest. Attached.</p>	<p align="center">6-17</p>
<p>19. We don't want tree farms. We want complex natural forests. Replanting should be done in scattered patches (if at all). Artificial replanting will truncate the normal successional stages and risks spreading weeds and reducing the genetic diversity of trees in the area. Natural regen is most likely to develop into diverse and complex natural forests. If natural regen is slower that OK. A slow progression through the natural successional stages is great. In fact, diverse early seral post-fire plant communities are relatively rare and the biodiversity of these areas rivals that of old-growth. These should be carefully nurtured, not truncated by artificial replanting.</p>	<p align="center">6-19</p>
<p>20. Logging will adversely impact lynx habitat. Down logs serve as denning habitat, and complex young (and old) forests can serve as foraging habitat. Logging will remove forest structures and reduce populations for lynx prey species. The Forest Service has not adequately disclosed and analyzed the proper delineation of lynx habitat or the effect of logging on lynx and their prey.</p>	<p align="center">6-20</p>
<p>21. The "overland transport of sediment" appendix is inapplicable to the salvage situation because the fire removed ground cover and the filtering effect of riparian vegetation is no longer functional. Also, the fire killed vegetation and reduced evapotranspiration thereby increasing the likelihood of overland flow much like the "scab" example in the overland transport appendix. But the Forest Service must consider large landscape that acts like a scab, not just a small patch.</p>	<p align="center">6-21</p>
<p>22. The 2-23-01 report on "sediment export from salvage logging" included as an appendix is also unconvincing. A proper analysis of this issue must have very large sample sizes and very long time periods. Sediment delivery depends on storms and many other factors that combine with logging and roads to cause serious adverse effects. The small sample size and short time frame makes these results highly questionable.</p>	<p align="center">6-22</p>
<p>23. Large woody instream is essential to provide healthy complex stream habitat. Since the fire has strongly reduced potential future recruitment of large woody material, now is the time for the streams to get fully recharged with woody material, the larger the better because it lasts longest. Removal of the largest material through salvage will reduce large woody debris in streams and harm aquatic habitat. Please retain all the large material and explain how salvage will harm fish and other aquatic values.</p>	<p align="center">6-23</p>
<p><u>Additional Background Material Relevant to the Easy Fire Salvage:</u></p>	
<p>SNAGS, DECAYED WOOD AND ASSOCIATED FUNCTIONS AND SPECIES</p>	

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>Bats, martens, woodpeckers, bears, and many other species are dependent upon snags and down wood. Snags and down wood also serve several crucial ecosystem functions. Current direction for protecting and providing snags and down wood does not ensure the continued operation of these ecosystem functions or meet the needs of the many species associated with this unique and valuable habitat component. Please use the DecAID decision support tool and consider all the many values of snags and down wood presented in Rose, C.L., Marcot, B.G., Mellen, T.K., Ohmann, J.L., Waddell, K.L., Lindely, D.L., and B. Schrieber. 2001. Decaying Wood in Pacific Northwest Forests: Concepts and Tools for Habitat Management, Chapter 24 in <i>Wildlife-Habitat Relationships in Oregon and Washington</i> (Johnson, D. H. and T. A. O'Neil. OSU Press. 2001) http://www.nwhi.org/nhi/whrow/chapter24cwb.pdf</p> <p>Introduction</p> <p>Decaying wood has become a major conservation issue in managed forest ecosystems.^{16, 64, 69a, 149, 201} Of particular interest to wildlife scientists, foresters, and managers are the roles of wood decay in the diversity and distribution of native fauna, and ecosystem processes. Numerous wildlife functions are attributed to decaying wood as a source of food, nutrients, and cover for organisms at numerous trophic levels.^{231, 232, 234, 346, 369} Principles of long- term productivity and sustainable forestry include decaying wood as a key feature of productive and resilient ecosystems.^{10, 229, 291, 293, 386} In addition to a growing appreciation of the aesthetic, spiritual, and recreational values of forests, society increasingly recognizes ecosystem services of forests as resource .capital. with tangible economic value to humansy, such as air and water quality, flood control, and climate modification.^{15, 262, 290}</p> <p>The ecological importance of decaying wood is especially evident in coniferous forests of the Pacific Northwest. In this region, the abundance of large decaying wood is a defining feature of forest ecosystems, and a key factor in ecosystem diversity and productivity.¹²⁷ ... Large accumulations of decaying wood provide wildlife habitat and influence basic ecosystem processes such as soil development and productivity, nutrient immobilization and mineralization, and nitrogen fixation.^{85, 115, 218, 233} ...</p> <p>Since the publication of Thomas et al.³⁶⁹ and Brown,⁴⁸ new research has indicated that more snags and large down wood are needed to provide for the needs of fish, wildlife, and other ecosystem functions than was previously recommended by forest management guidelines in Washington and Oregon. For example, the density of cavity trees selected and used by cavity-nesters is higher than provided for in current management guidelines.^{53, 102} ...</p> <p>Ecological Functions of Decaying Wood</p> <p>...Recent significant advancements have defined wildlife species-specific relationships with particular characteristics and components of decaying trees, both standing and fallen,^{56, 95, 185, 284, 351, 373, 386, 402} and implications for management.^{13, 68, 223, 226, 250, 327} ...</p> <p>...Hollow trees larger than 20 inches (51 cm) in diameter at breast height (dbh) are the most valuable for denning, shelter, roosting, and hunting by a wide range of animals.⁷, ...</p> <p>... In the Interior Columbia Basin, grand fir and western larch form the best hollow trees for wildlife uses. ...</p> <p>Recent studies have provided valuable insight on wildlife uses of snags (dead trees).^{21, 56, 314, 402} Snags provide essential habitat features for many wildlife species (Figure 6). The abundance of cavity-using species is directly related to the presence or absence of suitable cavity trees. Habitat suitability for cavity-users is influenced by the size (diameter and height), abundance, density, distribution, species, and decay characteristics of snags.³⁰⁷ In addition, the</p>	<p>6-24</p>

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>structural condition of surrounding vegetation determines foraging opportunities.⁴⁰²</p> <p>The Habitat Elements matrix on the CD-ROM with this book lists a total of 96 wildlife species associated with snags in forest (93 species) or grassland /shrubland (47 species) environments. Most of these species use snags in both environments. In forests, this includes 4 amphibian, 63 bird, and 26 mammal species. Additionally, 51 wildlife species are associated with tree cavities, 45 with dead parts of live trees, 33 with remnant or legacy trees (which may have dead parts), 28 with hollow living trees, 21 with bark crevices, and 18 with trees having mistletoe or witch’s brooms. Habitat uses include nesting, roosting, preening, foraging, perching, courtship, drumming, and hibernating (Figure 7).</p> <p>Of the 93 wildlife species associated with snags in forest environments, 21 are associated with hard snags (Stages 1 and 2), 20 with moderately decayed snags (Stage 3), and 6 with soft snags (Stages 4-5) in the five-stage classification system. According to the matrixes, 188 most snag-using wildlife species are associated with snags >14.2 inches (36 cm) diameter at breast height (dbh), and about a third of these species use snags >29.1 inches (74 cm) dbh.</p> <p>This query of the Habitat Elements matrix illustrates the breadth of updated information about wildlife and snag habitat relations. Research results have expanded the number and variety of decaying wood categories over what was previously presented in Thomas³⁶⁶ and Brown.⁴⁸</p> <p>Down Woody Material (logs). Down wood affords a diversity of habitat functions for wildlife, including foraging sites, hiding and thermal cover, denning, nesting, travel corridors, and vantage points for predator avoidance.^{56, 64, 230} Larger down wood (diameter and length) generally has more potential uses as wildlife habitat. Large diameter logs, especially hollow ones are used by vertebrates for hiding and denning structures.^{214, 230} ...</p> <p>Long term Productivity</p> <p>Processes that sustain the long- term productivity of ecosystems have become the centerpiece of new directives in ecosystem management and sustainable forestry.^{78, 229, 291, 320} Given the key role of decaying wood in long-term productivity of forest ecosystems in the Pacific Northwest,^{122, 169, 261, 302} the topic should remain of keen interest to scientists and managers during the coming decade.¹⁴⁹ ...</p> <p>Nutrient Cycling and Soil Fertility. Decaying wood has been likened to a savings account for nutrients and organic matter,³⁷⁶ and has also been described as a short-term sink, but a long-term source of nutrients in forest ecosystems.¹⁶⁴</p> <p>...Substantial amounts of nitrogen are returned to the soil from coarse wood inputs, yet even where annual rates of wood input are high, 4 to 15 times more nitrogen is returned to the forest floor from foliage than from large wood.¹⁶⁴ ...</p> <p>... The low nutrient content in wood, small mass of tree boles relative to foliar litterfall, and slow rates of wood decay suggest that large wood plays a minor role in forest nutrition.^{18, 159, 162} After large scale disturbance such as fire and blowdown, however, the large nutrient pool stored in woody structures of trees (bole, branches, twigs, roots) becomes available to the regrowing forest. Large down wood may thus be an ample source of nutrients throughout secondary succession.²⁸¹</p> <p>...Recent studies indicate that wood may release nutrients more rapidly than previously thought through a variety of decay mechanisms mediated by means other than microbial decomposers, i.e. fungal sporocarps, mycorrhizae and roots, leaching, fragmentation, and insects.^{107, 158, 159, 162, 339, 405} ...</p> <p>Soil is the foundation of the forest ecosystem.^{68, 348} ... On the H. J. Andrews Experimental</p>	

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>Forest of western Oregon, 20-30% of the soil volume consists of decaying wood dispersed throughout a matrix of litter and duff.²⁹⁴ Because wood is a relatively inert substance, it may help to stabilize pools of organic matter in forests by slowing soil processes and buffering against rapid changes in soil chemistry. ...</p> <p>... Numerous studies have demonstrated that losses in soil productivity often are closely linked to losses in soil organic matter.²⁹⁸ ...</p> <p>Mass Wasting and Surface Erosion. ... Large wood helps to anchor snowpacks, limit the extent of snow avalanches, and may even stabilize debris flows, depending on the depth of the unstable area.^{125, 356, 358} ... By covering soil surfaces and dissipating energy in flowing and splashing water, logs and other forms of coarse wood significantly reduce erosion.³⁵⁷ Large trees lying along contours reduce erosion by forming a barrier to creeping and raveling soils, especially on steep terrain. Material deposited on the upslope side of fallen logs absorbs moisture and creates favorable substrates for plants that stabilize soil and reduce runoff.²³⁰</p> <p>Stand Regeneration and Ecosystem Succession. Decomposing wood serves as a superior seed bed for some plants because of accumulated nutrients and water, accelerated soil development, reduced erosion, and lower competition from mosses and herbs.^{160, 376} In the Pacific Northwest, decaying wood influences forest succession by serving as nursery sites for shade-tolerant species such as western hemlock, the climax species in moist Douglas- fir habitat.^{80, 123, 160, 163, 244} Wood that covers the forest floor also modifies plant establishment by inhibiting plant growth, and by altering physical, microclimatic, and biological properties of the underlying soil. For example, elevated levels of nitrogen fixation in <i>Ceanothus velutinus</i> and red alder^{35, 88} have been reported under old logs.</p> <p>Streams and Riparian Forests. Long-term productivity in streams and riparian areas is closely linked to nutrient inputs, to attributes of channel morphology, and to flow dynamics created by decaying wood.^{144, 233, 360} ...</p> <p>Large wood is the principal factor determining the productivity of aquatic habitats in low- and mid-order forested streams.²⁶² Large wood stabilizes small streams by dissipating energy, protecting streambanks, regulating the distribution and temporal stability of fast-water erosional areas and slow-water depositional sites, shaping channel morphology by routing sediment and water, and by providing substrate for biological activity.³⁶¹ The influence of large wood on energy dissipation in streams influences virtually all aspects of ecological processes in aquatic environments, and is responsible for much of the habitat diversity in stream and riparian ecosystems.^{262, 376}</p> <p>Key Ecological Functions of Wildlife Species Associated With Decaying Wood</p> <p>... Various symbiotic relations can be described for the 96 snag-associated species. Sixteen species are primary cavity excavators and 35 are secondary cavity users; 8 are primary burrow excavators and 11 are secondary burrow users; 5 are primary terrestrial runway excavators and 6 are secondary runway users. Nine snag-associated species create nesting or denning structures and 8 use created structures. Sixteen species might influence vertebrate population dynamics and 22 might influence invertebrate population dynamics. Snag-associated species also contribute to dispersal of other organisms including seeds and fruits (21 snag-associated wildlife species perform this function), invertebrates (8 species), plants (8 species), fungi (2 species), and lichens (1 species). Six snag-associated species can improve soil structure and aeration through digging, 2 species fragment standing wood, and 2 species fragment down wood. One snag-associated species creates snags, and at least 1 can alter vegetation structure and succession through herbivory.</p> <p>... both snag- and down wood-associated wildlife more or less equally participate in dispersal of seeds and fruits (although the particular species they disperse may differ); however, snag-</p>	

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>associated wildlife play a greater role in dispersal of invertebrates and plants, and down wood-associated wildlife play a greater role in dispersal of fungi and lichens. Down wood-associated species might contribute more to improving soil structure and aeration through digging, and to fragmenting wood. This is one example of the far greater differentiating power afforded by a well-constructed set of matrixes than was previously available in Thomas³⁶⁶ and Brown.⁴⁸ ...</p> <p>Fire Suppression. In the eastern Cascades and through much of the intermountain area, extensive forest insect and disease problems have resulted from decades of fire suppression in combination with selective harvesting of pines.^{177, 194, 236, 401, 403} An analysis of landscape dynamics in the Interior Columbia River Basin^{302, 379} revealed that fire suppression resulted in a decreased abundance of large- diameter trees, and caused fuel accumulations that predisposed forests to stand-replacement fires. As mentioned previously, more intense fires not only consume more wood, but can inhibit wood decay by reducing nitrogen availability (and other elements) through volatilization and leaching, especially for wood in close association with the soil.²⁴⁵ Wood decay in post- fire regenerating forests also may be exacerbated by a decline in symbiotic nitrogen-fixing plant species in stands subject to prolonged fire suppression.¹⁶⁹ ...</p> <p>Management Considerations Management Ramifications of Snag and Down Wood Abundance</p> <p>... The apparent dearth of large snags in Ponderosa pine may mean lower suitability for the 54 wildlife species associated with large snags (20+ in or 51+ cm dbh) in that wildlife habitat. Intensive forest management activities that have decreased the density of large snags in early forest successional stages (sapling/pole and small tree stages) may have had adverse impacts on the 61 associated wildlife species (Figure 12). Similarly, the lesser amount of large down wood in early forest successional stages may not provide as well for the 24 associated wildlife species. Such results suggest the continuing need for specific management guidelines to provide large standing and down dead wood in all successional stages....</p> <p>Depletion of Large Wood. The loss of large wood structures has numerous potential impacts on ecological functions of forests, although available information is inadequate for a definitive assessment. The lack of large logs on steep slopes can decrease water percolation into soil, impair slope stability, accelerate soil erosion and sediment input to streams, and increase nutrient losses in litter.^{164, 358, 359, 360, 361} Some data support a linkage between intensive management (especially depletion of decaying wood) and reduced forest biomass productivity, particularly on less productive sites. Lower productivity is attributed to nutrient losses from managed forests, reduced nutrient availability in older stands, and decreased nutrient storage, particularly in the soil.^{272, 383, 384} Depletion of soil organic matter has been cited as a primary factor contributing to declining forest productivity and biodiversity in the Pacific Northwest and elsewhere.^{17, 137, 198, 199, 228, 292, 293, 298, 299} ...</p> <p>Riparian Forests. ... Far-reaching effects of the absence of large wood structures in streams include: 1) simplification of channel morphology, 2) increased bank erosion, 3) increased sediment export and decreased nutrient retention, 4) loss of habitats associated with diversity in cover, hydrologic patterns, and sediment retention.^{33, 144, 262} In coastal environments and estuaries, the loss of large wood may disrupt trophic webs and alter coastal sediment dynamics.²³³ ...</p> <p>Lessons Learned During the Last Fifteen Years</p> <p>...Several major lessons have been learned in the period 1979-1999 that have tested critical assumptions of these earlier management advisory models:</p> <ul style="list-style-type: none"> . Calculations of numbers of snags required by woodpeckers based on assessing their biological potential. (that is, summing numbers of snags used per pair, accounting for unused 	

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>snags, and extrapolating snag numbers based on population density) is a flawed technique. Empirical studies are suggesting that snag numbers in areas used and selected by some wildlife species are far higher than those calculated by this technique.²²⁶</p> <p>. Setting a goal of 40% of habitat capability for primary excavators, mainly woodpeckers,³⁶⁹ is likely to be insufficient for maintaining viable populations.</p> <p>. Numbers and sizes (dbh) of snags used and selected by secondary cavity-nesters often exceed those of primary cavity excavators.</p> <p>. Clumping of snags and down wood may be a natural pattern, and clumps may be selected by some species, so that providing only even distributions may be insufficient to meet all species needs.</p> <p>. Other forms of decaying wood, including hollow trees, natural tree cavities, peeling bark, and dead parts of live trees, as well as fungi and mistletoe associated with wood decay, all provide resources for wildlife, and should be considered along with snags and down wood in management guidelines.</p> <p>. The ecological roles played by wildlife associated with decaying wood extend well beyond those structures per se, and can be significant factors influencing community diversity and ecosystem processes.</p> <p>We have also learned that managing forests with decay processes should be done as part of a broader management approach to stand development, with attention paid to retaining legacies of large trees and decaying wood from original or prior stands. Further lessons have been learned in the area of technical and operational developments; some of these are discussed below.</p> <p>..... Studies suggest that wood habitat structures function best for wildlife when they are broadly distributed as well as occurring in locally- dense clumps, such as with scattered snag or down wood patches. ...</p> <p>... A new modeling tool named DecAID is available to assist with this task. DecAID (as in .decayed. or .decay aid.) is a new Decayed Wood Advisory Model being developed to address some of the recent lessons learned.^{226, 247} DecAID is based on a thorough review of literature, available research and inventory data, and expert judgement. It broadens the paradigm for wildlife species and habitat assessment by considering the key ecological functions of wildlife (see below) as well as the ecosystem context of wood decay in terms of secondary effects on forest productivity, fire, pest insects, and diseases.</p> <p>...The manager will be able to use DecAID for advice on the following topics by first specifying wildlife habitat, structural stage, and statistical (confidence) level: 1) wildlife species associated with particular sizes and densities of snags and down wood, or, conversely, the sizes and densities required to meet specified wildlife management objectives, at three levels of confidence; 2) the array of key ecological functions of wildlife associated with decaying wood; 3) the recent-historic and current range of natural conditions of snags and fallen trees; 4) advice on fire risk assessment and mitigation; 5) advice on the roles of insects and diseases associated with various amounts of decaying wood; 6) and the influence of the abundance of decaying wood on ecosystem processes and productivity....</p> <p>Management Tools and Opportunities...</p> <p>... In young stands, Franklin¹²² recommends that management should:</p> <ol style="list-style-type: none"> 1. Aggressively create stands of mixed composition to maintain habitat for a broad array of 	

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>species (and to achieve diversity in quality and timing of nutrient inputs to streams).</p> <p>2. Delay the process of early canopy closure (wide spacings, pre-commercial thinning etc.).</p> <p>3. Provide for adequate amounts and a continuous supply of large wood, including snags and down logs, for maintaining structural diversity in forests and streams and maintaining all other ecosystem processes associated with wood.</p> <p>The basic theme of these revisions of intensive forestry practices is to retain the higher levels of complexity found in natural forests, and in so doing, to protect processes and structures that retain future options for ecosystem management. ...</p> <p>... Retention of snags provides numerous habitat benefits.^{154, 239, 402} However, safety and liability issues associated with snag retention have posed an operational barrier to management objectives for structural retention. Two approaches useful in reducing hazards associated with snags are: 1) to cluster snags in patches rather than wide dispersal, and 2) to create snags from green trees after cutting.¹²²</p> <p>... Managers must also consider the temporal dimension to decaying wood, to ensure that sufficient sufficient snag and down wood densities are provided through time. ...</p> <p>Live (Green) Tree Retention. Retention of living trees on cutover areas is one form of structural retention that can provide for future recruitment of snags and down wood ...</p> <p>Green trees function as a refugium of biodiversity in forests. For example, many species of invertebrate fauna in soil, stem, and canopy habitats of old-growth forests do not disperse well, and thus, do not readily recolonize clear-cut areas.^{207, 326} The same concept holds for many mycorrhizae-forming fungal species.²⁹³ Added benefits of green tree retention include moderated microclimates of the cutover area, which may increase seedling survival, reduce additional losses of biodiversity on stressed sites,²⁹³ and facilitate movement of organisms through cutover patches of the landscape. Green trees retained across harvest cycles can also be used to grow very large trees for either ecologic or economic goals. ...</p> <p>Green tree retention offers many benefits to wildlife. For example, the higher structural diversity in young stands that contain legacy trees from previous stands provides much improved habitat values to late successional species such as the northern spotted owl, as well as other vertebrates that use late-successional stands for some elements of their life history.^{69, 122, 314} Such stands may provide wildlife habitat as early as age 70-80 years rather than 200-300 years, the approximate time interval required for old-growth conditions to develop after secondary succession.</p> <p>Summary of Management Recommendations</p> <p>The information presented in this chapter emphasizes several properties of decaying wood in forest ecosystems: (1) each structure formed by decaying wood helps support a different functional web in the ecosystem; (2) no one decaying wood structure supports all functions equally; and (3) all decaying wood habitats together support the widest array of ecological functions and associated wildlife species. The CD-ROM with this book in combination with the DecAid model provides managers with a powerful tool that makes it possible to assess the degree of .full functionality. of ecosystems as supported by the various decaying wood structures, and which functions are strengthened, diminished, or lost through alternative silvicultural management practices.</p> <p>Lessons for managers are:...</p> <p>2. Emphasize retention of wood legacies, and secondarily promote restoration where legacies are deficient to meet stated objectives. The decline of species associated with late-</p>	

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>successional forest structures, as well as the prolonged time needed to produce wood legacies, suggests that it is both ecologically and economically advantageous to retain legacy structures across harvest cycles wherever possible, rather than attempt to restore structures that have been depleted. This is especially obvious for slow-growing tree species and very large wood structures.</p> <p>Operational Considerations</p> <p>... OSHA revised the federal Logging Standard (29 CFR 1910.266) in 1995, to clarify its intent that danger trees may be avoided, rather than being removed or felled.^{72a} A danger tree is any standing tree (live or dead) that poses a hazard to workers, from unstable conditions such as deterioration, damage, or lean. The revised rule allows some discretion in determining the hazard area around a danger tree, byallowing work to commence within two tree lengths of a marked danger tree, provided that the employer demonstrates that a shorter distance will not create a hazard for an employee..(OSHA Logging Preamble, Section V). Determining a safe working distance requires a case-by-caseevaluation of various factors such as, but not limited to, the size of the danger tree, how secure it is, its condition, the slope of the work area, and the presence of other employees in the area. ...</p> <p>...Concerns frequently arise where high public use creates a risk of third party liability. Considerations include the proximity of reserve trees to roads, trails, campgrounds, ski areas, and other recreation areas and public access points. Methods for addressing these concerns include signage and clear delineation of potential hazard areas, fencing and other barriers to discourage public access, snag height reduction and use of setbacks to minimize exposure.</p>	
<p>The bottom line is that current management at both the plan and project level does not reflect all this new information about the value of abundant snags and down wood. The agency must avoid any reduction of existing or future large snags and logs (including as part of this project) until the applicable management plans are rewritten to update the snag retention standards. See also PNW Research Station, “Dead and Dying Trees: Essential for Life in the Forest,” Science Findings, Nov. 1999 (http://www.fs.fed.us/pnw/sciencef/scifi20.pdf) (“Management implications: Current direction for providing wildlife habitat on public forest lands does not reflect findings from research since 1979; more snags and dead wood structures are required for foraging, denning, nesting, and roosting than previously thought.”) See also:</p> <p>Jennifer M. Weikel and John P. Hayes, HABITAT USE BY SNAG-ASSOCIATED SPECIES: A BIBLIOGRAPHY FOR SPECIES OCCURRING IN OREGON AND WASHINGTON, Research Contribution 33 April 2001, http://www.fsl.orst.edu/cfer/snags/bibliography.pdf; and DecAID, the Decayed Wood Advisor for Managing Snags, Partially Dead Trees, and Down Wood for Biodiversity in Forests of Washington and Oregon, http://www.notes.fs.fed.us:81/pnw/DecAID/DecAID.nsf (Note: the agency must address snag fall rates which are not accounted for in the DecAID advisor.)</p>	<p align="center">6-25</p>
<p>Current science shows that 4 snags/acre minimum are required for 100% population potential for woodpecker species associated with snag cavities. Wolf Vegetation Management EA, Wallowa-Whitman National Forest, May 2001, page 57. “Historic snag levels could have been much higher, closer to 6-14 snags/acre. (Harrod, Gaines, Hartl, and Camp, 1998).” Goose EA, Wallowa-Whitman National Forest. Additional snags should be left because future fires (both managed and unmanaged) and illegal firewood cutting is almost certain to take a heavy toll on snags over the next several decades.</p>	<p align="center">6-26</p>
<p>Snags should be carefully inventoried by species, size, decay status, quality, and location during project planning, and they should be treated as “special habitats” and given special protection during project planning and implementation (i.e. keep workers out of the vicinity of snags so that OSHA doesn’t order them cut). For instance, the May 2001 Wolf Vegetation</p>	<p align="center">6-27</p>

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>Management Project on the Wallowa-Whitman National Forest includes a mitigation measure protecting trees from being harvested if they are near hazardous snags >15 inches dbh. The NEPA document does not adequately address the need to protect and provide snag habitat.</p> <p>The snag retention requirements in the applicable management plan Standards & Guidelines for this project fail to retain enough snags to provide habitat for viable populations of cavity dependent species. Since snags have a patchy spatial distribution, surveys to determine snag abundance require very large sample sizes relative to other general vegetation surveys. This was not recognized until relatively recently, so most past surveys conducted to determine natural snag abundance have therefore grossly underestimated the true abundance of snags. This has lead the Agency to underestimate the number of snags necessary to protect species. This new information must be disclosed and documented in a EIS and it requires a forest plan amendment.</p> <p>The agency must do away with the caveat that they will protect snags “except where they create a safety hazard.” This is based on a false choice between snags and safety. The agency can just buffer snags from activities that involve workers, then all ecologically important snags can be protected. The agency must consider this as an alternative to their proposed “management by caveat.” An example of this was the Umpqua National Forest, Cottage Grove Ranger District’s 2001 decision to burn a picnic table near Moon Falls in order to avoid placing the public in a hazardous situation with respect to a nearby snag. Similarly, the agency here should save the snags by avoiding the activity in the hazard zone around the snags.</p> <p>The EA must at least disclose how many large snags will be protected vs. felled for safety under the preferred alternative.</p>	<p align="center">6-28</p> <p align="center">6-29</p>
<p>GRAZING AND FOREST HEALTH</p> <p>This project does nothing to address the threat that livestock grazing causes to forest health. There is virtually no point in trying to mechanically reduce tree density unless you deal with other underlying causes of overstocking, e.g. livestock grazing. The NEPA document describes the effects “on” range resources (e.g., fences and transitory range) but fails to disclose or analyze the effects “of” livestock on forest health and the desired future condition of vegetation composition.</p> <p>Grazing reduces the density and vigor of grasses which usually outcompete tree seedlings, leading to dense stands of fire-prone small trees. Cows also decrease the abundance of fine fuels which are necessary to carry periodic, low intensity ground fires. This reduces the frequency of fires, but increases their severity. See Belsky, A.J., Blumenthal, D.M., “Effects of Livestock Grazing on Stand Dynamics and Soils in Upland Forest of the Interior West,” Conservation Biology, 11(2), April 1997. http://www.onda.org/library/papers/standdynamics.pdf See also Wuerthner, George. Livestock Grazing and Fire. January, 2003. http://www.onda.org/library/papers/Livestock_Grazing_and_Fire.pdf</p> <p>The NEPA document failed to address these issues and failed to consider alternative ways of avoiding these impacts by not grazing. The combination of fire suppression, past high-grading, and livestock grazing together caused the overstocked condition of the stands in the analysis area. Logging and prescribed fire will only partially address the problem. To be effective, livestock grazing must also be eliminated. Grazing and logging cause cumulative effects that must be considered together in one NEPA document.</p>	<p align="center">6-30</p>
<p>WATER QUALITY</p> <p>The agency seems to claim that the direct sediment input from timber harvest in addition to any other sources of sediment will be sufficiently mitigated by the use of Best Management Practices (BMPs). While the use of BMPs is to be encouraged in timber projects, we note that</p>	<p align="center">6-31</p>

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>the use of these measures are not themselves sufficient to ensure compliance with the Clean Water Act (CWA). <i>Northwest Indian Cemetery Protective Ass'n v. Peterson</i> 795 F.2d 688, 697 (9th Cir. 1986) (holding that compliance with BMPs does not equate to compliance with the CWA). Indeed, the agency 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. Consequently, this assumption is flawed and violates the law.</p> <p>A recent case in Montana affirmed that further degradation of water quality in streams that are already out of compliance with water quality standards is unacceptable unless baseline data is available showing the assimilative capacity of local streams will not be exceeded by the logging (e.g., a TMDL must be prepared). See <i>Sierra Club v. Austin</i>, (D. Montana, April 30, 2003)</p> <p>http://www.johnmuirproject.org/Opinions/Sierra%20Club%20Lolo%20Burn%20Order.pdf</p> <p>A recent USDA Office of the Inspector General Report concluded that reliance on speculative mitigation measures in order to reach a FONSI significantly compromised environmental quality. OFFICE OF INSPECTOR GENERAL, U.S. DEPT' OF AGRIC., EVALUATION REPORT NO. 08801-10-AT: FOREST SERVICE TIMBER SALE ENVIRONMENTAL ANALYSIS REQUIREMENTS (1999). The OIG concluded that:</p> <p>Applicable mitigation measures contained in 10 of 12 decision notices and referenced environmental assessments reviewed, were not always implemented. In addition, mitigation measures were either omitted or incorrectly incorporated into 4 of 12 accompanying timber sale contracts. These mitigation measures are designed to reduce the adverse impacts of timber sale activities on the environment. Generally, mitigation measures were not implemented due to district personnel (a) not being familiar with the mitigation measure contained in the environmental documents, (b) not adequately monitoring actual implementation of the mitigation measures, (c) not comparing timber sale contract clauses with the applicable environmental documents and, (d) oversight. As a result, streams, wildlife habitat, heritage resources, water quality, and visual quality were or could be adversely affected. In addition, "Findings of No Significant Impact" conclusions (i.e. that there was no significant affect on the quality of the human environment) were questionable . . . Timber sale field visits disclosed that mitigation measures designed to protect key resource areas were not adequately implemented. The measures involved mitigation of riparian areas and stream management zones, wildlife habitat, heritage resource sites, visual quality, and soils.</p>	
<p>Until the agency is able to substantiate its proposed mitigation measures - i.e., that they are appropriate, will be implemented, and will be effective - the agency must withdraw the proposed project.</p>	6-32
<p>Further logging in this watershed threatens further violations of state water quality standards. This triggers an EIS and also requires that a TMDL/water quality management plan precede further actions that could increase stream temperature, nutrients, or sediment.</p>	6-33
<p>When conducting activities that could impact 303(d) listed streams, the land management agencies have agreed to validate impairment of listed streams, demonstrate that measures are in place to prevent further degradation, and develop <i>water quality restoration</i> plans before TMDL are developed. USDA Forest Service, USDI Bureau of Land Management, Environmental Protection Agency, 1999. Forest Service and Bureau of Land Management Protocol for Addressing Clean Water Act Section 303(d) Listed Waters http://www.fs.fed.us/r6/water/protocol.pdf The agency has not fulfilled its obligations under this interagency agreement.</p>	6-34

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>The EA must address the cumulative effects of logging and grazing on water quality and discuss the fact that further grazing will retard the attainment of riparian and aquatic management objectives in violation of the applicable land management plan as amended.</p>	<p align="center">6-35</p>
<p>On October 14, US District Court Judge Marilyn Patel of San Francisco ruled that the EPA has erred in exempting timber harvesting from the requirement of obtaining a stormwater runoff permit under the Clean Water Act. The case was brought by environmentalists against Pacific Lumber Company operations in northern California. Judge Patel reached her findings based on the fact that harvest unit erosion often enters roadside ditches and passes through culverts, thus making it point source pollution subject to the NPDES permitting requirements of the Clean Water Act. This project will similarly cause erosion, and discharge polluted ditch water to streams. The agency should obtain a NPDES permit.</p>	<p align="center">6-36</p>
<p>SOILS CONCERNS</p>	
<p>According to the regional guidelines soils in 80% of an activity area must be maintained in a non-compacted, non-displaced, and non-puddled condition. Soils must be “maintained,” not “mitigated” or “restored” to attain that objective. Mitigation should not be used as an excuse for violation of the regional soil guidelines.</p>	<p align="center">6-37</p>
<p>Scarification, ripping, and subsoiling does not alleviate the following negative impacts, therefore not completely mitigating:</p> <ul style="list-style-type: none"> • compaction of soil and alteration of the soil ecosystem; • alteration of hydrology, water storage, flow, timing, from soil compaction; • alteration or loss of native plant communities, and tendency to create conditions which favor noxious weeds or other non-native plants; • disruption of soil foodweb and biotic communities that serve important soil functions and processes such as aeration, nutrient cycling, 	<p align="center">6-38</p>
<p>Soil productivity must be zealously guarded in order to protect our forests for future generations. This project will cause unacceptable impacts to soil resources. Use of ground-based logging equipment almost always compacts soil causing reduced site productivity, drastically altered soil food web relationships, reduced infiltration, and increase surface runoff. Spring burning can also be very harmful to soil and the thousands of creatures that live all or part of their lives in the soil profile. The EA needs to consider these impacts and consider alternative ways to avoiding these impacts.</p>	<p align="center">6-39</p>
<p>Ground-based logging causes higher incidences of root damage and scarring of residual trees (compared to skyline systems). Kellog, L., Han, H.S., Mayo, J., and J. Sissel, “Residual Stand Damage from Thinning— Young Stand Diversity Study,” Cascade Center for Ecosystem Management.</p>	<p align="center">6-40</p>
<p>Soil disturbance caused by logging, road building, skid trails, and pile burning also causes erosion that adversely impacts both soil and water resources. The existing level of soil disturbance has not been measured and disclosed in the EA so the Agency cannot say with any factual basis whether forest plan standards will be met. This is arbitrary and capricious. Existing soil impacts must be measured and future impacts estimated so that an adequate cumulative effects analysis can be prepared and included in a supplemental EIS.</p>	<p align="center">6-41</p>
<p>In modern forestry, soils are chronically impacted yet very slow to recover leading to cumulative impacts. Cumulative soil impacts caused by this project and all past and future projects (including livestock grazing, roads, landings, fuel treatments, fires, OHVs etc) is also</p>	<p align="center">6-42</p>

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>significant issue. See http://www.cof.orst.edu/cof/teach/for341/Cumulative%20Effects%20of%20Forestry%20on%20Soils/CHAPT6Soils.htm. An EIS is needed to address these significant soil issues.</p> <p>See: http://www.subtleenergies.com/ormus/bmnfa/Soilcmts.htm</p>	
<p>Respect the soil foodweb</p>	
<p>In undisturbed ecosystems, the soil foodweb is a tightly coupled below-ground ecosystem that directly affects many above ground processes such as succession, plant establishment and growth, and erosion and water quality.</p>	
<p>In a forest, this below-ground ecosystem is fed primarily by photosynthates exuded from the fine roots of trees. These photosynthates feed a plethora of bacteria and fungi species which feed thousands of arthropod and nematode species and so on. Each species fills a niche and represents both a sink and a source and of nutrients for other organisms. Logging will kill trees and cut off the supply of photosynthate which forms the basis of this food web, so the tightly coupled nutrient retention systems will be disrupted, allowing nutrients to “leak” from the system.</p>	<p align="center">6-43</p>
<p>Burning slash piles also kills the below ground ecosystem and soil compaction from road building and other heavy equipment kills or destroys habitat for many soil dwelling species and shifts the below ground ecosystem from aerobic to anaerobic.</p>	<p align="center">6-44</p>
<p>The NEPA document fails to consider these significant effects.</p>	
<p>Soil Foodweb Significance</p>	
<p>The structure and function of the soil foodweb has been suggested as a prime indicator of ecosystem health (Coleman, et al. 1992; Klopatek, et al. 1993). Measurement of disrupted soil processes, decreased bacterial or fungal activity, decreased fungal or bacterial biomass, changes in the ratio of fungal to bacterial biomass relative to expected ratios for particular ecosystems, decreases in the number or diversity of protozoa, and a change in nematode numbers, nematode community structure or maturity index, can serve to indicate a problem long before the natural vegetation is lost or human health problems occur (Bongers, 1990; Klopatek et al. 1993).</p>	<p align="center">6-45</p>
<p>Soil ecology has just begun to identify the importance of understanding soil foodweb structure and how it can control plant vegetation, and how, in turn, plant community structure affects soil organic matter quality, root exudates and therefore, alters soil foodweb structure. Since this field is relatively new, not all the relationships have been explored, nor is the fine-tuning within ecosystems well understood.</p>	
<p>Regardless, some relationships between ecosystem productivity, soil organisms, soil foodweb structure and plant community structure and dynamics are known, and can be extremely important determinants of ecosystem processes (Ingham and Thies, 1995). Alteration of the soil foodweb structure can result in sites which cannot be regenerated to conifers, even with 20 years of regeneration efforts (Perry, 1988; Colinas et al, 1993). Work in intensely disturbed forested ecosystems suggests that alteration of soil foodweb structure can alter the direction of succession. By managing foodweb structure appropriately, early stages of succession can be prolonged, or deleted (Allen and Allen, 1993). Initial data indicates that replacement of grassland with forest in normal successional sequences requires alteration of soil foodweb structure from a bacterial-dominated foodweb in grasslands to a fungal-dominated foodweb in forests (Ingham, E. et al, 1986 a, b; 1991; Ingham and Thies, 1995).</p>	
<p>... ...Without doubt, plant establishment, survival and successional processes are influenced by</p>	

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>these soil organisms</p> <p>Soil processes are important for maintaining normal nutrient cycling in all ecosystems (Coleman et al., 1985; Dindal 1990; Ingham, E. et al. 1986a, b). Plant growth is dependent on the microbial immobilization and soil foodweb interactions to mineralize nutrients. In undisturbed ecosystems, the processes of immobilization and mineralization are tightly coupled to plant growth but following disturbance, this coupling may be lost or reduced. Nutrients may be no longer retained within the system, causing problems for systems into which nutrients move (Ingham and Coleman, 1984; Hendrix et al. 1986; Nannipieri et al. 1990). Measurement of disrupted processes may allow determination of a problem long before normal cycling processes are altered, before the natural vegetation is lost, or human health problems occur. By monitoring soil organism dynamics, we can perhaps detect detrimental ecosystem changes and possibly prevent further degradation.</p> <p>Immobilization of nutrients in soil, i.e., retention of carbon, nitrogen, phosphorus, and many micronutrients in the horizons of soil from which plants obtain their nutrients, is a process performed by bacteria and fungi. Without these organisms present and functioning, nutrients are not retained by soil, and the ecosystem undergoes degradation. Thus, to assess the ability of an ecosystem to retain nutrients, the decomposed portion of the ecosystem, i.e., active and total fungal biomass, and active bacterial biomass must be assessed.</p> <p>Ingham, Elaine, The Soil Foodweb: It's Importance in Ecosystem Health</p> <p>http://www.rain.org/~sals/ingham.html</p> <p>Soil is full of beneficial soil organisms profoundly affecting forest site productivity; for example, mycorrhizal fungi (fungi that form a close and mutually beneficial relation with the roots of plants) and nitrogen-fixing organisms (specialized soil microbes that change atmospheric nitrogen into chemical forms usable by plants) These organisms capture and take in nutrients and water, protect roots against diseases, and promote soil structure. Severe disturbance, such as intense fire or the piling and removing of surface organic matter, can reduce or eliminate beneficial soil organisms (Amaranthus et al., 1990) Impacts on these beneficial organisms is minimized when forest practices emphasize retention of organic matter and rapid regeneration...Mycorrhizal fungi, essential for plant nutrient and water uptake, also are most prevalent near the soil surface. Site preparation activities...can displace surface soil and organic layers thereby decreasing tree growth between rows of slash."</p> <p>Little is known about the effects of soil erosion from deforested areas, but the density and diversity of mycorrhizal inocula are reduced.</p> <p>Amaranthus, M.P.; Molina R.; and Trappe J. M. 1990. Long-term forest productivity and the living soil. Chapter 3. <u>In</u> Perry D.A. ed. Maintaining Long-term Forest Productivity in the Pacific Northwest Forest Ecosystem. Timber Press. Portland, OR 97208.</p>	<p align="center">6-47</p>
<p>Salvage is not Restoration</p> <p>Salvage logging and replanting will convert a structurally complex landscape into a simplified and biologically depraved landscape. Unsalvaged, naturally regenerated, young stands are one of the rarest forest types in the Pacific northwest, and their biodiversity rivals that of old-growth forests. Indeed, naturally developed early-successional forest habitats, with their rich array of snags and logs and nonarborescent vegetation, are probably the scarcest habitat in the current regional [Pacific Northwest] landscape. Lindenmayer, David B. and Jerry F. Franklin. 2002. Conserving Forest Biodiversity: A Comprehensive Multiscale Approach. Island Press. Washington, DC: 69. <i>See also</i>, DellaSala, D.A., J.E. Williams, C. Deacon-Williams, and J.F. Franklin. Beyond smoke and mirrors: a synthesis of fire policy and science. In review - Conservation Biology.</p>	<p align="center">6-48</p>

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>If this project involves post-fire commodity extraction (also often referred to erroneously as “salvage” logging) please carefully analyze and take the following into account:</p>	
<p>Please consider and disclose the site-specific analysis of the many reasons NOT to do post-fire commodity extraction, including but not limited to:</p>	
<p>-adverse impacts to soil, such as erosion, compaction, displacement, litter disturbance, nutrient depletion; loss of chemical buffering; loss of soil organic matter; loss of burrowing wildlife that help aerate soils; reduction of nitrogen fixing plants that boost soil fertility; loss of slope and snow stabilizing effects which could lead to mass wasting or eliminate mechanisms that may mitigate mass wasting;</p>	6-49
<p>-loss of down wood functions such as trapping sediment and aiding water infiltration, and creating microsites favorable for germination and establishment of diverse plants, and habitat for diverse wildlife;</p>	6-50
<p>-loss of decaying wood and depletion of the “savings account for nutrients and organic matter” which affects site productivity through the removal of dead trees which store nutrients and slowly release them to the next stand. Recent studies indicate that wood may release nutrients more rapidly than previously thought through a variety of decay mechanisms mediated by means other than microbial decomposers, i.e. fungal sporocarps, mycorrhizae and roots, leaching, fragmentation, and insects;</p>	6-51
<p>-loss of nutrients from live trees that are determined to be “dying.” Live trees produce serve as refugia for animals, invertebrates, and mycorrhizae; produce litter fall; and help cycle nutrients which are all extremely valuable in the post-fire landscape;</p>	6-52
<p>-loss of wood that serves to buffer soil chemistry and prevent extreme changes in soil chemistry;</p>	6-53
<p>-water quality degradation;</p>	6-54
<p>-loss of water storage capacity in down logs;</p>	6-55
<p>-altered timing of storm run-off which could lead to peak flows that erode stream banks and scour fish eggs;</p>	6-56
<p>-delaying the pace of vegetative recovery and reducing the quality/diversity of the vegetation community;</p>	6-57
<p>-spread of invasive weeds through soil disturbance and extensive use of transportation systems;</p>	6-58
<p>-loss of legacy structures that can carry species, functions, and processes over from one stand to the next;</p>	6-59
<p>-loss of terrestrial and aquatic habitat (mostly snags and down logs) potentially harming at least 93 forest species (63 birds, 26 mammals, and 4 amphibians) that use snags for nesting, roosting, preening, foraging, perching, courtship, drumming, and hibernating, plus many more species that use down logs for foraging sites, hiding and thermal cover, denning, nesting, travel corridors, and vantage points for predator avoidance;</p>	6-60
<p>-Depletion of large wood structures in streams that can cause: 1) simplification of channel morphology, 2) increased bank erosion, 3) increased sediment export, 4) decreased nutrient retention, 5) loss of habitats associated with diversity in cover, hydrologic patterns, and sediment retention;</p>	6-61
<p>-commercial salvage usually removes the largest trees, but this will disproportionately harm wildlife because: (1) larger snags persist longer and therefore provide their valuable ecosystem services longer and then serve longer as down wood too, and (2) most snag-using wildlife species are associated with snags >14.2 inches diameter at breast height (dbh), and about a third of these species use snags >29.1 inches dbh.</p>	6-62
<p>-Truncation of symbiotic species relations and loss of biodiversity. Sixteen species are primary cavity excavators and 35 are secondary cavity users; 8 are primary burrow excavators and 11 are secondary burrow users; 5 are primary terrestrial runway excavators and 6 are secondary runway users. Nine snag-associated species create nesting or denning structures and 8 use created structures.</p>	6-63
<p>-Reduced avian and terrestrial species diversity which affects plant and invertebrate diversity.</p>	6-64

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>Since different wildlife help disperse different sets of seeds and invertebrates, reduced wildlife diversity can significantly affect pace of recovery and the diversity of the regenerating stand. Snag- associated wildlife play a greater role in dispersal of invertebrates and plants, while down wood-associated wildlife play a greater role in dispersal of fungi and lichens. Down wood-associated species might contribute more to improving soil structure and aeration through digging, and to fragmenting wood which increases surface area encouraging biological action that releases nutrients.</p> <p>-loss of partial shade that helps protect the next generation of forest;</p> <p>-loss of cover quality and fawning areas for big game;</p> <p>-loss of future disturbance processes such as falling snags that help thin and diversify the next generation of forest;</p> <p>-increased human activity and human access that can increase fire risk;</p> <p>-increased fine fuels on the forest floor that can cause an increase in fire hazard;</p> <p>-loss of seed sources, and</p> <p>-loss of diversity of vegetation and microsite conditions.</p> <p>-The fact that regional standards for snags and down wood fail to incorporate the most recent science indicating that more snags and down wood (especially large snags and logs) are required in order to maintain species viability and sustain site productivity.</p> <p>-Arguments in support of the “reburn hypothesis” are specious. (1) partial reburn may be completely natural and desirable in some cases to consume some fuel and diversify the regenerating forest, and (2) salvage logging will cause a pulse of fine fuels on the ground and actually increase the reburn risk/hazard above natural levels, and (3) fuels that fall to the ground over time will to some extent decay as they fall.</p> <p>-Uncertainty calls for a cautious approach.</p> <p>Compare these adverse impacts of salvage logging to the few scant reasons to salvage (e.g., economic recovery of fiber).</p> <p>Prevention of reburn must not be used as a justification for post-fire logging, without carefully documenting the rationale and providing references to published scientific studies (not just hypotheses and speculation and anecdotes). Also, the Forest Service must explain whether logging will increase or decrease the risk of reburn in terms of fuels profiles over various time horizons, ignition sources, etc. Salvage logging increases fine and mid-size fuels in the short-term by leaving treetops, branches, and needles on site. Fine and mid-size surface fuels also occur in unsalvaged areas, but accumulate gradually over time. It is unlikely that fuels in an unsalvaged area would reach the same magnitude as in the post-salvage scenario because decomposition breaks down new material accumulates.</p> <p>Please consider at least one non-commercial, restoration-only alternative that invests in restoration and recovery of the fire area by, for instance, eliminating livestock grazing, emphasizing native species recovery, not building any new roads, stabilizing soils disturbed by the fire suppression effort, decommissioning unneeded roads.</p> <p>Also, consider an alternative modeled on the recommendations of the Beschta report. Specifically:</p> <p>prohibit post-fire logging AND roadbuilding on all sensitive sites, including: severely burned areas (areas with litter destruction), on erosive soils, on fragile soils, in roadless/unroaded areas, in riparian areas, on steep slopes, and any site where accelerated erosion is possible. We would add: Late-Successional and Riparian Reserves, and protective land allocations or designations including Botanical and Scenic River Areas;</p> <ul style="list-style-type: none"> • protect all live trees; • protect all old snags over 150 years old; • protect all large snags over 20 inches dbh; • protect at least 50% of each size class of dead trees less than 20 inches dbh. <p>See Beschta RL, Frissell CA, Gresswell R, Hauer R, Karr JR, Minshall GW, Perry DA, and Rhodes JJ. 1995. <u>Wildfire and Salvage Logging: recommendations for ecologically sound post-fire salvage logging and other post-fire treatments on Federal lands in the West</u>. Corvallis, OR: Oregon State University. Available at: http://www.fire-</p>	<p>6-65</p> <p>6-66</p> <p>6-67</p> <p>6-68</p> <p>6-68</p> <p>6-69</p> <p>6-70</p> <p>6-71</p> <p>6-72</p> <p>6-73</p> <p>6-72</p> <p>6-74</p> <p>6-75</p>

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>ecology.org/science/Beschta_Report.pdf</p> <p><i>Recognize the effects of compound disturbances such as fire followed by logging.</i></p> <p>Compound disturbances have the potential to fundamentally alter an ecosystem structure and function. This study examines the effects of a natural disturbance and a compounded natural and anthropogenic disturbance on soil properties, biogeochemical cycles, and ecosystem reorganization in a windblown and salvage-logged ecosystem in northwestern Colorado. Areas of intact forest are used as a control to compare the disturbance effects. Results indicate that soils in the salvage-logged areas are drier, significantly warmer, denser, and contain less organic matter than soils in blowdown or control areas. Significant amounts of erosion occurred in the salvage-logged areas to produce these results. Furthermore, net nitrogen mineralization rates are lower in soils from salvage-logged areas than in blowdown areas. By contrast, net nitrogen mineralization rates are twice as high in blowdown areas than in control areas. Seedling density, herbaceous cover, and plant species diversity are greatest in blowdown areas, and least in salvaged-logged areas. The results of this four-year study indicate that the mitigation effects of salvage logging significantly alter ecosystem functions and retard the rate of recovery when compared to unlogged blowdown areas.</p>	<p>6-75b</p>
<p>Cristina M. Rumbaitis-Del Rio and Carol A. Wessman. Impact of compound disturbances on N-cycling and forest reorganization in a wind-disturbed and logged forest. Paper presented to the 86th Annual Meeting of the Ecological Society of America, August 6 –10, 2001. http://www.fs.fed.us/r2/mbr/resourcegmt/blowdown/CRresearch.pdf</p> <p><i>Recognize that dead and down wood are key elements of the forest ecosystem.</i></p> <p>There are implications for management of old-growth stands selected for perpetuation. Salvage logging is inappropriate since it removes at least two of the major structural components—dead and down—that are key elements of the system. In all likelihood, some of the more decadent, live trees would also be removed. Salvage logging is also inappropriate because of the damage inevitably done to root systems and trunks of the residual stand which results in accelerated mortality of trees and overall deterioration of the stand.</p> <p>Franklin, J.F., K. Cromack, Jr., W. Denison, A. McKee, C. Maser, J. Sedell, F. Swanson, and G. Juday. 1981. Ecological characteristics of old-growth Douglas-fir forests. PNW-GTR-118. USDA Forest Service. PNW Research Station. February 1981.</p> <p>http://www.fs.fed.us/pnw/pubs/gtr118part1.pdf</p> <p>http://www.fs.fed.us/pnw/pubs/118part2.pdf</p>	<p>6-75c</p>
<ul style="list-style-type: none"> • Salvage has been shown to increase fire hazard, especially when dead trees less than 10" diameter will be left behind. Harvesting all the larger diameter trees, especially in an old growth preserve is not acceptable. Large trees need to be left behind. 	<p>6-76</p>
<ul style="list-style-type: none"> • As stated in Appendix C-9 of the Warner Fire Recovery Project EIS (Willamette NF), standing dead trees provide about 25% daily shade to seedlings. This in itself is reason to leave standing trees, especially larger ones. 	<p>6-77</p>
<ul style="list-style-type: none"> • Pile burning leaves the area prone to invasives. 	<p>6-78</p>
<p>Salvage retards watershed and aquatic recovery</p> <p>Salvage logging will set back vegetative recovery that has already started and thereby retard</p>	<p>6-79</p>

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>attainment of riparian and aquatic management objectives. In research on post-fire logging on the Winema NF, Sexton (1998) found that salvage logged sites produced only about 38% of the understory biomass of that on the unlogged site; and one year later produced only about 27% of the understory biomass of that on the unlogged site. Since the recovery of understory groundcover is the primary recovery mechanism for post fire recovery of erosion and runoff, and consequent downstream sediment-related effects, this indicates that post-fire logging seriously impedes recovery. Kattleman (1996) noted that “If post fire treatments of salvage logging and site preparation prevent rapid reestablishment of low vegetation, resulting erosion can be greater than that directly produced by the fire.”</p> <p>"In places where salvage logging occurs, the amount of snags that can be removed from the uplands without serious adverse effects on stream macroinvertebrate but ecosystem recovery is unknown and is likely to vary with forest type, geology, and topographical relief. However, it is know that virtually all forms of postfire logging can have various adverse effects on stream ecosystems (e.g., Mehahan, 1983; Smith et al., 1993a, b; Stout et al., 1993; Ketcheson and Megahan, 1996). Based on results from watersheds having various proportions of their areas burned by wildfire (e.g., Minshall et al., 1995, 2001b; Minshall, personal observation), it is probable that the amount of timber removed should not exceed about 25% of the merchantable timber (unless contradictory information is available). In addition, postfire removal should be appropriately spaced across the landscape and should be in proportion to the size classes (DBH) of trees present at the time of the fire (see also Beschta et al., 1995). This proportional harvesting is necessary because of the important graded inputs (Lyon, 1984) that a mix of such large woody debris contributes to streams over the extended recovery period (Minshall et al., 1989). In addition, fire lines should be obliterated prior to logging, and road construction or other major ground-disturbing activities should be avoided in order to prevent additional runoff and erosion. Salvage harvest yeilds responses (e.g., ground disturbance, woody debris removal, interruption of normal infiltration pathways, and acceleration of surface flows) that interact with the direct and indirect effects of fire to make these actions so potentially damaging. In addition, the negative effects extend many years beyond the actual time of salvage activities because of the harvest of snags that normally fall and become incorporated into stream channels and forest floors over several decades or more (Lyon, 1984). These wood inputs are important to create habitat, increase nutrients, and retard runoff and channel alteration during what is normally the most critical stage of stream and riparian vegetation recovery (Minshall et al., 1989; Lawrence and Minshall, 1994)."</p> <p>Minshall, G.W. 2003. Responses of stream benthic macroinvertebrates to fire. Forest ecology and management. 178: 155-161. NOTE: Volume 178, issues 1-2 was a special issue of Forest Ecology and Management on the effects of wildland fire on aquatic ecosystems in the western USA. The Minshall article as well as all others can be found online at www.sciencedirect.com. The <i>in press</i> version is here: http://www.fs.fed.us/rm/boise/teams/fisheries/fire/FAE%20Papers/MinshallFEMFinal.pdf</p> <p>Post-fire logging inevitably involves increases in road use, which increases erosion and sedimentation, especially at road crossings (Reid and Dunne, 1984; Roni et al., 2001). Roni et al. (2001) identified reductions in road traffic as a component of watershed restoration, indicating that increased road traffic works in opposition to watershed and stream restoration.</p> <p>Beschta et al. (1995) noted that even relatively low impact logging systems such as helicopter yarding should be avoided where sedimentation is already a major problem for salmonids or other sensitive aquatic species, because any activity that disturbs litter layers of soil surface horizons, either pre- or post-fire can accelerate soil erosion and sediment delivery to aquatic systems.</p> <p>The USFS and USBLM (1997a; c) conceded that logging generally increases erosion and,</p>	<p>6-80</p>

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>consequently, sedimentation, regardless of how carefully it is implemented. Megahan et al. (1992) came to similar conclusions. Elevated erosion and sedimentation persist for several years after logging disturbance (USFS and USBLM, p. 1101, 1997a).</p>	
<p>BMPs do not eliminate the persistent erosional impacts of post-fire logging. USFS and USBLM (p. 446, 1997c) concluded that although BMPs can reduce sediment yields compared to historical practices, risks of increased sedimentation will continue to occur if road building or timber harvest occur, damaging aquatic habitats. Ziemer and Lisle (1993) stated that there are no reliable data indicating that BMPs are cumulatively effective in protecting aquatic resources from the adverse effects of logging and associated impacts. Espinosa et al. (1997) provided evidence from watershed case histories that BMPs thoroughly failed to cumulatively protect salmonid habitats and streams from severe damage from roads and logging.</p>	6-81
<p>Logging effects on soils and vegetation increase erosion and sedimentation in the post-fire environment. Logging causes soil compaction which causes loss of soil productivity and increased erosion. The latter is essentially permanent (Beschta et al., 1995) and is the most severe source of reductions in long-term soil productivity (USFS and USBLM, 1997a; b). Soil compaction persists for at 50-80 years (USFS and USBLM, 1997a). Compaction and reduced soil productivity are already major concerns on public lands on regional scales (USFS and USBLM, 1997a; CWW, 1996).</p>	6-82
<p>Logging also reduces soil productivity by removing trees which are major sources of the coarse woody debris (CWD) and organic matter critical to soil productivity (USFS and USBLM, 1997a). Even the removal of slash consisting of tops and branches negatively affects soil productivity by negatively affecting nutrient and organic matter levels; burning these materials in place (as occurs with wildland fire) causes much less negative impacts on soils (USFS and USBLM, 1997a). USFS and USBLM (p. 466, 1997a) found that losses in soil productivity were correlated with logging and roads within the ICBEMP project area.</p>	
<p>USFS and USBLM (p. 206, 1997a) and Kattleman (1996) state that the prevention of soil damage and loss of productivity is easier and more effective than attempts to restore it after damage has occurred. A primary approach to restoring soil productivity is to restore organic matter and coarse woody debris levels by leaving areas <u>undisturbed until organic matter levels have recovered</u> (USFS and USBLM, p. 206, 1997a, emph. is mine). Avoidance of increased erosion is key to restoring soil productivity (Beschta et al., 1995; USFS and USBLM, p. 206, 1997a). The most effective means of controlling erosion is to avoid activities that disrupt/damage soils and vegetation, as is exceedingly well-documented in the literature. Due to the manifold negative effects of logging on soil productivity, erosion, and sedimentation, USFS and USBLM (1997b) concluded that logging had greater negative effects on ecosystem functions than the barring of soils by fire.</p>	
<p>The USFS and USBLM (Ch. 4, pp. 12-13, 1997b) notes that although fire may reduce soil productivity, it typically does not reduce it as much as from soil compaction and whole tree removal (e.g. logging), except in the rare cases where fire consumes <u>all</u> organic material. It states: "Because of the mosaic pattern that wildfire produces, and the residual wood that is left on site...wildfire usually has fewer implications for loss of soil productivity and function than disturbances which remove soil organic matter and [increase] bulk density as well." Logging effects on soil properties are usually more severe and more persistent than those of fire (USFS and USBLM, Ch. 4, pp. 13, 1997b).</p>	
<p>These multiple impacts on soil productivity are probably why salvage-logging <u>retards post-fire vegetative recovery</u>. Sexton (1998) documented that post-fire salvage logging over snow reduced regrowth of ponderosa pine and other species relative to adjacent burned, but unlogged, areas. Naturally regenerating groundcover in unlogged areas also had greater survival and growth than plantings on areas that had been salvaged logged after fire. Notably, these adverse effects of logging on regrowth were from over-snow logging (Sexton, 1998). It</p>	

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>is highly likely that ground-based logging without snowcover retards regrowth to a greater extent due to its greater negative effects on soils.</p>	
<p>Kattleman (1996) noted that “If postfire treatments of salvage logging and site preparation prevent rapid reestablishment of low vegetation, resulting erosion can be greater than that directly produced by the fire.” Coupled with Sexton’s work and the known effects of logging on soil productivity and concomitant effects on revegetation, it appears that post-fire logging creates more erosion and sedimentation than fires.</p>	
<p>Logging and elevated road use are also primary vectors for the dispersal and establishment of noxious weeds (USFS, 1999; 2000b). Noxious weed establishment can increase erosion and sediment delivery and impede the recovery of native vegetation USFS (2000a). This is of special concern in burned landscapes because noxious weeds are well-adapted to disturbed environments.</p>	6-83
<p>The construction and reconstruction of roads and landings also cause tremendous and enduring increases in erosion and sedimentation in both the post-fire and between fire environments. But that’s been covered adequately elsewhere and won’t be here.</p>	6-84
<p>Lit. Cited</p>	
<p>Beschta, R.L., C.A. Frissell, R.G. Gresswell, R. Hauer, J.R. Karr, G.W. Minshall, D.A. Perry, J.J. Rhodes. March 1995. Wildfire and salvage logging: Recommendations for ecologically sound post-fire salvage management and other post-fire treatments on federal lands in the west. Unpublished report. 16 pp. http://pacrivers.continet.com/verityStorage/fire.pdf</p>	
<p>Centers for Water and Wildland Resources, 1996. Summary of the <u>Sierra Nevada Ecosystem Project Report</u>. Wildland Resources Center Report No. 39, University of California, Davis.</p>	
<p>Espinosa, F.A., Rhodes, J.J., and McCullough, D.A.. 1997. The failure of existing plans to protect salmon habitat on the Clearwater National Forest in Idaho. <i>Journal of Environmental Management</i>. 49: 205-230.</p>	
<p>Kattleman, R., 1996. Hydrology and Water Resources. Sierra Nevada Ecosystem Project: Final report to Congress, vol. II, Assessments and scientific basis for management options, pp. 855-920. Wildland Resources Center Report No. 39, Centers for Water and Wildland Resources, University of California, Davis.</p>	
<p>Megahan, W.F. Seyedbagheri, K.A., and Potyondy, J.P., 1992. Best management practices and cumulative effects in the South Fork Salmon River--A case study. <i>Watershed Management: Balancing Sustainability and Environmental Change</i>, pp. 401-414, Springer Verlag Inc., New York.</p>	
<p>Reid, L.M. and Dunne, T., 1984. Sediment production from forest road surfaces. <i>Water Resour. Res.</i>, 20: 1753-1761.</p>	
<p>Roni, P., T.J. Beechie, R.E., Bilby, F.E. Leonetti, M.M. Pollock, and G.P. Pess. 2002. A review of stream restoration techniques and a hierarchical strategy for prioritizing restoration in Pacific Northwest watersheds. <i>North American Journal of Fisheries Management</i>. 22:1-20.</p>	
<p>Sexton, Timothy O. 1998. Ecological effects of post wildfire activities (salvage-logging and grass-seeding) on vegetation composition, diversity, biomass, and growth and survival of <i>Pinus ponderosa</i> and <i>Purshia tridentata</i>. MS Thesis Oregon State University. Corvallis, OR. 121p.</p>	
<p>USFS and USBLM, 1997a. <u>The Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins, Volumes I-IV</u>. PNW-GTR-</p>	

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>405, USFS, Walla Walla Washington.</p> <p>USFS and USBLM, 1997b. <u>The DEIS for the "Eastside" Planning Area</u>. USFS, Walla Walla, Washington.</p> <p>USFS and USBLM, 1997c. <u>Evaluation of EIS Alternatives by the Science Integration Team Vol. I-II</u>. PNW-GTR-406, USFS, Walla Walla, Washington.</p> <p>USFS, 1999. <u>Herger-Feinstein Quincy Library Group Forest Recovery Act FEIS</u>, USFS PSW Region, Quincy, Ca.</p> <p>USFS, 2000a. <u>Sierra Nevada Forest Plan Amendment DEIS</u>, USFS PSW Region, San Francisco, Ca.</p> <p>USFS, 2000b. <u>Roadless Area Conservation FEIS</u>, USFS, Wash., D.C.</p> <p>Ziemer, R.R., and Lisle, T.E., 1993. Evaluating sediment production by activities related to forest uses--A Northwest Perspective. Proceedings: Technical Workshop on Sediments, Feb., 1992, Corvallis, Oregon. pp. 71-74.</p> <p>Salvage: Natural recovery alternative.</p> <p>The NEPA analysis fails to consider a minimal restoration and natural recover alternative. Fires are a completely natural feature of western forest landscapes. Removing much of the biomass from the area after a fire is not natural. Salvage logging and road work:</p> <ul style="list-style-type: none"> • removes or damages many of the building blocks needed to build the future forest (soil, large wood, and habitat structures), • disrupts many of the post-fire recovery processes (nutrient storage and cycling in down wood, falling snags that thin the young reprod, water storage in down wood, erosion control, etc), and • alters the developmental pathways of the future forest. <p>The NEPA analysis failed to disclose the significant adverse effects of salvage on these building blocks and recovery processes. An EIS is necessary to consider and disclose these issues</p> <p>Salvage: Protect all live trees (for soil recovery processes and for snag and down wood recruitment.)</p>	<p>6-85</p>
<p>While it is true that some trees with signs of life will soon die, the agency fails to acknowledge or disclose the degree of confidence in their estimates (i.e. how many false positive predictions of imminent death will the agency make) and fails to recognize the huge importance of remaining live trees as future sources of snags to fill the temporal gap between the batch of snags created by this fire and those to be produced in the distant future by the next stand of trees.</p> <p>Salvage operations typically assume that many living trees will soon die and then salvage becomes a self-fulfilling prophecy. Trees that may survive the fire are an extremely valuable feature of the future forest. Providing scarce canopy and shelter in the short-term and providing scarce large snag and down wood habitat in the long-term, during a period when forest-fire landscapes are typically depauperate in snags and large wood. The NEPA analysis failed to adequately disclose and analyze this and an EIS is necessary to consider the effects of harvesting numerous trees that may survive.</p>	<p>6-86</p>

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>See: Residual Trees as Biological Legacies, CCEM Communiqué #2. Sept. 1995. http://www.fsl.orst.edu/ccem/pdf/95Comque.pdf</p> <p>Salvage: Importance of Mycorrhiza Formation after Fire.</p> <p>Rapid mycorrhiza formation is important to conifer seedlings after fire. From <i>Long-Term Forest Productivity and the Living Soil</i> by M. P. Amaranthus, J. M. Trappe, and R. J. Molina—</p> <p>On cold, droughty, nutrient-poor, or otherwise stressful sites, there may be only a brief period favorable for seedling growth. Seedlings that do not become well established within that "window" are unlikely to survive. Mycorrhizae increase the capacity of tree seedlings to capture resources early by enhancing uptake of nutrients and water, lengthening root life, and protecting against pathogens. Rapid mycorrhiza formation assures seedlings a continuing resource supply and the vigor necessary to survive environmental stress. Studies in southwest Oregon indicate that rapid mycorrhiza formation is crucial for survival on "difficult" sites (Amaranthus et al. 1987b, Amaranthus and Perry 1987).</p> <p>Numerous factors directly and indirectly influence the potential for mycorrhiza formation, including seedling physiology, environmental conditions, and abundance of soil microorganisms and propagules (Perry et al. 1987). <u>Modification of these conditions may influence a seedling's ability to form mycorrhizae.</u> Mycorrhizal potential following disturbance such as clearcutting and slash burning depends primarily upon (1) the balance between mortality and input of mycorrhiza-forming propagules (such as spores and hyphae of mycorrhizal fungi); (2) the recovery of host plants, which provides the energy to stabilize populations of mycorrhizal fungi and allows them to grow and colonize nonmycorrhizal roots of surrounding plants; and (3) the diversity of fungus species, which buffers the mycorrhizal community against environmental changes following disturbance.</p> <p>See: Harvey, A.E., M.F. Jurgenson, and M.J. Larsen. 1980. Clearcut harvesting and ectomycorrhizae: survival of activity on residual roots and influence on a bordering forest stand in western Montana. <i>Can J. For. Res.</i> 10:300-303. Harvey et al. (1980) found that all soil mycorrhizae in clearcut areas were dead by the summer following harvest, except in areas within 5m of a living tree. These declines in soil mycorrhizae can have serious consequences for future forest productivity. Mosses and lichens also disappear following clearcutting (von Ahlefeldt and Speas 1996)."</p>	<p>6-87</p>
<p>Salvage: Protect all large snags</p> <p>Because large snags last much longer than small snags, large snags are disproportionately valuable as wildlife habitat, nutrient and water reservoirs, soil stabilizers, etc. If the agency chooses to conduct a salvage operation in this fire area, they must use a diameter cap and protect these scarce and valuable forest structures.</p> <p>Meeting management plan snag targets is grossly inadequate. Historically, a mosaic of recent and not-so-recent fires, left lots of "snag patches" and patchy accumulations of down wood of various sizes and decay-stages. These snag patches provided tremendous habitat value for a whole host of wildlife species, include birds, mammals, amphibians, insects. 96 species are known to be associated with snags and 86 species are associated with down wood. Most of these species depend upon or prefer large snags and wood. With aggressive salvage policies that continue to this day, these snag patches are an under-represented feature on the landscape.</p> <p>The agency's snag retention guidelines are based on wildlife needs, but fail to consider or analyze the need to large snags and large down logs for shade, water storage, disturbance (via falling and sliding), nutrient storage, channel forming, sediment trapping, soil conservation, underground processes, etc.</p>	<p>6-88</p>

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>The NEPA analysis failed to disclose and analyze these significant issues. An EIS is needed to fully consider them.</p> <p>Although rate of biomass input and average piece size generally are thought to increase with succession (Harmon and others 1986), the amount of dead wood can follow a U-shaped pattern if young forests inherit large amounts of dead wood and live trees from preceding stands (Spies and others 1988). The snags in our study—especially large snags—increased with succession in almost all of the habitats. No wildlife habitats exhibited a U-shaped pattern, probably because snags tend to be cut within harvest units, which reduces the density found in early successional forests. . . .</p> <p>... The lack of a U-shaped successional pattern for snags is not surprising. . . . Snags also are much more likely than down wood to be damaged or intentionally removed by humans through the course of forest management and harvest activities. ...</p> <p>All of the habitats we examined had similar patterns: distributions were non-normally distributed and strongly skewed to the right. A large proportion of the plots did not contain snags or down wood, and a very small proportion of the plots contained extremely large accumulations of dead wood.</p> <p>Janet L. Ohmann and Karen L. Waddell; Regional Patterns of Dead Wood in Forested Habitats of Oregon and Washington; USDA Forest Service Gen. Tech. Rep. PSW-GTR-181. 2002. http://www.fs.fed.us/pnw/pubs/journals/PSWGTR181Deadwood.pdf</p> <p>Salvage: Provide for well-distributed snags.</p> <p>Snag retention should be both clumped <u>and well-distributed</u>, not all clumped. Some of the functions provided by snags are best provided in clumps, but other functions are best provided by well-dispersed snags. These latter functions include:</p> <ul style="list-style-type: none"> • Young stand thinning functions provided by falling snags; • Soil functions such as nutrient cycling; erosion control and sediment trapping; • Hydrologic effects such as water retention in both wood and soil, and dissipation of energy in surface flow, favorable effects on snow dynamics; • Favorable microsites for seed germination and seedling survival; • Habitat for small mammals and amphibians; • Habitat connectivity corridors; <p>Soil development processes are the quintessential process that must be well-distributed. Roger Hungerford, writing in <i>Effects of Fire or Fire Exclusion on Soil Sustainability New Perspectives</i> a workshop given Nov. 18-20, 1991, at Coeur d'Alene, said "Evidence does exist that much of the soil wood and organic components originated from fire killed trees." We are concerned that the salvage logging will continue the trend of loss of site productivity, depleting nutrients through biomass removal, and interfering with ecological and hydrological processes that should be well-distributed, not clumped.</p> <p>Salvage: Give it a long rest from grazing.</p>	<p></p> <p></p> <p></p> <p></p> <p></p> <p></p> <p>6-5c</p> <p>6-5d</p> <p>6-5e</p> <p>6-5f</p> <p>6-5g</p> <p>6-5h</p> <p>6-6</p>

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>The fire area must be rested from grazing. The NEPA analysis fails to disclose the significant adverse effects of livestock grazing in a post-fire landscape in terms of degrading water quality, spreading invasive weeds, retarding vegetative recovery, soil compaction, etc.</p> <p>In the short term, grazing must be eliminated to allow recovery of plants, soil, and to protect water quality. In the long term, grazing must be eliminated if the agency is sincere about re-establishing natural fire regimes which depend on natural fuel profiles, which are seriously adversely affected by livestock grazing.</p>	<p align="center">6-96</p>
<p>Salvage: Watershed restoration.</p> <p>Salvage logging will adversely affect the ability of the land to absorb, store and release high quality water and the NEPA analysis fails to address these concerns.</p> <p>First, post-fire soils are fragile because the soil duff is often consumed by the fire and the carbon and other nutrients have been largely removed. Logging will further disturb the soils and disrupt the natural soil recovery processes. Logging will also disturb and rearrange the soil protecting needle litter that will fall in the months after the fire.</p>	<p align="center">6-97</p>
<p>Second, large wood absorbs water and serves as a significant water reservoir that is especially critical during the dryer summer months. Logging removes the wood and so reduces the potential water reservoir. Recent research indicates that much water is stored in buried wood. This buried wood is likely to result of trees that have fallen on hillslopes and become buried in natural sediment moving downslope. Salvage will adversely affect the recruitment of future buried wood.</p>	<p align="center">6-98</p>
<p>The agency’s snag retention guidelines are based on wildlife needs, but fail to consider or analyze the need to large snags and large down logs for soil, water storage, nutrient storage, or other purposes.</p>	<p align="center">6-99</p>
<p>Third, road construction, reconstruction, and road use all adversely affect the ability of the land to “distribute quality water.” The Cub EA admits that 12.9 miles of roads are located in proximity to streams and are potential sources of sediment to the stream system (EA at 39). Using these roads for log haul will cause water quality problems inconsistent with the sustain yield principles.</p> <p>The EA failed to address these significant issues. An EIS is needed.</p>	<p align="center">6-99</p>
<p>Salvage Beschta Report comments</p> <p><i>Protect live trees and large snags.</i> The Beschta report recommends retaining all live trees, all large and old snags, plus 50% of each smaller diameter class. This project fails to address each of these recommendations separately and just makes up excuses to implement large unnatural salvage clearcuts.</p>	<p align="center">6-100</p>
<p>This project tries to excuse removal of large snags on safety grounds but they failed to consider a simple alternative, that is, to restrict workers (and others) from the hazard zone around hazard trees. Also, the Tiller Ranger District in their 1997 "Benchmark" timber sale partially implemented a Beschta-type prescription which retained 50% of the dead snags in a variety of diameter classes while providing for worker safety. If they can do it there, why can't you do it here? See: http://www.umpqua-watersheds.org/unf/benchmark.html</p>	<p align="center">6-101</p>
<p>The NEPA analysis also tries to excuse salvage based on the reburn hypothesis, but the NEPA analysis fails to consider that they are only removing the commercial sized trees and leaving behind the more hazardous small material. IF there is a reburn problem, the agency is making it worse instead of better.</p>	<p align="center">6-102</p>

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p><i>Vegetation recovery.</i> Contrary to the Forest Service assertions the salvage will not alter the successional pathways and disrupt natural recovery of the forest. It is important that snags be left well-distributed within the fire area. As snags fall over during subsequent years (even after decades in some cases), they damage and kill some of the young trees that may have become established in the fire area and help to thin the trees out. Without well-distributed snags, this thinning mechanism is lost. Forest Service scientists are interested in this issue:</p> <p>How much thinning is due to competition, snag and big limb fall (in post-fire sites), snowdown, bugs/bears/other animals, root rots, wind, and perhaps other processes? What are the implications of these early successional effects on stand composition and structure for development of old forest composition and structure? One hypothesis is that snag/big limb fall was an important and greatly under-appreciated process that strongly influenced early stand dynamics and stocking in young forests established after wildfire. One reason we don't have a sense of this process is that we see so few young stands that have a full complement of snags left after fire. Our mental images of young stands come from clearcuts.</p> <p>http://www.fsl.orst.edu/lter/research/component/disturb/summary.cfm?sum=dstrbyr5&topnav=60</p>	6-103
<p><i>Soils.</i> Contrary to the Forest Service assertions, ground-based logging on fire-affect forestland will cause detrimental soil impacts that are inconsistent with the recommendations of the Beschta report. Studies have shown again and again that the agencies are often wrong in its wishful thinking that ground-based logging can be mitigated to avoid detrimental soil impacts. This logging is proposed on soils that are seriously affected by fire and are less resilient than most forest soils that have not been recently subjected to fire. The agency cannot rely on soil science that is derived from unburned sites.</p> <p>Salvage: Capturing commercial log value is a questionable purpose for this project.</p>	6-104
<p>Conducting destructive salvage operations in order to capturing commercial log value is inappropriate. The Forest Plan is so outdated that it is effectively invalid. The plan, like so many others in the Interior Columbia Basin, calls for the liquidation of most of the remaining old forest, so the ICBEMP process was initiated to deal with the loss of old forests and the species viability issues caused by such mismanagement. Just because this burned area is in a “timber production zone” in an outdated forest plan is not a reason to salvage this area.</p> <p>This nation does not need to destroy public resources in order to supply its wood product needs. The local timber industry should get its raw materials from private lands. The highest and best use of the National Forests is for clean water, wildlife habitat, recreation, carbon sequestration, etc. NOT for fiber. Because of this, the recommendations of the Beschta report deserve much more careful consideration and should be followed.</p> <p>Salvage: will retard attainment of RMOs in violation of INFISH.</p>	6-105
<p>Salvage will <u>retard</u> achievement of riparian mgt objectives in violation of TM-1 of INFISH. Attainment of riparian objectives is related to natural vegetation recovery and development pathways and natural sediment regimes, both of which will be adversely affected by the proposed salvage.</p> <p>Hazard tree removal must not be used as an excuse to get timber volume.</p>	6-106
<p>Truly hazardous trees located in high use areas should be felled (often leaving a high stump for wildlife) but such trees should generally be left to provide for wildlife and soil needs.</p> <p>The NEPA analysis also fails to acknowledge that the public assumes certain risk when</p>	6-107

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>recreating on public lands, so not every hazardous tree on every dead end spur road needs to be felled and removed. See ORS §§ 105.672(3), 105.682(1) and <u>Brewer v. ODFW</u>, 2 P.3d 418, 167 Or.App. 173.</p> <p>http://www.publications.ojd.state.or.us/A103245.htm</p> <p>ORS 105.682(1) provides:</p> <p>Except as provided by subsection (2) of this section [pertaining to intentional injuries], and subject to the provisions of ORS 105.688 [limiting immunity to those who do not charge for use of the land or who charge no more than \$20 per cord for woodcutting on the land], an owner of land is not liable in contract or tort for any personal injury, death or property damage that arises out of the use of the land for recreational purposes, woodcutting or the harvest of special forest products when the owner of land either directly or indirectly permits any person to use the land for recreational purposes, woodcutting or the harvest of special forest products. The limitation on liability provided by this section applies if the principal purpose for entry upon the land is for recreational purposes, woodcutting or the harvest of special forest products, and is not affected if the injury, death or damage occurs while the person entering land is engaging in activities other than the use of the land for recreational purposes, woodcutting or the harvest of special forest products.</p> <p>"Owner" is defined by ORS 105.672(4) as "the possessor of any interest in any land, including but not limited to possession of a fee title. 'Owner' includes a tenant, lessee, occupant or other person in possession of the land." "Land" is defined by ORS 105.672(3) as including "all real property, whether publicly or privately owned."</p> <p>ORS 105.676 provides:</p> <p>The Legislative Assembly hereby declares it is the public policy of the State of Oregon to encourage owners of land to make their land available to the public for recreational purposes, for woodcutting and for the harvest of special forest products by limiting their liability toward persons entering thereon for such purposes ...</p> <p>The Oregon Court of Appeals in <u>Brewer</u> said,</p> <p style="padding-left: 40px;">The trade-off represented by this policy is manifest. The owner of land opened for recreational use in accordance with the Act gives up exclusive enjoyment of the land and, in return, is insulated from certain types of liability for injuries that may occur there. The users of recreational lands opened in accordance with the Act give up their rights to sue land owners for certain types of injuries but gain the benefit of using land for recreation that otherwise would not be available to them."</p> <p>Also, the Federal Tort Liability Act provides the government some degree of immunity in exercising their discretionary functions like hazard tree management. For instance, the Great Smokey Mountains National Park Service was found not liable for failing to remove a tree weakened by root rot that fell and killed a recreational motorist, even when the road involved was a high use paved road near a visitor center, and when the tree species at issue (Black Locust) was known by the Park Service to be prone to fall down. <u>AUTERY v. UNITED STATES</u> 992 F.2d 1523 (11th Cir. 1993). http://classweb.gmu.edu/erodger1/prls560/content/autery.htm.</p> <p>The appeal court overturned the district court and held that the agency's balancing of public safety and preserving natural areas prevented judicial second guessing and gave them immunity from liability for the death of the motorist.</p> <p>Based upon the evidence in this case, the appeals court held that "the decisions made by GSMNP personnel in designing and implementing its unwritten tree inspection program fall</p>	

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>within the ambit of the discretionary function exception."</p> <p>Although the district court may have disagreed with the balance struck by the Park Service, or believed that some other policy would have been better, the discretionary function exception is designed to protect against just this type of "judicial 'second-guessing"...</p> <p>To decide on a method of inspecting potentially hazardous trees, and in carrying out the plan, the Park Service likely had to determine and weigh the risk of harm from trees in various locations, the need for other safety programs, the extent to which the natural state of the forest should be preserved, and the limited financial and human resources available. Indeed, the district court recognized this when it criticized the Park Service for elevating he overriding policy considerations of protecting the trees and the natural state of the area over the safety of humans using the park roadway.</p> <p>This means that the agency is free to weigh the value of snags for wildlife and other ecosystem services and need not reflexively cut down every hazard tree. The agencies proposal in the present case it not consistent with applicable law or conservation principles.</p> <p>29 CFR § 1910.266 (c) Danger tree. A standing tree that presents a hazard to employees due to conditions such as, but not limited to, deterioration or physical damage to the root system, trunk, stem or limbs, and the direction and lean of the tree.... (d)(vi) Each danger tree shall be felled, removed or avoided. Each danger tree, including lodged trees and snags, shall be felled or removed using mechanical or other techniques that minimize employee exposure before work is commenced in the area of the danger tree. If the danger tree is not felled or removed, it shall be marked and no work shall be conducted within two tree lengths of the danger tree unless the employer demonstrates that a shorter distance will not create a hazard for an employee. (vii) Each danger tree shall be carefully checked for signs of loose bark, broken branches and limbs or other damage before they are felled or removed. Accessible loose bark and other damage that may create a hazard for an employee shall be removed or held in place before felling or removing the tree.</p> <p>http://a257.g.akamaitech.net/7/257/2422/06sept20031800/edocket.access.gpo.gov/cfr_2003/julqtr/29cfr1910.266.htm</p> <p>Preventing Injuries and Deaths of Loggers; NIOSH ALERT: May 1995; DHHS (NIOSH) Publication No. 95-101; http://www.cdc.gov/niosh/logging.html</p> <p>Plant at low density to extend the early seral community and avoid future stand management costs.</p> <p>Unsalvaged, naturally regenerated, young stands are one of the rarest forest types in the Pacific northwest, and their biodiversity rivals that of old-growth forests. Indeed, naturally developed early-successional forest habitats, with their rich array of snags and logs and nonarborescent vegetation, are probably the scarcest habitat in the current regional [Pacific Northwest] landscape. Lindenmayer, David B. and Jerry F. Franklin. 2002. Conserving Forest Biodiversity: A Comprehensive Multiscale Approach. Island Press. Washington, DC: 69. <i>See also</i>, DellaSala, D.A., J.E. Williams, C. Deacon-Williams, and J.F. Franklin. Beyond smoke and mirrors: a synthesis of fire policy and science. In review - Conservation Biology.</p> <p>If this project involves artificial planting, avoid dense replanting that creates dense homogenous plantations. Such areas inhibit biodiversity and also represent dangerous fuel conditions. Please replant in patches and/or at a fairly low density and avoid the need for future thinning and other stand management costs. Let’s be patient and allow these stands recover slowly as diverse early seral communities. Diverse early seral plant communities are</p>	<p>6-108</p>

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>becoming less common and we should encourage slow and easy regeneration of forest communities. This is consistent with the research being done by Nathan Poage which indicates that many stands developed over much longer time periods than we typically allow under the agricultural model of forest management.</p>	
<p>Faulty analysis of reburn potential.</p>	
<p>The NEPA analysis asserts that leaving large numbers of snags is unsafe and the NEPA document describes an undesirable scenario with respect to the no action and restoration alternatives, but the NEPA document fails to acknowledge the fire risks associated with salvage logging including: (a) salvage logging will remove most of the largest logs that least prone to burn (because large logs hold the most water the longest and they have relatively high ratios of volume to surface area), (b) salvage logging leave behind almost all of the smallest material which is most prone to drying and burning (e.g., relatively low ratio of volume to surface area), (c) the proposed action may lop and scatter the tops of large trees that are too big for the ground-based harvest machinery, (d) salvage logging equipment and workers could start fires, (e) increased human access increases the risk of human caused ignition, (f) the replanting will create a fuel load that is dense, uniform, extensive, volatile, and close to the ground (During an extreme weather conditions this is one of the most extreme fire hazards in the forest).</p>	<p align="center">6-109</p>
<p>The NEPA document also fails to disclose that NOT salvage logging (e.g., natural recovery) may have some countervailing benefits in terms of fire risk and reburn potential, including: (a) large logs store water, (b) standing snags provide some shade, (c) regrowth tends to be more patchy and less dense and continuous, (d) fuels in the form of branches and dead trees fall to the ground slowly over time and have a chance to decay as they added, (e) falling snags over time ten to break up the continuity of fuels in the form of brush and reprod.</p>	<p align="center">6-110</p>
<p>Salvage typically removes the largest water “reservoirs” that are least prone to drying. <i>See</i> Amaranthus, M.P.; Parrish, D.S.; and D.A. Perry. 1989. Decaying Logs as Moisture Reservoirs After Drought and Wildfire. In: Alexander, E.B. (ed.) Proceedings of Watershed '89: Conference on the Stewardship of Soil, Air, and Water Resources. USDA-FS Alaska Region. RIO-MB-77. p. 191-194. This study found that large down logs in a post-fire landscape contain 25 times more moisture than the surrounding soil. While the authors recommended preventing large accumulations of "woody residue" (which the author described as very small diameter material--branches, twigs, etc.), they also recommended leaving down logs after fires to PREVENT future fire severity. They concluded that, "When forest managers are analyzing for fire risk, they should take into account the high water content of fallen logs during the period in which wildfire potential is greatest ... Fallen trees, in a range of decay classes, therefore provide a long-term reservoir of moisture. A continuous supply of woody material left on the forest floor, not only protects the productive potential of the forest soil, but also provides a sanctuary for ectomycorrhizae and a significant source of moisture in the event of prolonged drought or wildfire." The study was conducted in the Klamath region in an area with roughly 40 inches of annual rainfall. It was published in 1989 in Proceedings of Watershed '89: a conference on the stewardship of soil, air and water resources. USDA Forest Service, Alaska Region: pp. 191-194 (1989).</p>	
<p>Landscape fire</p>	
<p>Fire is largely driven by weather conditions. Commercial logging is highly unlikely to affect fire behavior at a landscape scale and will therefore fail to achieve this project’s purpose and need.</p>	<p align="center">6-111</p>
<p>“The federal government reports that 70 million acres of federal lands need immediate thinning and another 140 million acres must be thinned soon. The president's plan to thin 25 million acres in the next 10 years will cost as much as \$4 billion yet leave nearly 90 percent of those acres untreated,” according to Jerry Taylor, the CATO Institute's Director of Natural</p>	

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>Resource Studies, "A recent Forest Service report estimates there are just 1.9 million high-risk acres with homes and other structures near federal lands. To defend homes and communities, we should treat those acres and fireproof the homes. That could be done in just one or two years at a tiny fraction of the cost of the president's plan." (Administration's Forest Plan Doomed to Fail, "Forests Initiative" Will Leave 90 Percent of Acres Vulnerable to Fires, 5/20/03; http://www.cato.org/new/05-03/05-20-03r-2.html, http://www.cato.org/dailys/09-07-02.html)</p> <p>It is arbitrary and capricious to spend billions on a program that essentially fails to address the problem. This timber sale project is a microcosm of the larger issue identified here. Until the larger issue is dealt with, this significant issue requires an EIS.</p> <p>Landscape fuel treatments are not likely to influence fire behavior at a landscape scale. The proposed action proposes to treat fuels at a landscape scale and cause significant soil damage, wildlife habitat disturbance, and hydrological effects, yet only reduce extreme fire hazard by a small degree across the project area. This fuel reduction benefit will only be realized during ideal weather conditions but will have virtually no effect during the most extreme fire conditions. This level of fire hazard reduction is a drop in the bucket, and the NEPA analysis fails to balance the minute level of benefit in terms of fire risk reduction against the great level of soil, water, and wildlife impacts.</p> <p>The small amount of fuel reduction benefits from this project are also short-lived and will last only about 10-15 years at which point another entry will be required. So all the soil, wildlife, and watershed impacts will be repeated again and again and probably still not stop the big fire from burning it all down during extreme weather conditions that humans cannot control. We have to stop kidding ourselves. On the day of the big fire (and it will come), the difference between the action alternative and the no action alternative is almost nothing, but if the agency instead focused on careful and conscientious treatment in the community zone, maybe the homes and communities can be saved.</p> <p>The agency should focus fuel reduction efforts within 1/4 mile of the homes and communities and prepare an EIS to more carefully balance the competing interests here (soils, fuels, etc). Jack Cohen's work clearly shows that the most important steps to be taken to protect home and communities are not at the landscape level but at the homesite and immediately adjacent to the homesite. See USDA Forest Service Gen. Tech. Rep. PSW-GTR-173. 1999 and the publications listed here: http://www.firelab.org/fbp/fbresearch/wui/pubs.htm</p> <p>Outside the community zone the Forest Service should focus on restoration using non-commercial treatment using hand crews and prescribed fire. The Forest Service must focus on treatment that can be maintained, and do not required repeated entries with heavy equipment that will violate soil standards and exacerbate concerns about hydrology, wildlife, weeds and water quality.</p> <p>The agency also seems to forget that much of the project area is made up of plant communities that naturally burn at high intensity. No amount of thinning is going to radically alter this natural phenomena over the scale of the next 50-100 years.</p> <p>Since the benefits of fuel reduction will not be realized during the most extreme fire conditions. The agency must consider what is the likelihood that sometime during the next 50-100 years, there will be a large fire during extreme conditions. If there is a significant risk of that occurrence, then all the soil damage, hydrologic degradation, weed infestations, and wildlife disturbance (of this project and many that will be needed in the future) will be for naught. This is a very significant issue, not only for this project but for many others as well. The agency should do an EIS to consider these weighty issues.</p>	

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>Plantations are a fire hazard</p> <p>Dense young plantations are more susceptible to severe fire effects than unmanaged older forests (DellaSala et al. 1995, Weatherspoon & Skinner 1995). The increased susceptibility of plantations to severe fire is due to:</p> <ul style="list-style-type: none"> Structural characteristics that promote high heat energy output by fire (Sapsis & Brandow 1997). Warm, windy and dry microclimates compared to what would exist in an unlogged burned forest that possessed more structural diversity and ground shading (Countryman 1955, van Wagendonk 1996). Accumulations of large volumes of fine logging slash on the ground surface (Weatherspoon & Skinner 1995). <p>The number and distribution of plantations resulting from industrial timber management likely has altered fire behavior and effects at both stand and landscape scales (Hann et al. 1997, Huff et al. 1995). Perry (1995) suggests that the existence of a threshold proportion of highly combustible even-age tree patches on a forest landscape creates the potential for “a self-reinforcing cycle of catastrophic fires.” In addition, most plantations occur next to roads that spread invasive and exotic plants (DellaSala & Frost 2001) and increase the risk of human-caused ignitions during hot, dry conditions (USDA 2000).</p> <p>The March 2003 Wildfire Effects Evaluation Project for the Umpqua National Forest clearly documents this disproportionate fire intensity of young managed vs. mature unmanaged stands. (“The young vegetation, including plantations, experienced a disproportionately high amount of stand replacement mortality caused by crown fires as compared to older, unmanaged forests. . . . Plantations had a tendency to increase the rate of fire spread and increased the overall area of stand replacement fire effects by spreading to neighboring stands.” p 4 “This early seral vegetation pattern, and the types and arrangement of fuels present, increased the fire’s rate of spread and the area of stand replacement fire effects.” p 64.) http://www.fs.fed.us/r6/umpqua/publications/weep/weep.html</p>	<p align="center">6-112</p>
<p>Prescribed fire</p> <p>We support prescribed fire as a fuel management technique but fire management must be carefully planned so as to minimize effects on wildlife, soil, site productivity, and large trees, down woody debris, and snags. Fall burning should be considered because that is when nature would have done most of the burning. The effects of spring burning on the life-cycles of plants and wildlife must be fully considered in the NEPA process. Arthur R. Tiedemann, James O. Klemmedson, Evelyn L. Bull recently suggested:</p> <p>that a broader array of resource questions be considered before prescribed burning is implemented. We think the objectives of prescribed burning must be clearly defined and realistic estimates stated for out- comes for all affected resources. If the objective is to restore forest health, then we suggest that forest productivity, wild- life, biodiversity, and other resources and values are as much a part of the forest health equation as are the structure of a forest stand and its tolerance to fire. Thus, management aimed at returning forests to an open, seral condition should be carefully evaluated from the perspective of all the key resources and values.</p>	<p align="center">6-113</p>
<p>* * *we question how well presettlement forest conditions are understood. How pervasive was the influence of fire throughout forests of the Blue Mountains? Hall (1976) indicates that the ponderosa pine/pinegrass (<i>Calamagrostis rubescens</i> Buckl.) association was burned by surface fires at 7±10-year intervals. Of 22 habitats now dominated by grand fir and subalpine fir (<i>Abies lasiocarpa</i> (Hook.) Nutt.) listed by Johnson and Clausnitzer (1992), however, only three were historically seral ponderosa pine that were burned by periodic surface fires (personal communication, Dr. F.C. Hall, Pacific Northwest Region, USDA Forest Service).</p>	<p align="center">6-114</p>

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>***A primary concern whenever prescribed fire is used in forest management is loss of nutrients and impaired site productivity. . . . If sites are harvested and residues are burned, not only will nutrients removed in trees be lost, but also —potentially— much of the nutrient pool in slash and forest floor, depending on burning conditions. Thus, the potential to adversely affect long-term site productivity is always present.</p>	<p align="center">6-115</p>
<p>***The consequences of large-scale prescribed burning on wildlife in the Pacific Northwest are largely unknown because studies have been limited to investigating the effects of small prescribed burns on specific species for a relatively short time after burning. The potential effects of prescribed burning on a landscape scale should be examined carefully to determine if the changes caused by prescribed burning are compatible with other management objectives for wildlife.</p> <p>Tiedemann, A.R., Klemmedson, J. O., and Evelyn L. Bull, <i>Solution of forest health problems with prescribed Fire: Are forest productivity and wildlife at risk?</i>, Forest Ecology and Management 127 (2000) 1±18 3, http://147.46.94.112/forestfire/f14_20001271301.pdf</p>	<p align="center">6-116</p>
<p>No Roadbuilding Please</p> <p>Nothing is worse for sensitive wildlife than a road. Over the last few decades, studies in a variety of terrestrial and aquatic ecosystems have demonstrated that many of the most pervasive threats to biological diversity - habitat destruction and fragmentation, edge effects, exotic species invasions, pollution, and overhunting - are aggravated by roads. Roads have been implicated as mortality sinks for animals ranging from snakes to wolves; as displacement factors affecting animal distribution and movement patterns; as population fragmenting factors; as sources of sediments that clog streams and destroy fisheries; as sources of deleterious edge effects; and as access corridors that encourage development, logging and poaching of rare plants and animals. Road-building in National Forests and other public lands threatens the existence of de facto wilderness and the species that depend on wilderness.</p> <p>http://www.wildrockies.org/WildCPR/reports/ECO-EFFECTS-ROADS.html</p> <p>See also NRDC Report: “End of the Road: The Adverse Ecological Impacts of Roads and Logging: A Compilation of Independently Reviewed Research” (1999) which discusses the fact that roads:</p> <ol style="list-style-type: none"> 1. Harm Wildlife 2. Spread Tree Diseases and Bark Beetles 3. Promote Insect Infestations 4. Cause Invasion by Harmful Non-native Plant and Animal Species 5. Damage Soil Resources and Tree Growth 6. Adversely Impact Aquatic Ecosystems 	<p align="center">6-117</p>
<p>Temporary Roads</p> <p>For the semi-permanent roads that will be tilled, BLM’s own soils scientist has little faith in the restorative value of this technique. He says: “What I have seen so far have been nothing more than modified rock rippers and little lateral fracture of the soil occurs and the extent of de-compacting is very limited.” Coos Bay BLM, Big Creek Analysis file, section F, Soils Report. page 4.</p>	<p align="center">6-118</p>

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>BLM assumes that temporary and semi-permanent new roads will have no effect because they are temporary. BLM has shown no scientific evidence for this assumption. In fact, scientific research has shown exactly the opposite. Effectiveness of Road Ripping in Restoring Infiltration Capacity of Forest Roads. Charles H. Luce, USDA Forest Service Intermountain Research Station, 1221 S. Main, Moscow, ID 83843. September 1996. <i>Restoration Ecology</i>, Vol. 5, No. 3. page 268.</p> <p>Research results, published in <i>Restoration Ecology</i>, shows there is nothing temporary about temporary roads, and that ripping out a road is NOT equal to never building a road to begin with. “The saturated hydraulic conductivity of a ripped road following three rainfall events was significantly greater than that of the road surface before ripping... most saturated hydraulic conductivities after the third rainfall event on a ripped road were in the range of 22 to 35 mm/hr for the belt series and 7 to 25 mm/hr for the granitics. These conductivities are modest compared to the saturated hydraulic conductivity of a lightly disturbed forest soil of 60 to 80 mm/hr.” id. Even this poor showing of restoring pre-road hydrologic effects worsened with repeated rainfall. “Hydraulic conductivity values for the ripped treatment on the granitic soil decreased about 50% with added rainfall (p(K1=K2)=0.0015). This corresponded to field observations of soil settlement and large clods of soil created by the fracture of the road surface dissolving under the rainfall... The saturated hydraulic conductivity of the ripped belt series soils also dropped from its initial value. Initially, and for much of the first event, the ripped plots on the belt series soil showed no runoff. During these periods, run-off from higher areas flowed to low areas and into macropores.... Erosion of fine sediment and small gravel eventually clogged these macropores... Anecdotal observations of roads ripped in earlier years revealed that after one winter, the surfaces were nearly as solid and dense as the original road surfaces.” Id. Even though ripped roads increase water infiltration over un-ripped roads, it does not restore the forest to a pre-road condition. “These increases do not represent “hydrologic recovery” for the treated areas, however, and a risk of erosion and concentration of water into unstable areas still exists.” Id.</p>	
<p>Weeds</p> <p>On Earthday 2003 Chief Dale Bosworth said that more attention needs to be paid to beating back invasive species. Opening up the canopy and disturbing the soil through road building and logging as proposed in this project could spread non-native weeds far and wide. The invasive weed sites in the analysis area and along all log and gravel haul routes should be fully inventoried and documented as part of the NEPA process for this project . In the absence of valid and complete weed survey information, harvest and road and fuel treatment activities planned as part of this project might exacerbate the problem instead of contain it.</p> <p>We find it highly unlikely that conducting ground disturbing activities over so many acres of this planning are will not make the weed problems worse instead of better. These weeds are “a slow motion explosion” that should not be taken lightly. It is often better to just close roads and avoid ground disturbing activities while sending crews in to do hand-pulling of weed infestations as necessary.</p>	<p align="center">6-119</p>
<p>Protect Forests as Carbon</p> <p>On August 1, 2000 the US government submitted it’s position on land use and forestry as it related to carbon sequestration and it “Proposes strong incentives to remove carbon from the atmosphere through sound land management and to protect existing reservoirs of carbon, for example those in mature forests.” The submission also: “Strongly supports rules -- including definitions of key terms such as reforestation -- that help protect forests and avoid creating "perverse incentives" (for example, to log old growth forests).”</p> <p>http://www.state.gov/www/global/global_issues/climate/fs-000801_unfccc1_subm.html</p>	<p align="center">6-120</p>

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>Lynx</p> <p>The EA fails to disclose the effects of the project on the Threatened Canada lynx. The proposed action is in a relatively high elevation area that is likely habitat for lynx foraging, denning, and dispersal. The proposed project may adversely affect the quality of the habitat for denning, foraging, and dispersal and the project is almost certain to adversely affect the lynx’s prey base. Studies have shown that forest health logging prescriptions have negative effects on small mammal species that constitute the lynx prey base. Evelyn Bull examined the results of a variety of harvest prescriptions on hares and found that in lodgepole stands the number of snowshoe hares decreased after all types of harvest. She reports that mixed conifer stands appear to be “no longer suitable for hares after harvesting”. (Bull, E. and Blumton, A. 1999. <i>Effects of Fuels Reduction on American Martens and Their Prey</i>. USDA Forest Service PNW-RN-539. http://www.fs.fed.us/pnw/pubs/rn_539.pdf)</p> <p>The lynx habitat maps that the Forest Service has developed inappropriately exclude areas that have historically been used by lynx and are likely to be used by lynx today. The Forest Service has not offered a reasonable justification for excluding large areas of suitable habitat from the lynx habitat maps and for refusing to formally consult on projects in these areas.</p> <p>Several agency biologists recently recommended special management of certain areas of Oregon where lynx are likely to occur:</p> <p>In Oregon, areas that warrant management as “Evaluation Areas” include: 1) the high elevation flats starting just west of the Mount Jefferson Wilderness area and extending south to the Sky Lakes Wilderness Area. This zone contains a number of reliable recent lynx reports and trapping records, as well as the topography, vegetation, prey, and climatic conditions favorable for lynx; 2) the habitat and connectivity corridor joining the Cascades and Blue Mountains on the Deschutes, Ochoco and Malheur National Forests. Because the I-84 corridor and dams on the Columbia are considered to be a movement barrier, this is the only way for genetic exchange to occur to the southern Cascades; 3) the area around Mt. Hood and Bennett Pass due to a cluster of 14 lynx sightings in the area and proposed ski area developments; and 4) previously mapped habitat on the Winema and Fremont National Forests due to clusters of recent reliable sightings, confirmed specimens in/or south of these clusters, and past records indicating a presence.</p> <p>Conclusion</p> <p>Current and historical sighting records, historical documents, and anecdotal evidence suggest that lynx occurred on both sides of the Cascade Mountains in Oregon and Washington. These records show that lynx may have been more wide-spread and abundant than was previously considered and indicate that it is likely that both resident as well as transient animals occurred in both states. While there is insufficient data to ascertain population size or trends in Oregon or Washington, this is also true of all of the other geographic regions where lynx occur. It is important to recognize that the Endangered Species Act (ESA) does not differentiate between resident and transient individuals nor does it require “resident, reproductive populations” as the threshold for consideration during consultation. Thus the obligation to minimize effects and the potential for incidental take applies where the species is documented or suspected to occur. This is particularly important in areas where the vegetation types, prey availability, and climatic conditions resemble those conditions found in areas where lynx are known to occur.</p> <p>Management of Canada Lynx in the Cascades Geographic Areas of Oregon and Washington, A White Paper Prepared by the Offices of Region 1 of the Fish and Wildlife Service, April 10, 2001.</p>	6-121

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>Neither the lynx conservation agreement or the lynx conservation assessment and strategy (LCAS) have been subject to NEPA analysis. The project NEPA document gives merely cursory attention to lynx and relies too heavily on conservation measures in the LCAS to protect lynx without project specific design and analysis.</p> <p>The agency must follow NEPA and NFMA procedures to amend its forest plan to conserve lynx. http://www.westernlaw.org/wildlife/lynx.pdf</p>	<p align="center">6-122</p>
<p>The EA relies on “project design criteria” for lynx that have not been subject to NEPA review and comment. The Forest Service cannot rely on these PDC until they have subjected the PDC and the Lynx Conservation Assessment and Strategy (LCAS) to NEPA and considered all environmental impacts and alternatives.</p>	<p align="center">6-123</p>
<p>ROADLESS/UNROADED CONCERNS</p> <p>National Forest Management Act regulations define unroaded areas as any area without the presence of classified roads, and of a size and configuration sufficient to protect the inherent characteristics associated with its roadless condition. Unroaded areas greater than about 1,000 acres, whether they have been inventoried or not provide valuable natural resource attributes that must be protected. These include: water quality; healthy soils; fish and wildlife refugia; centers for dispersal, recolonization, and restoration of adjacent disturbed sites; reference sites for research; non-motorized, low-impact recreation; carbon sequestration; refugia that are relatively less at-risk from noxious weeds and other invasive non-native species, and many other significant values. See Forest Service Roadless Area Conservation FEIS, November 2000. This project involves activities in such unroaded areas. The NEPA analysis for this project does not adequately discuss the impacts of proposed activities on all the many significant values of roadless/unroaded areas.</p> <p>The Forest Service can develop a preliminary map of roadless/unroaded areas >1,000 acres by simply querying your GIS database for polygons between roads that are >1,000 acres. This preliminary map can be made more accurate by subtracting regen harvest units younger than 50 years.</p> <p>Recent scientific literature emphasizes the importance of unroaded areas greater than 1,000 acres as strongholds for the production of fish and other aquatic and terrestrial species, as well as sources of high quality water. Henjum, M.G., J.R. Karr, D.L. Bottom, D.A. Perry, J.C. Bednarz, S.G. Wright, S.A. Beckwitt and E. Beckwitt. 1994. Interim Protection for Late-Successional Forests, Fisheries, and Watersheds: National Forests East of the Cascade Crest, Oregon and Washington. A Report to the Congress and President of the United States. Rhodes, J.J., D.A. McCullough, and F.A. Espinosa. 1994. A Coarse Screening Process for Potential Application in ESA Consultations. Technical Report 94-4. Prepared for National Marine Fisheries Service.</p> <p>Also, consider the conclusions and recommendations of the interagency Road Density Analysis Task Team:</p> <p>Unroaded and low road density areas potentially represent areas in which the aquatic ecosystems are still operating with minimal human disturbances. Areas like these that provide for high quality habitat and stable fish populations are important refugia and a cornerstone of most species conservation strategies.</p> <p>...Even well engineered roads act as conduits for sediment (Filipek 1993). Lee et al. (1997), also note that although improvements in road construction and logging methods can reduce sediment delivery to streams, sedimentation increases are unavoidable even when using the</p>	<p align="center">6-124</p>

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>most cautious logging and construction methods.</p> <p>As stated in the Biological Opinion for bull trout (USFWS 1998), there is no positive contribution from roads to physical or biological characteristics of watersheds. Under present conditions, roads represent one of the most pervasive impacts of management activity to native aquatic communities and listed fish species.</p> <p>...<u>RDAT Recommendation (4)</u>: The Regional Executives provide direction to the field units that allow for road construction in undesignated low road density areas only after completion of the mid/fine scale analysis of these areas.</p> <p><u>Regional Executive Decision</u>: While we agree that avoiding road construction in low road density areas with high to very high fish values may be desirable, we also recognize that providing direction precluding such development could conflict in some instances with our legal obligations under laws such as the Alaska National Interest Lands Conservation Act (ANILCA) and the 1872 Mining Laws. Rather than totally precluding such development, the BLM State Directors and Regional Foresters, through this transmittal letter, direct field units as follows:</p> <p>A. Avoid new road construction in low road density areas to the extent practical, consistent with existing authorities and LRMPs, but keep in mind that in some cases the need to remove hazardous fuels may be paramount for long term watershed restoration,</p> <p>B. Decisions to allow new road construction in low road density areas should not be made without an assessment of environmental effects, including any changes to the value of the low road density area as a current or potential stronghold for listed aquatic species. This assessment and/or analysis should also consider the amount of acreage within the watershed already in Wilderness and inventoried roadless areas, and</p> <p>C. Where new road development in low road density areas cannot be avoided, road location and design should minimize effects to aquatic resources and incorporate practical mitigation measures, including closure or decommissioning of the road if the need for the road is temporary.</p> <p><i>Land Management Recommendations Related to The Value of Low Road Density Areas</i></p> <p><i>In the Conservation of Listed Salmon, Steelhead, and Bull Trout: A Commitment made as part of the Biological Opinions For Chinook Salmon and Steelhead (Snake River and upper Columbia River) and Bull Trout (Columbia and Klamath Rivers-areas not covered by the Northwest Forest Plan); Final Report; January 30, 2002; Prepared by the: Road Density Analysis Task Team.</i></p> <p>http://www.blm.gov/nhp/efoia/or/fy2002/ib/ib-or-2002-134.htm</p> <p>The Willamette National Forest conducted a Pilot Roads Analysis dated October 1998 in which they identified unroaded areas 1,000 acres and greater. They said:</p> <p>In recent years, the issue of unroaded lands on National Forests has become greater and more diverse than simply identifying the potential for inclusion in the National Wilderness Preservation System. In a broad sense, there is a diversity of values regarding roadless areas and these values often conflict. As the total amount of roadless area not included in the wilderness system continues to decline on the Forest, there is increased interest in the value of smaller unroaded areas.</p> <p>...The key question is: <i>Where are the significant aquatic, terrestrial wildlife or ecological values associated with unroaded areas?</i></p>	<p>6-125</p>

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>Inventoried roadless areas mapped in 1984, total 210,509 acres. Of these, the area still roadless in 1998 is 112,166 acres.</p> <p>...Our recommendation is to continue refinement of the unroaded map at the watershed level, identifying areas of significant ecological values and where they overlap with unroaded areas.</p> <p>http://www.fs.fed.us/r6/willamette/manage/pilotroadanalysis/index.html</p> <p>http://www.fs.fed.us/r6/willamette/manage/pilotroadanalysis/unroaded.pdf</p> <p>The WNF Roadless Values Process Paper, Appendix L goes on to say:</p> <p>The values associated with roadless can be associated with recreation, symbolism of people's value for wild places, the lifestyle of a community and a variety of ecological values. Many of these values can be met in roadless areas that do not meet the minimum size criteria (5,000 acres) of the RARE I and RARE II inventories.</p> <p>...The question about significant ecological values in the inventoried roadless areas and in the unroaded areas was not directly addressed in this analysis.</p> <p>http://www.fs.fed.us/r6/willamette/manage/pilotroadanalysis/app_g-n.pdf</p> <p>The Willamette National Forest has taken the first steps by: (1) acknowledging the significant loss of almost half of the large roadless/unroaded areas on the forest in the last 20 years; (2) acknowledging the value of smaller unroaded areas; and (3) identifying 1,000+ acre unroaded areas for further analysis, but the proper consideration of roadless/unroaded values requires explicit disclosure of all the values associated with roadless/unroaded areas and an EIS analysis of the impacts of proposed actions on each of those values (e.g., water quality; healthy soils; fish and wildlife refugia; centers for dispersal, recolonization, and restoration of adjacent disturbed sites; reference sites for research; non-motorized, low-impact recreation; carbon sequestration; refugia that are relatively less at-risk from noxious weeds and other invasive non-native species).</p> <p>The .25 mile moving window analysis used in the Willamette NF Pilot Roads Analysis had the effect of shrinking <i>de facto</i> roadless/unroaded areas that still contribute significantly to the unroaded values of large intact landscape blocks. ONRC's roadless/unroaded map is a more accurate representation of the actual area that needs to be protected from logging and road building in order to conserve roadless/unroaded values.</p> <p>Roadless/unroaded area boundaries are an issue that has never been validated in any NEPA process. Only arbitrary Forest Service designation, outside of any public appeal opportunity, has set these boundaries. As part of this NEPA analysis, the roadless/unroaded boundaries should be validated. This is addressed clearly by the <u>California v. Block</u> decision and others.</p> <p>An action does not have to occur inside a RARE II boundary to affect a roadless area, because RARE II is not the final word on roadless lands. As the Forest Service is abundantly aware, the court ruled in <i>California v. Block</i> that actions affecting wilderness status could not rely on RARE II. The court ruled that RARE II did not comply with NEPA and "was inadequate to support the non-wilderness designations of the disputed areas and therefore violated NEPA." In the present case, the Forest Service is relying on an illegitimate RARE II boundary of this roadless area to support its contention that logging may occur in <i>de facto</i> roadless land without affecting future wilderness designation.</p> <p>Further, the Forest Service Washington Office ruled in its appeal decision of the Idaho Panhandle Forest Plan Appeal that roadless areas must be evaluated individually when logging is to occur in them.</p>	<p align="center">6-126</p>

<p align="center">Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment</p>	<p align="center">Response #</p>
<p>The fact that several of the units of this timber sale do not fall within the RARE II boundary but <i>do</i> fall adjacent to it and undivided from it by any road requires the Forest Service to address roadless/unroaded impacts per the NFMA and to acknowledge to the public the effects to the roadless/unroaded resource. Judging from the controversy surrounding roadless/unroaded lands these days, such an analysis would need to occur in an EIS.</p> <p>An EIS is needed to consider the significant environmental impacts of proposed activities in roadless/unroaded areas. The agency should consider the effects of this project on uninventoried roadless areas like the Rogue River National Forest considered unroaded areas in the recent Mill Creek DEIS. (Note: Although the Rogue River National Forest should be commended for considering uninventoried roadless areas in an EIS and for developing an alternative that deferred entry into unroaded and old-growth areas, they did not do a good job of analyzing the impact of the proposed project on the values embodied by the uninventoried roadless areas.)</p> <p>While inventoried roadless areas receive mandatory attention per the Roadless Area Conservation FEIS, the Forest Service has previously acknowledged that unroaded areas smaller than the generally accepted 5,000 acres are significant as well.</p> <ol style="list-style-type: none"> 1. The Draft EIS for the National Forest Roadless Conservation Rule identified as “procedural rule” that required the Forest Service to identify and consider protection for uninventoried roadless areas like those identified by ONRC. This procedural rule was moved to the NFMA planning rules in 36 CFR 219, but later rescinded by the Bush administration, but just because it is not explicitly required by the roadless rule or the forest planning regulations does not mean that it is a non-issue in terms of NEPA. If the Forest Service proposes an action that will adversely modify an uninventoried roadless/unroaded area they must consider the consequences. 2. As illustrated in the Roadless Area Conservation FEIS (FEIS Fig. 3-3, p. 3-5), there are numerous inventoried roadless areas that are less than 5,000 acres. In the West alone there are over 650 inventoried roadless areas ranging from 1,001-5,000 acres (FEIS Fig. 3-3, p. 3-5). Clearly, these inventoried roadless areas and unroaded areas of 1,000 acres or greater share many of the same characteristics as the larger roadless areas and therefore constitute a compelling interest as well. 3. Under the 36 CFR 219 Planning Regulations, it is “inappropriate to predetermine the size or configuration of unroaded areas to be analyzed and considered through plan revisions.” As a directive of the Planning Regulations, unroaded areas smaller than 1,000 acres may require consideration due to such factors as scarcity of unroaded and inventoried roadless areas. <p>While it is true that the Forest Service does not have an explicit legal obligation to protect these uninventoried areas (yet), the Forest Service does have a legal obligation pursuant to NEPA to describe the environmental consequences of logging and road building in ecologically significant areas. The Forest Service roadless EIS described several qualities of roadless/unroaded areas that are not limited to those over 5,000 acres and that happen to have been inventoried in the RARE process. The Forest Service should not be dismissive of the need to do NEPA analysis of the impacts of their activities on uninventoried roadless/unroaded. The Forest Service should not rely on the arbitrary roadless boundaries drawn as part of RARE. To fulfill your NEPA obligation, you must look at the ecological limits of roadlessness.</p> <p>Low impact restoration activities including but not limited to prescribed burning, mowing, precommercial thinning, fire rehab, and soil rehab, may be appropriate in roadless/unroaded areas as long as they will be substantially unnoticeable to the casual observer and leave the</p>	<p align="center">6-126</p>

Letter # 6 – Doug Heiken, Oregon Natural Resources Council Comment	Response #
<p>area suitable for future wilderness designation. The NEPA document should describe the roadless/unroaded area, the roadless/unroaded values represented, and the need for, and impacts of, the proposed restoration activities.</p> <p> </p> <p>9th Circuit Lolo salvage unroaded. Easy Fire salvage DEIS cmt (ONRC)</p>	

Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP Comment	Response #
<p><i>League Of Wilderness Defenders- Blue Mountains Biodiversity Project NW Office: 27803 Williams Lane Fossil, Oregon 97830 (541) 468-2028 Office (541) 385-9167 Voice mail SW Office: POB 76, Elfrida, AZ 85610 (520) 824-3201 asante@vfc.net</i></p> <p>December 5, 2003</p> <p>Comments on the Easy Fire Recovery Project DEIS</p> <p>Eric Ornberg, IDT, Middle Fork RS, Brooks Smith, Prairie City District Ranger Roger Williams, Forest Supervisor, Prairie City Ranger District, Malheur NF,</p> <p>Our organization, and those joining in signing these comments, have reviewed the DEIS for the proposed Easy post-fire recovery projects. Apparently the proposed “Easy” project is also part of the agency’s ‘copy-cat’ series of post-fire logging projects in the Malheur NF, joining Flagtail and Monument in a very similar formula-driven pseudo-NEPA process. As with the two previous proposed sales, this one too has both entire—and nearly entire—segments, and agency rationale scattered within the DEIS, which are verbatim-identical with the Flagtail and Monument DEIS.</p> <p>The Malheur NF could have acknowledged that these sales are formula-driven in concept from the onset, instead of attempting to disguise it (poorly) in lengthy repetitive DEIS’s for each sale separately. If this had been done responsibly of course—meaning responsibly to the requirements of the NEPA, there would have been little or no repetition and each document would have been truly based upon the site-specific needs of area wildlife and ecosystems. As such, it would have made good sense to conduct separate DEIS documents for each project. Instead the Malheur has chosen to irresponsibly defy NEPA’s requirements, and to force their formula-driven management upon the environments of these separate post-fire forest areas, citing site-specific conditions in disclosures tailored to fit the larger cloth of their logging-driven agenda. The result are three nearly identical very lengthy purported “NEPA” DEIS documents. The result as well is an unconscionable waste of both paper and economic resources (as so many of the pages are repetitive in whole or part). Additionally, the valuable time of many people, from agency staff, to reviewing public, to even the printers, etc. has been irresponsibly wasted by the agency’s attempt to pretend to meet the NEPA’s requirements while at the same time avoiding disclosing, up front and honestly, the prevailing management formulas behind these copy-cat timber sales.</p> <p>This could have been avoided by either the above mentioned course—upholding the NEPA and independently producing NEPA project documents which were truly based upon and motivated by the site-specific conditions and needs of these three different post-fire ecosystems—or by honestly admitting the prevailing management formulas motivating such management, and conducting one EIS process—with separate supplemental sections for the differing site-specific and management portions of these projects. This latter course would have avoided the needless waste of resources (paper, financial costs, etc.) and the thoughtless waste of the valuable time of citizen reviewers of these similar documents. Such a course</p>	

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>would also facilitate potential resolution of the apparent chasm between the agency’s choice of management alternatives for these proposed projects and credible, sound, ecologically based science as well as the actual site-specific needs of the land, forests, fish, and wildlife.</p> <p>Unfortunately such considerate, responsible, and honest presentation of these NEPA required DEIS’s was not done. Indeed, it appears that the agency has failed to acknowledge or respond to the core issues of our earlier comments (though indeed there has been time to incorporate needed changes into these documents—as an occasional change of wording attests to), and instead just merely repeats its flawed assertions in each of these three documents, thus missing the opportunity to respond and refine these proposals with the benefit of the many comments received. This again calls into significant question the agency’s claims that citizen comments are in any way meaningful to the development of its plans. Instead, it appears that these so-called “Draft” EIS proposals are really preconceived, foregone conclusions merely undergoing the legally mandated timeline before they can be signed and implemented—despite, and perhaps in spite of, any comments and/or information which the agency receives.</p> <p>Consequently, as that which we are commenting on is often identical or very nearly similar to both of these previous post fire proposed projects (and the agency appears to not have yet heard or addressed much of anything we have previously raised), our comments are also similar in some areas as well. However, differences exist as applicable, which are woven throughout, as we have thoroughly read and reviewed all of these documents, as well as hiked extensively surveying each of these proposed project areas. Our organizations have the following comments, concerns, suggestions, and issues pertaining to the Easy DEIS NEPA process, and the proposed action alternatives for this project:</p> <p>Agency Follies, Formulas, & Fantasies vs. Legal, Scientific, & Ecological Reality</p> <p>Our ongoing surveys of the many “units” contained within the proposed Easy project (which as with both FFRP and MFRP are continuing) have also begun to reveal a growing litany of discrepancies between agency claims and the reality of what is marked and planned upon the ground. Specific, photo documented, examples of this from very recent surveys are:</p> <ul style="list-style-type: none"> • Very steep slopes from 22 to over 30 degrees exist in units 16, 4, 10 and others. Logging on steep slopes could further imperil area water quality and fish populations--in and downstream from project area creeks and riparian areas--where sediment loads are already being washed towards, and into, area creeks. • There are apparent significant discrepancies between what our surveys have found on the ground and the claims within the DEIS for Easy. Units 6, 5, and 7—if located where they are marked on the ground--are in unburned and/or lightly burned mostly green forest areas. The DEIS maps show these units as being in both moderate and severely burned sections of the fire—contrary to the green-forest reality where these areas are marked on the ground (which we have documented). Our surveyors have questioned just what would be logged within the boundaries of these green units if the agency is truthful in its claims that only fire-killed and dying trees would be logged? The DEIS maps for this area also reflect inconsistencies; the BAER map depicts these units as being composed of a mix of predominantly lightly burned areas interspersed with both moderate and small sections of severe burns, the vegetation severity map shows this area as being composed of moderate and severe burns—both in nearly equal measure, with a large section portrayed as severely burned. If indeed the units as marked on the ground are located where they are supposed to be, then these maps are highly inaccurate, calling into question the veracity of this DEIS document and its proposed logging projects. These same contradictions can be found throughout the comparative portions of the BAER and vegetative severity maps. Additional surveys by our project of unit 9 again found that half of the unit above road 324 is green and that the entirety of the unit below this road is also green. Again, the maps contradict both each other and our survey discovered (and photo documented) reality on the ground. NEPA requires site-specific accuracy in agency proposals and disclosures 	<p>7-1</p> <p>7-2</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>within NEPA documents, including the Easy DEIS. The agency needs to rectify these significant “errors” and truthfully disclose the condition of these and other units within the fire perimeter and the Easy project area. The agency needs to drop all units located within unburned and lightly burned areas if they are truthful in their claims that they will not log any living trees—as these units are composed primarily of live trees.</p> <ul style="list-style-type: none"> • Surveys have documented units where the fire burned as a beneficial underburn. Among these are units with excellent live old growth forest habitat, including large downed logs and a few large snags. Green old forest units such as these need to be dropped entirely from this proposed sale. • Surveys have found use of the burned areas by woodpecker species, including pileated and black-backed woodpeckers as well as downy and hairy. The DEIS for this project needs to disclose research, and conduct its own site-specific research, regarding pileated and black-back use of burned forests in general and the Easy project area in particular. It is likely that the area, even burned, is an essential foraging area for pileated and other woodpeckers due to the widespread adverse cumulative impacts to the area’s forests from extensive past logging. As such, this area may be utilized by resident woodpeckers much more than would be found among burned areas adjacent to intact, unlogged late and old structure forest. • The Easy area, and the surrounding adjacent forests have been extensively logged in the past. The forests throughout are severely fragmented, and it is likely that numerous wildlife species endemic populations suffer from imperiled viability due to the significant adverse cumulative impacts from this prior logging. Proposing yet more logging, on top of both the recent fire and extensive past logging, only further compounds the lack of viable wildlife habitat in the area, and further (illegally) jeopardizes the viability of numerous wildlife species within the area. The proposed project may result in the unethical extirpation of wildlife species from the project area. <p>Our organization’s surveys and documentation within the project area are ongoing. We are willing to work with responsible agency officials in effort to remedy this proposed project’s discrepancies, illegalities and ecological problems. However, the level of illegal and ecologically harmful marking we have found on similar proposed projects, such as Flagtail most recently, and Reed and Summit in the past, is often highly systemic throughout the agency’s many ecologically destructive sales. Over the years in which we have covered the Malheur NF a consistent pattern has emerged in which the agency has evidenced little regard or responsibility for compliance with its own DEIS assertions or federal laws. If the many illegalities such as we have found within the Flagtail fire timber sale projects are also repeated with Easy, as our review of this very similar and legally deficient DEIS is again beginning (along with our review and surveys of the Monument area too) to indicate—and as our surveys in the proposed “units” will eventually more-fully ascertain and document, then it will be necessary to include the Easy FRP and its responsible personnel in the needed investigation of systemic criminal activity on the Malheur NF by its employed staff. If such is also the case here (as it definitely is with Flag-tail’s flawed document, “unit” markings and layout), we recommend that unethical planning not be rewarded, that agency personnel involved within any fraud be held accountable—and either retrained (and diligently supervised), or fired (and in some cases prosecuted for criminal violations of federal laws and professional ethics). We feel it is clear, due to the years-long consistent patterns of violations of federal laws by Malheur NF personnel, that unless the agency takes responsible, strong and meaningful measures to reclaim both its professional integrity and lawful duty, this pattern of abuse and criminal planning by the agency will continue—necessitating further litigation and expenditure of public and agency resources which could be avoided with simple agency compliance with existent federal environmental policy laws.</p> <p>Many other legal and ecological issues exist with this sale as well. These follow below.</p>	<p>7-3</p> <p>7-4</p> <p>7-5</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p><i>The Purported Purpose & Need Fails to Meet both the Legal Requirements of Federal Environmental Policy Laws and the Ecological Needs of the Forests and Wildlife</i></p> <p>1. The purported “purpose and need” for this proposed project, is to:</p> <ol style="list-style-type: none"> a. “Capture the economic value of the dead and dying trees that are excess to other resource needs; b. Re-vegetate the project area to appropriate forest structural conditions and tree species to improve wildlife and fish habitat, reduce the spread of Armillaria root disease, and ensure a future supply of timber products from the area,” c. “Re-establish Dedicated and Replacement Old Growth areas (DOGs and ROGs) and replacement old growth (ROG) areas that burned and are no longer suitable to meet this Forest Plan requirement;” d. “Reduce dead standing and down fuel, and work toward the stand structure and fuel models that allow for more frequent lower severity wildland fires in the project area.” e. Reduce road-related impacts in the fire area to meet Forest Plan standards for wildlife. <p>The DEIS further clarifies that the proposed actions are needed to “address the management direction provided by the Malheur Land and Resource Management Plan” and states “the need for the proposed action are derived from the differences between current conditions and desired conditions.” The Summary identifies that the “two broad categories expressed above in the underlying purpose and need are: 1) the acceleration of ecosystem restoration, and 2) and timely commodity extraction.” (This quote is quite similar in all three DEIS’s, but this version is from Easy DEIS page S-1, 1-1, and 1-2. Your DEIS authors must either appreciate having much of these DEIS documents pre-written for them –if they have little ethical or legal consciousness—or must feel stymied in both their creative writing styles as well as their ethical credibility.)</p> <p>We have many concerns with the Easy DEIS, its “purpose and need” and the action alternatives which have been proposed. Among these concerns are the agency’s continuing use of the archaically outdated Forest Plan, which was adopted in 1990, and has only been peripherally amended to include the barest, inadequate pieces of numerous scientific research reports, conservation science, ecological, wildlife, watershed, and fisheries needs, goals, and objectives. Federal environmental policy laws and federal judicial case-law clearly require that agency Forest Plans be periodically updated, and be amended to incorporate new scientific research, ecological needs, and conservation goals. Use of this Forest Plan could be perhaps be partially justified if the agency disclosed the Forest Plan’s legal and scientific failings through the NEPA process in this DEIS, which it has failed to do, as well as disclosed the relevant scientific research, and changes in conservation goals (including the compiled science and guidance of the ICBEMP), and identified the inadequacies of the amendments to date of the Forest Plan. Indeed, it has been quite some time since the agency amended the plan to incorporate any of the abundant scientific research which has accumulated regarding wildlife, post-fire forest environments, fisheries, forest health, fungi, and disease, etc... As none of this has been done, the DEIS reflects the folly of these failures, and its proposed actions are astonishingly antithetical to accomplishing the true conservation needs of the land, wildlife and fish, as well as in contravention to numerous federal laws, rendering the DEIS—and any decision made upon it—arbitrary and capricious and in violation of federal laws.</p> <p>The specifics of how these inaccuracies and illegalities manifest are covered in the comments, by issue, which follow. However, as will become clear to all but the most obtuse, the need for a new EIS process which is compliant with federal NEPA policies requires that this deficient (and illegal) DEIS be withdrawn and new one prepared. It is also clear that an updated Malheur Forest Plan is necessary to meet federal requirements as described above. In the interim, the existing Malheur Forest Plan needs a series of conservation-science and legal amendments, and all NEPA documents in which it is used need to fully disclose its</p>	<p>7-6</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>deficiencies.</p> <p>Easy DEIS’s deceptively Orwellian “Purpose and Need” fails to both incorporate the abundant relevant science regarding post-fire area management, including wildlife as well as ecological needs in burned forest ecosystems, and to disclose the truth of what the agency is actually planning in the Easy area.</p> <p>Short-term, timber-industry profit-motivated, myopic “planning” disguised within the Easy DEIS, including its pretentious and benign sounding “purpose and need,” and the proposed project’s unit discrepancies (as noted herein) are part of a tragically long, pathetically negligent management pattern on the part of your agency. This proposed project represents a serious abrogation of the responsibilities entrusted to your agency to represent the best interests and needs of the public, the wildlife, and the area’s ecosystems—the natural heritage of us all. We herein ask that this “purpose and need” be either re-written to remove the Orwellian hyper-bole, and honestly describe the full intentions and impacts of this ecologically destructive logging project, or—better yet—that such deception be relegated to the trash bins of your agency’s archaic and unlawful past. A new “purpose and need” must be developed, rooted firmly in sound, credible ecological science, and the true needs of the area’s wildlife, and ecosystems. The above quoted “Purpose and Need,” its deceptive “analysis” and planning, as well as the discrepancies existent in the marking of this project upon the ground, violates NEPA’s requirements for site-specific accuracy, expert professional advice and high quality science, and as such is both erroneous as well as arbitrary and capricious in violation of federal policy laws. The many specific problems, ecological concerns, and legal issues with this Purpose and Need, the DEIS, and the proposed Easy project are addressed in detail, both in the survey information contained herein, and by issue below.</p> <p>Among perhaps the most egregious—and cleverly deceptive--parts of this purpose and need is “a” above, concerning the capturing of “economic value” (however, at least you were honest enough this time—unlike Flag-tail or Monument--to include this reason first and foremost—before restoration or other ecological guises). This inclusion, as it manifests in interpretation within the DEIS, sabotages the agency’s ability to include ecological restoration within the Easy project (as is evidenced throughout the DEIS and addressed in detail below—see the “restoration” and “Post-Fire Ecological Needs, Credible Science and Agency Folly” sections among others). Inclusion of this clause as part of the purpose and need violates both the NEPA and federal case-law, prohibiting the arbitrary and capricious predisposition of an EIS towards the selection of a logging alternative. Indeed, given this clause, the agency should not have included alternative 1 at all, as it does not provide for the agency’s interpretation of what constitutes the “capture” of “economic value”—leading one to question whether the reason this was included at all is simply a shallow attempt by the agency to “lawsuit-proof” this DEIS from challenge with the pretense of considering all options. Adding to this pretense is the agency’s pallid description and error-filled rationalization of why it has chosen to ignore three scoping letter requests—as well as abundant credible conservation science—and failed to analyze or consider a restoration-only action alternative. Our concerns, scientific, ecological and legal issues regarding this unfortunate and unethical decision by the agency are addressed further in our comments below. The logging predisposed bias of this DEIS is all too evident throughout the document, as it fails to present the requisite information in both accurate and unbiased professional context as required by the NEPA. As such it is necessary to withdraw this legally deficient DEIS and conduct a new EIS which complies with federal laws and credible conservation science, as well as the true restoration needs of the land, wildlife, and fish.</p> <p>Restoration</p> <p>Contrary to the agency’s false claims within the DEIS, much of the more ecologically and scientifically sound portions of the “purpose and need” for this project can all easily be accomplished as part of a comprehensive restoration plan, without utilizing any commercial logging at all. However the DEIS dismisses this alternative as a viable option (Chapter 2 page 45). Unlike the Monument and Flagtail DEIS’s, the agency has dropped from the Easy DEIS its earlier claim that alternative 1 somehow incorporated restoration. However, the agency still</p>	<p>7-7</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>seems to not have heard any of our science and ecologically-based contentions stated previously, which help address this issue fully:</p> <ol style="list-style-type: none"> 1. Natural processes within the Easy area have long been severely disrupted by a litany of past—and continuing—agency mismanagement. Logging roads, including skid trails, riddle much of the project area—contributing to erosion, sedimentation, degraded water quality in fish bearing streams, loss of habitat viability for numerous interior forest-dependent species, and disrupted ecological integrity of the area. Past logging has adversely impacted the habitat quality, stand compositions, and ecological viability of the area’s forests. Livestock grazing has (and continues to) degraded the area’s waterways, devastated native forest and riparian vegetation and grasses, and resulted in extensive damage to the area’s ecosystems. Indeed, the severity and extent of the Easy fire was largely due to the synergistic cumulative impacts of these multiple (and ongoing) agency actions—including loss of soil moisture retention due to compaction from past logging and continuing livestock grazing, loss of closed overstory canopy—and consequent unnatural solar exposure to the area’s forests—drying out area soils, forest duffs, and understory trees, and the loss of significant amounts of once abundant fire-resistant old growth trees throughout the area. In such situations, offering only choices of “passive approach” such as “no action” or logging “alternatives” which would further compound all of these problems with yet more logging--as this DEIS proposes—in the absence of fully functioning natural processes and viable wildlife and fish populations—is dangerously foolish. There is much true restoration work which needs to be accomplished, including the removal of unneeded roads, the removal of all livestock grazing from both the burned area and adjacent area ecosystems, the removal of small diameter flash fuels, the restoration of area soils, waterways, and regeneration of logging damaged--and logging-intensified fire-damaged—forests. Wildlife and fish species also need to be protected from further adverse impacts—during these restoration efforts, and on into the future as they recover viable population levels. Returning fire to the area at historic intervals, now that it has been “re-introduced” by nature, is an ongoing future management need which also must be addressed. All of these ecologically based reasonable needs have been either tossed off entirely by the agency’s failure to develop a true restoration alternative, or have been sabotaged and sacrificed to the profiteering desires of the area’s timber industry, with whom the agency has a long and inter-locked past. A new EIS must be developed which addresses these needs, and includes viable comprehensive conservation-based restoration alternatives. 	<p>7-8</p>
<ol style="list-style-type: none"> 2. The agency falsely claims that a restoration alternative would not meet purpose and need to reduce potential high fuel levels. Apparently the agency foolishly decided that such an alternative could only remove snags and dead-wood fuels between 4” to 7” dbh, despite our conservation-science based recommendations that restoration actions should include the thinning and removal of small diameter fire prone fuels up to 12” dbh as needed to reasonably accomplish this objective (snags, downed logs, small diameter live trees wherever they are too densely placed, limbs, ladder fuels, brush, etc.). Apparently the agency has either also failed to review its own abundant science regarding what constitutes “fuel loads,” or it is deliberately falsifying this DEIS by failing to incorporate this science into its analysis, and by failing to disclose the existence of this science within the DEIS as required by the NEPA. In particular, a study done for the Forest Service and published by the agency as long ago as 1989, entitled: “Decaying Logs as Moisture Reservoirs After Drought and Wildfire” (Amaranthus, Parrish, and Perry), clearly shows that medium to large diameter snags and downed trees are not only <u>not fuel loads</u> but that these act as water reservoirs, which, even after months of drought and post fire conditions contain water. These size logs and snags serve important roles in the forest ecosystem, providing additional essential sources of moisture retention as well as both habitat and nutrients as they 	<p>7-9</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>break down and decay—replenishing the forest soils. There is no credible ecological need to remove most of these size logs and snags—especially any snags above 12” to 16” dbh or more. The agency’s use of inaccurate “tons per acre” fuel load formulas also violates the NEPA and contradicts the reality of credible science such as this report. This flawed formula fails to account that large diameter logs and snags are not fuel loads—and should not be counted as part of the fuel load tonnage per acre (as has been done with the DEIS claim that restoration would only reduce the “potential fuel loading” by “less than 3%” or “0.77 tons per acre”—these figures are completely inaccurate and must be corrected.) Indeed, it is largely the water content (and resultant inherent resistance to fire) of these medium to large dbh snags and logs which results in their greater weight. Including these logs and snags within a tons per acre fuel load formula, as the agency has done, falsely inflates the tallied fuel load totals for the area—akin to comparing apples and oranges—and unfortunately resulting in the agency dismissing valid, reasonable and effective true restoration alternatives such as the one our organization (as well as others) requested be included within this DEIS. The DEIS’s failure to clarify this, disclose the existence of this research report, and instead to present trees and logs above these dbh’s as part of a “fuel load”--risk of future fires--problem which must be addressed by logging—both violates the NEPA’s clear legal requirements—and constitutes either negligent or intentional fraud on the part of the agency. These illegalities must be corrected in a new EIS, and valid restoration alternatives must be included, analyzed, and presented in an unbiased professional manner as well.</p> <p>3. The DEIS falsely presents the costs of a restoration alternative as “unreasonable”—again utilizing false formulas such as the “tons per acre” formula above, and false portrayals of the actual fire risk conditions existent in a post fire landscape (which is again refuted by numerous credible scientific reports—including Beschta et al—as well as abundantly evident site specific conditions within the Easy area). Contending unsubstantiated conclusions that the costs of restoration work would “exceed one million dollars” to accomplish again exemplifies unprofessional ignorance of long-standing credible science—or (hopefully not) intentional outright fraud—both of which violate the NEPA (and the latter of which is criminally punishable). These inaccuracies need to be corrected in a new EIS, and future agency claims must be thoroughly professionally and scientifically substantiated as per the requirements of NEPA and federal case-law.</p> <p>4. That a restoration alternative would not meet “the need to recover the merchantable timber value.” This frivolous and illegal biasing of the purpose and need, which is then utilized by the agency to dismiss reasonable alternatives from even being developed, violates numerous federal policy laws and explicit federal case laws regarding just this subject. The courts have held that the agency may not legally commit its planning actions to a predetermined outcome (logging) by arbitrarily manipulating the purpose and need to include such biased, unsubstantiated provisions which result in the capricious dismissal of reasonable alternatives which could effectively accomplish the same—or even better, more favorable—goals. If the agency continues with this process, without correcting these (and other—cited herein) legal deficiencies, you do so at both the peril to the successful completion of this illegal project—and the further loss of your own professional ethics and integrity (and thankfully so, as the area’s fire damaged ecosystems cannot sustain the damage your action alternatives would illegally inflict upon them).Our economics section addresses further some of the glaring deficiencies of the DEIS in these and related claims.</p> <p>5. The DEIS again shows its selective utilization of pro-logging bias in its illogical attempt at rationalizing why it also dismissed the development of a restoration alternative: Claiming “that workers would be put at risk while working to remove small diameter trees under large hazardous snags” the agency evidences a strange mix</p>	

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>of double standards and pro-logging bias. Logging is well known to be among the most dangerous occupations in this nation. The action alternatives offered by this DEIS all have varying levels of “large hazardous snags left on site within the treatment units”—varying from 2.39 large snags per acre upwards to 13 or so (averaged across the area). Even while working cutting dead snags in areas where all large trees would be removed, workers in the area during any phase of cutting would be “put at risk”—as cutting would be occurring in and among the remaining standing trees which would be being incrementally removed one at a time around the sawyer as they cut them down. This purported “concern” is quite silly as expressed here—if it is real, perhaps the agency should spare all the fallers such risk, and not attempt any type of logging at all. Or is it that such risk of life and limb to wage-paid loggers is worth the risk if they are bringing down large trees fetching high economic returns. Are these workers who are then “put at risk” considered to be somehow more of an acceptable risk—or more acceptably expendable if they are risking life and limb for timber profits? Is restoration, which is truly needed in the area, somehow not worth any risk at all? To the workers taking these risks, it should make little difference economically, as they are paid by the hour in wages, whether they are working doing restoration or falling large snags for timber company profits. Further, cutting large diameter snags (as opposed to less risky small diameter snags) is well known among loggers everywhere to be among the most risky falling occupations. These snags are well known in logging vernacular as “widow makers” because of the potential for them to break while being cut—from vibrations caused by the rotating chainsaw—with the upper portion of the tree often falling and killing or maiming the faller below. Where is the agency’s purported concern evidenced for these risks—anywhere within this or any NEPA document for a proposed timber sale? Why is the only evidence of this apparently new-found agency “concern” for workers being “put at risk” emerging here—to dismiss scientifically credible needed restoration work—if the agency has no pro-logging bias, and is truly meeting NEPA’s legal mandates of unbiased professional analysis and disclosure?</p> <p>Needed restoration work can also help benefit the local community economy by providing employment for area residents. This restoration work has been accomplished elsewhere successfully, and within economically reasonable limits, contrary to the fraudulent claims made by the agency within this DEIS. Just as it is not desirable to cut off the fingers of one had to fit a ring upon the other, it is not desirable, nor necessary, to further harm the fire-damaged forest ecosystems of the Easy area to accomplish needed restoration.</p> <p>Accompanying these comments is our “Minimum Mandatory Guidelines for All Projects Purporting to be Restoration, Forest Health, and/or Recovery Projects in Interior Northwest Forests.” We herein ask the agency to uphold the requirements of the NEPA in developing the Easy EIS; utilizing high quality expert science and site-specific conditions, and develop a legal, credible, scientifically sound and ecologically beneficial conservation-science based “purpose and need” with a series of comprehensive restoration alternatives--none of which utilize any commercial logging (as credible science recommends)--to meet the ecological needs of the Easy area.</p> <p>The current DEIS proposes a series of action alternatives, all of which would seriously harm area forests, fish, and wildlife, and which would violate numerous federal laws (including the NEPA, CWA, NFMA, APA, MBTA, and the ESA). Alternative 2, the “proposed alternative,” while including some minimally restoration-based actions, fails to even begin to address the many ecological needs within the area. The DEIS upon which it is based is illegally deficient in pertinent information to adequately support alternative 2 (or any action alternative) as it fails to seriously address the many important issues which should be included within a true “fire-recovery” project. We encourage the agency to uphold conservation science as well as ecosystem and wildlife needs by developing a new EIS which proposes restoration only activities for this area. We remain willing to assist the agency in these efforts.</p>	<p>7-10</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p><i>Aquatic Species and Riparian Habitat</i></p> <p>In the four subdrainages that contain the fire area, four creeks are listed on the Oregon State 303(d) list (including a fish bearing stream) as water quality limited, with problems of excessive water temperatures due to past and ongoing detrimental management. The four creeks are: Clear Creek, Dry Fork Clear Creek, Lunch Creek, and Reynolds Creek. Many of the stream reaches within this area—post-fire—are likely to fail to meet Forest Plan standards for fine sediment. Additionally, peak flow, sediment loads, turbidity, mass wasting, and other potential problems may exist post-fire. However, it appears that much of this information has not been gathered or researched—it would have been good to have installed sediment monitoring devices, and temperature gauging stations post-fire, to accurately assess potential problems which may be compounded by the proposed project. Apparently this has not been done however, despite many months having transpired since the fire occurred. Such irresponsible agency failure to begin to collect this information—despite knowing full well of this planned project for many months, and despite the ease of simply establishing temperature gauging stations along area creeks—violates the clear requirements of the NEPA which gives the agency two choices—either gather the needed information—or state why collecting this information was not possible. The DEIS fails to adequately meet either of these required options.</p>	<p>7-11</p>
<p>Watersheds affected by the planned logging activities include Clear Creek, which is a fish bearing stream with ESA protected resident fish species, in addition to the others mentioned above. Aquatic species affected by the proposed logging alternatives include ESA Threatened listed Bull trout and Steelhead trout, and three Region 6 Sensitive listed species: Redband trout, Chinook salmon, and Cutthroat trout, and a fourth Region 6 listed species, Columbia spotted frog is also thought to be present in this area. The so-called “Appendix F -Fisheries Biological Evaluation,” its flawed effects “determinations,” and the aquatic species section within the DEIS itself fail to meet even the most basic requirements of NEPA’s mandated professional expertise—or even simple common sense. Despite the well documented adverse impacts of logging and resource extractive management upon aquatic species, and despite the BE’s admission that bull trout are “more sensitive to environmental disturbances at all life stages” the BE for this extensive logging proposal illogically and arbitrarily concludes that the logging alternatives would have no more impact than the no action alternative. It is conclusions just such as these which further imperil any chance of recovery for bull trout and other ESA listed species. Until such time as these seriously imperiled aquatic species begin to show significant and continued evidence of recovery, proposing yet more ecologically degrading logging within the scant few watersheds where they marginally hang on to existence is beyond mere foolishness—such proposals are ethically bankrupt and legally criminal.</p> <p>These above “errors” in judgment and analysis regarding the proposed project’s likely adverse impacts upon bull trout populations and habitat, are compounded by even scantier disclosures and “analysis” concerning the other species of fish found within the area—from ESA threatened-listed Steelhead trout to Region 6 listed species. While current status is listed in some detail for bull trout, despite the ridiculous conclusions, such information is noticeably lacking for the remainder of the area’s aquatic species. Yet the DEIS fails to disclose why this requisite information is missing for ESA listed Steelhead trout as well as the other species, again violating the requirements of the NEPA and leaving the public to credibly wonder if any “analysis” was really conducted at all?</p> <p>The ESA requires federal agencies to develop recovery plans for listed species. However, the DEIS for the Easy project, which has two federally threatened listed aquatic species within the project area, fails to disclose if such a plan exists, if not why not, and how the proposed project may or may not impact future options in developing a recovery plan for this area. As bull trout are currently at “high risk of extinction” in this area, failure of the agency to take proactive steps to develop a recovery plan is illegal. Compounding this failure by proposing further ecologically damaging management projects within this critical area calls into serious</p>	<p>7-12</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>question the agency’s priorities—which appear to be focused upon commodity extraction at the expense of--and in spite of--ecological recovery, restoration, and compliance with federal environmental policy laws. Or, if such a plan exists for Bull trout, Steelhead trout and Region 6 listed species, then the failure to disclose and assess this plan also violates the NEPA. A new EIS must be conducted to correct these legal and ecological deficiencies.</p> <p>The Aquatics BE fails to accurately address the significant sedimentation which would definitely result from the proposed logging activities—which includes logging on steep slopes above area creeks. Slopes in the burned area are already evidencing erosion. Surveys by our organizations crew’s have documented sediment erosion occurring across area roads located near creeks—before logging has even begun. It has been well documented that logging, even planned helicopter logging, results in increased levels--as well as risk--of sedimentation, erosion, landslides, and road as well as slope failures. Sediment also occurs from transport traffic along log haul routes. Removal of large and medium diameter trees and snags which currently are holding area soils, and which would continue to hold soils even after they’ve fallen—if not removed by logging, would also increase sedimentation and erosion. The effects of the logging loss of these trees would impact the area’s water systems for from several years to decades, and potentially over time, result in increased instances of landslides. Unbelievably, despite these known and highly likely impacts, the Aquatics BE, and the DEIS, fail to adequately address, disclose, or analyze many of these known and likely impacts. Even more alarming is the utterly unprofessional, scientifically unsubstantiated, determination that the planned logging activities will potentially have a beneficial impact on listed aquatic species and their habitat in the long-term. Such complete failure strays beyond the realms of incredulity and violates the basic tenets of the NEPA’s requirements. If implemented this project would also violate the CWA, NFMA, and the ESA. A new EIS must be conducted which accurately and sufficiently analyzes and discloses these significant impacts and issues.</p>	<p>7-13</p>
<p>Fish populations in the area have been severely adversely impacted by past and ongoing management activities. Bull trout populations within Clear Creek in the project area were listed in pre-fire 1997 as being “at high risk of extinction,” and apparently this listing still remains. It is certain that the fire’s impacts pose an increased level of this already high risk. It appears also that some populations of bull trout in the MFJD subbasin have become extinct or have otherwise(?) disappeared—in areas where they were present before 1990 (however the BE fails to address or analyze this or explain why this illegal and unacceptable disappearance has occurred under present management). Within the much of the project area’s other subwatersheds, Bull trout are claimed to be absent, however the BE fails to analyze the continuing causes of this or disclose any ongoing plans for rectifying this situation—including restoring bull trout presence and habitat, designating additional critical habitat, and recovering populations throughout known historical habitat (including restoring connectivity and viability to and between these populations). Despite this, the DEIS and BE fail to address the actual likely impacts of the proposed projects as noted above. In fact, while failing to accurately address the likely and potential impacts from the proposed logging, the DEIS plans only token actions which minimally address small pieces of the current continuing adverse impacts to these species habitat. Such myopic and ineffective “planning” will only further exacerbate the continuing decline and eventual potential loss of this species which is still listed as being “at high risk of extinction” within the project area.</p>	<p>7-14</p>
<p>The Easy DEIS fails to disclose any comprehensive plans, or scientifically based peer-reviewed strategy--either short or long-term--which will fully address bringing listed Bull trout, Steelhead trout, Chinook salmon, Redband trout, and Cutthroat trout (as well as Columbia frog) populations to viability levels within their HRV. Needed restoration of historic fisheries habitat for these species, including restoring the area from the adverse impacts of the management exacerbated severe Easy Fire, is not addressed sufficiently either. A project which purports to be “Fire Recovery,” within a severely management impacted watershed with resident ESA threatened listed and species of concern which show declining population trends, which fails to address recovering viable population levels and healthy trends in all historic aquatic habitat—and without explaining why these needs remain unaddressed—again violates the requirements of federal environmental policy laws—</p>	<p>7-15</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>including NEPA, NFMA, ESA, CWA, and the APA. Instead, all proposed action alternatives would obviously significantly further damage already degraded aquatic habitat for these species and continue management trends which will likely result in the need for upgrading the ESA status of redband trout from sensitive to threatened over time, upgrading Bull trout and Steelhead trout from threatened to endangered over the long-term (if indeed we are lucky enough not to lose them to extinction in this area entirely), and potentially cause the listing of other species as well. It is likely numerous individuals of these species would die—which constitutes an illegal takings--and their imperiled area populations be further diminished by the implementation of any of these illegal commercial logging ‘alternatives.’ The DEIS’s only other alternative, that of No Action, would not do enough of the serious significant restoration work necessary to comprehensively address the many issues and needs associated with restoring the area’s management degraded and fire damaged watersheds’ fisheries habitat. A new EIS is essential to comply with the requirements of federal laws, which addresses (including full and accurate disclosures) professionally and adequately all the above mentioned issues and needs.</p>	
<p>Roads</p> <p>There are far too many roads per square mile in the Easy area already, with DEIS disclosed road densities ranging from around 3 miles of road to square mile up to even 5 miles of road per sq. mile in some areas. These figures are in fact even higher when all the existent two-track jeep trails and logging skid roads are fully counted, and when closed but still ecologically functional roads are included as well. Area roads have adversely impacted stream systems, including channeling sediment into streams, limiting riparian vegetation and adequate accumulation of woody materials, and harmfully influencing stream channel morphology. Several unpaved roads exist which are located less than 300 feet from waterways and springs. Many of these roads need to be closed and obliterated—restoring the former road bed to natural slope contours and native forest vegetation. The remaining open roads—which need to be brought within wildlife viability thresholds (which are significantly lower road density per square mile) which are retained need to be improved so they are not adversely impacting area streams and springs. No roads should be retained unless the agency has the ability, and commitment, to maintain them adequately to protect water quality and fish and wildlife habitat needs. Along these remaining open roads true “hazard tree” cutting can be conducted where really needed. Keeping the many impacts of commercial logging operations out of this recovering forest—including off haul road routes—can also best help “reduce the effects of roads on wildlife and water quality,” as can removing all excess roads.</p>	<p>7-16</p>
<p>The actual road density (per square mile) of the project area, includes all existing roads within this area—among these are roads, and portions of roads, which are not depicted upon the fireman’s map, roads which are gated or bermed closed--but which still exist upon the terrain, those which are slated to be obliterated-but which yet exist at this time, and the many logging skid trails which exist throughout the project area—and ecologically detrimentally function in many ways as roads as well. The DEIS for this proposed project fails to disclose if functional roads, including skid trails, were addressed in the roads assessment or included in the DEIS totals. If these were not included, from an ecological standpoint the tallies disclosed within the DEIS are inaccurate and must be corrected.</p>	<p>7-17</p>
<p>Proposed road de-commissioning and removal, while laudable, is far too incremental to make much of a significant difference to wildlife or fisheries viability recovery and habitat enhancement. Much of the area will be left with little change in open road density after project completion, and the entirety of the project area will still have far too many miles of open roads to ensure recovery of wildlife and fisheries viability. The DEIS fails to disclose that the tally of remaining roads—including all functional roads—fails to meet Forest Plan (FP) standards, and fails to disclose how far this tally remains in violation of FP standards in general, or how the agency plans to correct this. The DEIS evidences an unprofessional “Pollyanna” ‘cup is half-full’ viewpoint which does not present the NEPA required</p>	<p>7-18</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>information so that both the public and the decision maker have adequate information to make a reasoned decision. The DEIS also fails to address that the FP standards regarding road densities were formulated for “big game” species such as elk and deer, and fails to encompass the needs of many interior forest-dependent wildlife species, including wolverine, lynx, wolf, bear, pine marten, cougar, and others. The DEIS needs to analyze and disclose this necessary information in a new document to correct these illegal shortcomings.</p>	
<p>Given the actual very high road density of the Easy area, absolutely no new, temporary, or re-constructed roads should be proposed for this area (unless reconstruction is only for the purposes of improving area roads to prevent harm to area water quality, fish habitat, and or wildlife habitat—and results in significantly fewer miles of functioning roads overall). Action alternatives, while pretending to reduce area road density, actually would introduce roads into presently unroaded portions of the project area, further degrading and fragmenting an already damaged ecosystem which is in violation of Forest Plan standards. These road building “alternatives” are in contravention to federal policies regarding roads, the Forest Plan, credible scientific research, wildlife and fisheries needs, the Clean Water Act, the ESA, and conservation biology. The DEIS fails to adequately disclose or analyze the full and actual impacts of these alternative’s proposed road building, including the further fragmentation of the area’s scant remaining unroaded forest stands. As such this DEIS fails the requirements of the NEPA and must be withdrawn and redone. We herein emphatically state that absolutely no new roads of any kind, including so-called “temporary roads” as well as logging skid trails, skyline routes, or other management openings which further fragment the area forests (including helicopter landing decks) can be constructed within this severely fragmented forest area. The new DEIS for this project must accurately address, disclose, and analyze the full extent of fragmentation existent within this area, the full impacts to forest ecological functioning, wildlife, and fish due to this, and develop alternatives which remedy these problems and restore this recovering area.</p>	<p>7-19</p>
<p>The DEIS also fails to disclose the existence of any uninventoried roadless areas, including ecologically “de facto” roadless areas which exist between adjacent Rare II and inventoried roadless area boundaries and adjacent area roads. These areas function ecologically as contiguous portions of these roadless areas, and are utilized by wildlife as such (which do not recognize arbitrary artificial human management boundaries). Again, by presenting only partial “truths,” hidden in “Pollyanna” guises, the agency has obfuscated the true reality of the area’s habitat, and potential roadless components. This obfuscation fails the requirements of the NEPA as it prevents both the public and the decision-maker from access to the necessary information to make a reasoned and legal decision. Again, these deficiencies must be corrected in a new EIS—with a new public comment period--before this process can continue further.</p>	<p>7-20</p>
<p>Post Fire Management & Credible Science</p> <p>Interestingly, as we reviewed the Easy DEIS, it was notable that many segments of this document were almost verbatim with both the similarly timed Monument DEIS, as well as the Flag-tail Fire EIS in the Malheur NF’s Blue Mountain Ranger District. The segment on the science of the Beschta Report is one such segment. The copy-cat formula utilized here by the two Ranger Districts evidences a systemic top-down agency managerial approach and formula directing these supposedly independent “site-specific” projects. We herein insist that the agency needs to conduct a region-wide EIS process which addresses the agency’s direction and directives concerning its proposed timber sale (including post-fire timber sales) programs, and the apparent USFS Regional (or National) directed attempt to circumvent the intent of federal policy laws and conspiratorially denigrate or obfuscate credible science such as Beschta, hide or suppress science such as Amaranthus et al (“Moisture reservoirs...”—discussed herein), B. Sharp (“Avian Population Trends”—discussed below), Reynolds et al, E. Bull, G.L. Starr et al, and others (which are addressed both within the text throughout these comments and included in our comment exhibits). The consistent pattern of systemic fraud evidenced again here, and perpetuated by the agency throughout the region and apparently nation, underscores Judge Dwyer’s federal court ruling of several years past wherein he stated</p>	<p>7-21</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>be proposed for this post-fire area, and no commercial logging of any trees greater than 12” dbh should be proposed at all, in any action “alternative” as such post-fire logging is unsupported by all relevant credible science. Merely publishing or citing a full bibliography of all scientific reports supposedly reviewed by the agency for this NEPA process, while failing to incorporate the ecologically restorative recommendations of these reports does not constitute compliance with NEPA’s requirements concerning the utilization of credible high quality science in the development of action alternatives. Within the new EIS, wherever conflicting reports concerning post-fire “salvage” proposals are juxtaposed, we ask that the experience, training, and background of these reports’ authors be disclosed to both the decision maker and the public as necessary supportive information which can assist in weighing the relevance, accuracy, and applicability of apparent conflicting information.</p> <p>The Easy DEIS’s devious attempts to gut the credibility and applicability of the Beschta Report are found both within the DEIS’s many inaccurate assertions and grouped together beginning on page 361 in the Easy DEIS, page 277 in the Monument DEIS and page 307 in the Flag-tail DEIS, in a special section, apparently added as an afterthought due to likely agency concerns over the 9th Circuit Court’s decision upholding our organization’s lawsuit against the Big Tower post-fire logging project which was located on the Umatilla NF. The onslaught of shallowly obvious attempts to present the Beschta Report information in a thoroughly pro-commercially logging-biased manner begin with the DEIS’s admission that the agency ID Team chose to selectively utilize agency “scientists” McIver and Starr to review and interpret the reports rather than incorporate the reports directly. Originally the Monument and Flag-tail DEIS’s opened their biased disclosures of the Beschta report by stating “Authors of the Beschta report, who are mostly scientists, provided their opinions...” (DEIS, Chapter 3, page 278 of the Monument DEIS and Chapter 3, page 307—verbatim—from the Flagtail DEIS—(FFRP DEIS)). What did the agency mean by stating that these PhD scientists are “mostly scientists”—are the DEIS’s crafty authors intending to imply to the readers and decision-maker that some of the authors are lacking scientific credentials? Written true to the tainted style of “yellow journalism” the implications of such insinuations are never addressed and the actual credentials of these authors, or of the agency scientists for that matter, are never disclosed. However, the Easy DEIS, which was written after our comments noting this in the two previous DEIS’s, has dropped the “who are mostly scientists” from this sentence. This evidences that the agency has had time to incorporate our comments if they wish. They have chosen to rectify some of the more blatantly egregious lines from their copy-cat repetitive text, but have failed to address or incorporate any of our substantive comments, raising questions as to the degree of importance the agency really attaches to citizen and ecological organization’s comments during the NEPA process. Is this comment period process merely a window-dressing sham hiding and preceding the implementation of projects which have already been decided upon in advance by the agency?</p> <p>This section continues on to state that the report’s “suggested policy principles” are “not focused on the specific ecological, social, and economic characteristics of the post-fire conditions of the Easy Fire Recovery area or the Malheur National Forest.” Yet the report indeed is focused on the ecological restoration needs of areas such as the Easy Fire, and was written in large part for such a purpose, as the authors recently reiterated in a published letter to the agency and the scientific community updating and emphasizing the importance and applicability of their report. Apparently the agency has chosen not to disclose nor incorporate this letter within this DEIS despite its essential content, however we herein reference this letter, and provide it in full in our exhibits which are part of these comments. We ask again herein that the agency disclose and address the contents of these scientists’ statement, affirming the relevance and importance of the Beschta Report, in the public NEPA documents for this proposed project. Interestingly, while making minor changes such as the one noted just above, the agency has failed to address this request—which was first given in our earlier Monument and Flag-tail comments—again underscoring the relevancy of the above question.</p> <p>Among the many failures of this DEIS is the agency’s attempt to replace the real restorative needs of the area’s forests, wildlife and fish, and the long-term needs of the area’s human communities, with the short-term, ecologically destructive and short-sighted myopic</p>	<p>7-24</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>economic goals of the profit motivated timber industry located within the John Day area. By again lumping together inaccurately perceived economic and social “characteristics” (the true nature of which is addressed herein in our Economics section as well as the Purpose and Need section), the DEIS’s authors have attempted to toss aside the very real applicability of this study to the Easy projects, again violating the professional and impartial requirements of the NEPA.</p> <p>Interestingly, the agency also fails to disclose the decades long harmful consequences of this pattern of management, which was exposed in Nancy Langstroms PhD dissertation, and later published book “Forest Dreams, Forest Nightmares.” This book exposed the USFS, and Malheur NF in particular, long pattern of consistently sacrificing true ecological and community needs to the unsustainable avarice of the timber industry in the region. Failure to disclose or incorporate this published dissertation (of which the agency is well aware from previous timber sale comments, appeals and lawsuits by our organization) both here, in the purpose and need, and in the economics section, while utilizing such distorted economic claims, violates the NEPA as well. The agency also selectively chooses to not incorporate or disclose the information within the economics report by Talberth and Moskowitz (addressed in detail in our economics section) of which the agency is also aware.</p> <p>This section of the DEIS (of Easy, Monument, and Flag-tail) goes on to supposedly address the Beschta Report’s “recommendations,” continuing in a logging slanted manner that is far from NEPA’s required impartiality and professionalism, and is fraught with inaccurate claims, among which are:</p> <p><i>“harvest activities will not permanently impair the productivity of the land or irreversibly damage soil or other watershed conditions” (Easy DEIS pg. 365, Monument DEIS page281, and Flag-tail DEIS page 311 verbatim)</i>—actually the agency fails to disclose or analyze several studies regarding logging’s known detrimental impacts to soils—including a study by David Perry in which he concludes that logging damage to forest soils, which have taken thousands of years to form, may take three centuries or more to fully recover. Other studies such as those by Elaine Ingham address the damage to forest soils by both logging and grass seeding, adversely impacting the ability of tree seedlings to survive. Numerous irrefutable evidentiary studies exist spanning centuries and continents showing the long-term harmful impacts to soils and forest health by logging. Some of these studies are by agency scientists as well, including reports based upon eastside ecosystems such as Easy, and by authors including Scott, addressing detrimental impacts to forest health and seedling survival by logging disruption of forest soil microbial communities. Yet the agency has failed to disclose or incorporate any of these pertinent studies, choosing instead to simply dismiss such credible scientific research with blatantly deceptive, inaccurate statements such as the above.</p> <p><i>“All trees which have a reasonable chance of surviving will be retained” (EFRP pg. 366, MFRPDEIS page 282—and page 312 of the FFRP DEIS)</i> As addressed in our first section above “Agency Claims and Reality” this agency claim has again been called into serious, and potentially criminally prosecutable, question.</p> <p>The DEIS claims that it is managing the Easy project logging units to maintain sufficient snags to provide for <i>“100 percent potential population levels of primary cavity excavators” (EFRP pg. 366, MFRP DEIS page 282, FFRP DEIS page 312)</i>. This assertion, addressed elsewhere within as well, is patently false. Even agency studies note that the potential for high population levels of cavity excavators, such as forest-dependent woodpeckers, is inextricably tied to many factors. Among these are the increasing number of woodpeckers utilizing an area in correspondence to the number of snags within an area. Areas with high snag density, and canopy-closure (including the cover snags provide in burned forest areas) have a higher population level of cavity excavators—and fledgling survival rates—in direct proportion to the number of snags left within an area. Logging removal of snag levels will naturally lessen both the population levels of cavity nesters within the area, as well as harm the survival rates of their fledgling young—which need cover from snags and remaining green trees to survive. The paltry levels of snags the agency proposes to retain within its logging units, including the supposedly woodpecker friendly 13 snags per acre (MFRP and FFRP DEIS’s—both—</p>	<p>7-25</p> <p>7-26</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p><i>alternative 3</i>) are insufficient to adequately provide for compliance with the purported goals of the agency’s Regional Forester’s Amendment directive #2. The DEIS violates the NEPA by failing to disclose the full scientific research and habitat components required by cavity nesters to meet this stated directive’s goals.</p> <p>The DEIS dismisses the Beschta Report in part because: “<i>Leaving all big trees would result in a loss of economic viability for salvage operations, loss of commercial forest product value and associated benefits to the local economy, thus conflicting with some of the Purpose and Needs</i>” (EFRP pg. 366, MFRP and FFRP DEIS pages 282 & 313 respectively) Such rationale illustrates the intentional manipulation of the arbitrary and capricious Purpose and Need, and the predisposed nature of this illegal DEIS towards a logging decision. This violates both the NEPA and numerous federal court case-law rulings, and underscores the true intentions of the agency to again sacrifice ecological needs to the insatiable demands of timber corporation profits. Both the purpose and need and this dismissal are illegal and the DEIS needs to be withdrawn and a legally compliant EIS produced. This is as true for the Easy Fire project as it is for both the Flag-tail FRP and the Monument FRP in which we raised it previously during the comment periods. Again, the use of the same words—verbatim—evidences not a site-specific directed NEPA process—as legally required—but a top-down Regional agency protocol, necessitating the need for a Regional public NEPA process as described in detail above.</p> <p>Numerous other examples exist both within this section as well as throughout the DEIS of illegal and logging biased assertions and selective disclosure and distortions of science, as well as regurgitation of the same words, formulas, planning, and supposedly “site-specific” analysis utilized previously in the FFRP DEIS—and potentially other EIS projects across the region, however it would take a much longer comment time period to begin to sufficiently address them all. Those cited herein, and elsewhere within these comments are amply sufficient to demonstrate the illegality of the Easy DEIS and the need for a new, legally compliant EIS for true restoration projects in the Easy area. This pattern is also notable in the style and conclusions of the fisheries BE for these similar projects.</p> <p><i>DecAID Follies and Forest Realities</i></p> <p>The Easy DEIS relies heavily upon the unproven and error-prone DecAID. tool. Snag fall and recruitment rates are not accounted for in DecAID as used by the agency. The agency’s reliance on DecAID in its pseudo “analysis” of potential impacts to snag dependent species fails to recognize that “DecAID is NOT: ... a snag and down wood decay simulator or recruitment model [or] a wildlife population simulator or analysis of wildlife population viability. ... Because DecAID is not a time-dynamic simulator ... it does not account for potential temporal changes in vegetation and other environmental conditions, ... DecAID could be consulted to review potential conditions <u>at specific time intervals</u> and for a specific set of conditions, but <u>dynamic changes in forest and landscape conditions</u> would have to be modeled or evaluated outside the confines of the DecAID <u>Advisor</u>.” Marcot, B. G., K. Mellen, J. L. Ohmann, K. L. Waddell, E. A. Willhite, B. B. Hostetler, S. A. Livingston, C. Ogden, and T. Dreisbach. In prep. “DecAID -- work in progress on a decayed wood advisor for Washington and Oregon forests.” USDA Forest Service, Pacific Northwest Region, Portland OR. (“The inventory data likely do not represent recent post-fire conditions very well ... young stands originating after recent wildfire are not well represented because they are an extremely small proportion of the current landscape ... The dead wood summaries cannot be assumed to apply to areas that are not represented in the inventory data.” “DecAID caveats”). NEPA requires that the agency base its proposed projects upon the site-specific conditions within the project area, and utilize the full range of credible scientific research. NEPA does not permit the agency to substitute the flim-flam of fancy unproven computer-generated formulas which are far removed from the realities of the forest ecosystem for which this project is proposed. A new EIS needs to correct these deficiencies of analysis and accuracy.</p>	<p>7-27</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>Terrestrial Wildlife</p> <p>Surveys</p> <p>The EIS must disclose the habitat quality, forest stand composition(s), wildlife species utilizing the area, listed and proposed listed species known or suspected to be within the area, as well as aquatic species both within and downstream from the area. Post-fire surveys concerning all the above must be disclosed, as well as surveys before the area burned. The EIS must disclose if sufficient acres of viable habitat for these and other species exists within the adjacent/surrounding forest area, including connective contiguous forests with the forests of the Easy fire area.</p> <p>Both pre-fire, and post-fire, botanical surveys must be disclosed for the project area. Within a severe burn area such as Easy, all listed, and proposed listed, plant species and their habitat—including especially soils and soil moisture retention capacity--must be protected. Recovery of the area depends in large part on the ability of the soils, and standing snags as well as downed logs, to retain moisture within the area during the dry summer seasons and during drought periods. All rare forest plant species and species of concern within the area, as well as all rare invertebrate and other species associated with these plants, such as rare lepidoptera, fungi, or birds must be protected as well to ensure the ecological recovery of the area from the fire. These many species, and their interwoven ecological dependences must be disclosed within the EIS, which the DEIS has failed to address.</p> <p>Simply dismissing the likely adverse impacts of the proposed Easy logging projects upon numerous flora, fauna, and fish species without conducting the necessary surveys to verify these species potential and likely use of the project area, or without addressing recovering the area for viable use by the many species which historically have been found within its forests, violates federal laws including NFMA, NEPA, federal case-laws, and the ESA.</p> <p>Post-fire habitat is preferred habitat for a number of species of concern, including Oregon State listed Black-backed woodpeckers, as well as several neo-tropical migrant bird species, among others. The EIS for this proposed project must disclose the results of surveys for these species, their habitat requirements, current population trends, as well as plans for their recovery—including habitat requirement protections and provisions. The absence of these surveys requires that the proposed project be withdrawn until the agency complies with its obligation to adequately survey this area, and analyze the necessary information required to protect, and provide for the NFMA and ESA mandated viability of these many forest-dependent and aquatic species. The agency should also begin and disclose consultation with Oregon Department of Fish and Wildlife concerning recovery of state-listed Black-backed woodpecker populations.</p> <p>The DEIS conducts a woefully inadequate review of impacts to wildlife from the proposed commercial logging. First, it appears as though the Forest did not survey adequately for Threatened, Endangered, or Sensitive species, nor did the agency address their habitat needs or these species likely use of the proposed logging areas. This is problematic for several reasons. First, it is impossible for the agency to suggest that there will be no significant impacts to listed or proposed species when it fails to analyze the project in terms of potential and likely impacts to these species. Such failures do not uphold the agency’s duties under the Endangered Species Act. Endangered Species Act of 1973, 16 U.S.C. §§ 1531-1544 (1994).</p> <p>Second, the Endangered Species Act (ESA) requires the USFS to use the best available scientific and commercial data in assessing the impacts to species, which includes surveying for them. 16 U.S.C. § 1536(a)(2). Since population studies are lacking for the DEIS planning area, the USFS is precluded from determining that the project is not likely to adversely affect the listed species under section 7 of the ESA. <i>Id.</i> § 1536(b). Basing the DEIS’s action proposals on such “non-information” is unreasonable and would violate the Administrative Procedure Act (APA). 5 U.S.C. § 706.</p> <p>Third, the DEIS fails to conduct an adequate cumulative impacts analysis for wildlife species and their habitat. The DEIS fails to disclose the current habitat quality for a variety of</p>	<p>7-28</p> <p>7-29</p> <p>7-30</p> <p>7-31</p> <p>7-32</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>species, addressing both the fire’s impacts and the cumulative impacts throughout the district’s forests, impacts to LOS forest-dependent species including the current post-fire quality of both project area and adjacent LOS habitat and any corridors through the planning area connecting the LOS with adjacent contiguous forests. Based upon on-the-ground surveys (and aerial overflights of the area we took last fall), the habitat quality for all species is in poor condition from poor historic management activities--coupled with the impacts from the Easy fire which was exacerbated in intensity and extent by past illegal and harmful logging which has occurred throughout area forests under agency management. Because species <i>are</i> using poorer quality habitat, removing that habitat has an even more significant impact on species than the removal of high quality habitat: because there is no more “fall back” (i.e., poorer quality) habitat available for these species to utilize when higher quality habitat is removed, it is unclear how wildlife species will be affected in the meantime. It is logical to assume that once the poor quality habitat is removed through this project, sensitive and interior forest-dependent wildlife in the planning area will be extirpated from the area, a result clearly unacceptable under NFMA.</p>	
<p>Fourth, impacts to wildlife species in the short and midterm are not insignificant, but the agency failed to assess what these impacts would be. Because extensive good quality habitat will not be available for many years until much of the burned and logged areas of the planning area recover, it is unclear how wildlife species will be affected in the meantime—especially if some of the scant remaining green forest habitat available is logged--as well as the logging of the majority of the standing large snags-- resulting in further degradation and loss of closed canopy and snag, soil holding, habitat. NFMA does not recognize this outcome as legally acceptable.</p>	<p>7-33</p>
<p>The project’s proposed logging would cause nonlisted species to trend towards listing, and listed species to trend toward jeopardy. Northern goshawk (which likely exist within the area), Pileated woodpecker, Blackbacked woodpecker, Whiteheaded woodpecker, American marten, Lynx, Pygmy and Flammulated owls, numerous forest-dependent neotropical migrant and native birds (Band-tailed Pigeon, Rufous Hummingbird, Olive-sided Flycatcher, Winter Wren, Golden-crowned Kinglet, Solitary Vireo, Song Sparrow, and Pine Siskin among others), and California wolverine are species about which the agency lacks adequate information to conclude that the proposed project would not make their populations trend towards listing in violation of the ESA. <i>Sierra Club v. Martin</i>, 168 F.3d 1 (11th Cir. 1999). Despite the lack of information on these and other species, the DEIS erroneously concludes that they will be relatively unaffected by the proposed project. There is no evidence to support the conclusion that removing what remains of suitable habitat for wildlife species will not affect them. Indeed, the facts suggest that these species will be adversely affected in both the short and long term.</p>	<p>7-34</p>
<p>Even though much of their habitat has been removed, it is clear that many species both utilize the area, and are beginning to recolonize the area, and that it is currently very susceptible to human intervention. Because there is no need to change the characteristics of the forest by removing viable habitat, there is no need to implement the commercial timber sales.</p>	
<p>The Easy Fire burned much of the remaining LOS forest within the project area, resulting in a substantial loss of available viable forest habitat for old-growth, forest-dependent wildlife and aquatic species. The Easy DEIS fails to analyze the wide-scale cumulative loss of viable forest habitat to these many species, including likely detrimental impacts to LOS-dependent species. Analysis within this document needs to address the range of management options necessary to provide for the continuing viability of pre-fire resident species. Alternatives which need to be assessed include the additional designation of adjacent unburned old growth forest areas as defacto or replacement LOS and corridor forest areas while this area recovers. One lesson which should be recognized from this, and other fires, is that the designation of DOG’s and ROG’s areas needs to encompass sufficient areas of forest to provide for long-term continuing LOS wildlife species habitat viability in the context of historical fire regime forests. Included in this is the need to assess, and designate, corridor habitat for LOS and roadless/wilderness-dependent species for both dispersal and migrations from these areas to</p>	<p>7-35</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>contiguous forests, and to provide for the re-population of the area by wildlife species as it recovers over time. While hindsight alone cannot correct the folly of past LOS designations in which the size of the designated area is insufficient to meet the long-term habitat needs of wildlife species, what is needed here is pro-active management which incorporates these needs along with the potential cumulative impacts of natural and human caused fires in the future. However, the DEIS fails to adequately address these needs or begin to address how to provide for long-term recovery of LOS-dependent wildlife species viability. Not only is the designation of DOG’s and ROG’s necessary, but additional LOS and corridor designation is sorely needed as well. The new EIS for this proposed project must address and analyze these serious ecological issues.</p> <p>Threatened, Endangered, and Sensitive species. It is the stated policy of Congress that all Federal departments and agencies “shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of [this] purpose.” Endangered Species Act of 1973, 16 U.S.C. § 1531(c)(1). The Supreme Court has clearly restated congressional policy stating that, “The plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost.” <i>Tennessee Valley Authority v. Hill</i>, 437 U.S. 153, 184 (1978). The USFS’s apparent plans to proceed with the Easy DEIS’s commercial timber sales and related road construction is inconsistent with the Congressional mandate of the ESA.</p> <p>Under the ESA, the Forest Service has the responsibility to “insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species.” 16 U.S.C. § 1536. As described <i>infra</i>, the record does not support the finding that the proposed sale would not likely adversely affect bald eagles, lynx, bull trout, steelhead trout, wolf, redband trout, and other listed species. The proposed sale would significantly exacerbate the degraded habitat conditions for these species that already exists on the Forest. The near absence of any information from surveys or monitoring (including instream sedimentation and water quality monitoring post-fire) for many of these listed species makes a reasonable analysis--of how this project itself, and in combination with other actions within the area, will cumulatively affect these species--impossible.</p> <p>The failure to make a population-based analysis, combined with the failure to complete current surveys for listed species, creates a significant level of uncertainty regarding the extent of impact that this project will have on listed species in the planning area. NEPA requires that when data is not available an agency should recognize the lack of data and explain why obtaining it was not feasible. 40 C.F.R. § 1502.22. The ESA prohibits the Forest Service from going forward with the proposed sale without ensuring that the project will not result in jeopardy to the species. In light of this, the DEIS is deficient of the necessary information required to reasonably support its logging action alternatives, requiring that a new EIS must be prepared that addresses population trends in relation to the proposed Easy Fire projects, including the proposed timber sale(s).</p>	<p>7-36</p>
<p>Management Indicator Species. NFMA requires the Forest Service to provide animal and plant diversity in the national forests. 16 U.S.C. § 1604(g)(3)(B). USFS regulations implementing this requirement direct the Service to manage forests for viable populations of native vertebrate and desired non-native species. 36 C.F.R. § 219.19. The regulations define viable populations as a population that has “the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area.” <i>Id.</i></p> <p>To ensure that viable populations are maintained, the Forest Service regulations also require that the Service identify management indicator species (MIS) and that “[p]opulation trends of the management indicator species will be monitored and relationships to habitat change determined.” 36 C.F.R. § 219.19(a)(6). This monitoring is “essential to verify and, if</p>	<p>7-37</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>necessary, modify the forest plan's assumptions about the effects of timber harvesting and other management activities on wildlife...In order to meet the monitoring requirement, planners will need to obtain adequate inventories of wildlife populations and distribution.” Charles F. Wilkinson and H. Michael Anderson, <i>Land and Resource Planning in the National Forests</i>, 304 (1987).</p> <p>The Ninth Circuit has stated that the duty to ensure viable or self-sustaining populations “applies with special force to “sensitive” species.” <i>Inland Empire Public Lands Council v. United States Forest Serv.</i>, 88 F.3d 754 (9th Cir. 1996) citing <i>Oregon Natural Resources Council v. Lowe</i>, 836 F.Supp 727, 733 (D.Or. 1993). NFMA clearly directs the Forest Service to create regulations to “insure research on and (based on continuous monitoring and assessment in the field) evaluation of the effects of each management system to the end that it will not produce substantial and permanent impairment of the productivity of the land.” 16 U.S.C. § 1604(g)(3)(C); <i>Sierra Club v. Martin</i>, 168 F.3d 1 (11th Cir. 1999).</p> <p>In light of this direction, NFMA’s regulations require inventorying and monitoring on the National Forests under 36 C.F.R. §§ 219.12(d) and (k) as well as 36 C.F.R. §§ 219.19(a)(6), 219.26, and 219.19(a)(2). The regulations state “each Forest Supervisor shall obtain and keep current inventory data appropriate for planning and managing the resources under his or her administrative jurisdiction.” <i>Id.</i> § 219.12(d). The regulations further require that “at intervals established in the plan, implementation shall be evaluated on a sample basis to determine how well objectives have been met and how closely management standards and guidelines have been applied.” <i>Id.</i> § 219.12(k). To ensure biological diversity, the regulations specifically require that “[i]nventories shall include quantitative data making possible the evaluation of diversity in terms of its prior and present condition.” <i>Id.</i> § 219.26.</p> <p>Although NFMA clearly requires the monitoring of MIS populations, the Forest Service has traditionally relied upon the availability of suitable MIS habitat, rather than population surveys, to meet NFMA’s viable populations requirement. <i>Inland Empire Public Lands Council v. United States Forest Serv.</i>, 88 F.3d 754 (9th Cir. 1996). Recently, however, the Ninth Circuit has revisited its holding in <i>Inland Empire</i>, and held that if the Forest Service utilizes a “proxy-on-proxy” approach to meeting the agency’s NFMA obligations, any habitat models must be grounded in fact and field verified. <i>Idaho Sporting Congress v. Rittenhouse</i>, 2002 U.S. App. LEXIS 19108 (9th Cir. 2002). The court also acknowledged that other courts have expressly disavowed the holding in <i>Inland Empire</i>, casting additional doubt on the validity of that case. <i>See generally, Sierra Club v. Martin</i>, 168 F.3d 1 (11th Cir. 1999), <i>Utah Environmental Congress v. Zieroth</i>, 190 F. Supp. 2d 1265, 1272 (D. Utah 2002) (holding that § 219.19 unambiguously requires collection of population data), <i>Forest Guardians v. U.S. Forest Service</i>, 180 F. Supp. 2d 1273 (D.N.M. 2001) (same).</p> <p>Given this developing reinterpretation of the legal requirements attendant to management indicator species, it is clear that the multiple mandates in NFMA and its implementing regulations requiring population monitoring and surveying are not being even minimally met for the Easy Fire projects.</p> <p><i>Pileated Woodpecker, Black-backed woodpeckers and other cavity excavators.</i></p> <p>Our organizations are very concerned that the planning area does not currently support viable populations of Pileated and other woodpeckers. The DEIS fails to indicate any credible surveys, or comprehensive science, upon which it could reasonably base its false claim that the planning area is meeting 100% of the potential population for Pileated and other woodpeckers within the Easy planning area, as required by the MFP and regional agency directive. The failure to substantiate such claims violates the NEPA, and the failure to meet forest plan standards violates NFMA. 16 U.S.C § 1604(i); 36 C.F.R. § 219.10(e).</p> <p>It is well known that logging significant areas of interior, multi-canopied, old growth and mature forest, including recovering burned forests, will adversely affect Pileated, Black-backed and other woodpeckers. Given the fact that a great deal of timber harvest has taken place throughout the district and within this watershed, that the fire has had severe impacts upon the availability of these species needed habitat, and that habitat elements either do not exist or are largely marginal quality at best, it is entirely feasible that these birds are in</p>	<p>7-38</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>decline. Further, removing the even more of the already scant-remaining post-fire canopy cover through commercial logging will have a significant detrimental impact on Pileated, black-backed, and other woodpeckers that is not adequately addressed or disclosed within the DEIS. As noted previously, when population trends show a downward trend, the agency must act in order to stop the decline. 36 C.F.R. § 219.19. The proposed commercial logging in the Easy area’s burned, recovering forests, including both the potential illegal logging of some of the only viable green forest habitat with some level of canopy closure, and the large-scale removal of canopy in the area’s recovering burned mature and old growth forest stands, will further exacerbate the problem, and certainly will not stop the downward population trend.</p> <p>The snag retention formula utilized by the agency fails to account for the canopy closure or adjacent snag density requirements needed to maintain even minimum habitat viability for primary cavity excavators as well as known cavity nesters which utilize burned and green forest mosaic habitats. The EIS needs to address and acknowledge the known utilization (and preference) of burned habitat by Black-backed Woodpeckers, and to provide for the full habitat requirements of these (Oregon State listed “sensitive”) species. Such planning and disclosures are necessary to meet the requirements of both the NEPA and the NFMA as well.</p> <p>The proposed “higher snag retention levels” of alternative 4, which would leave only an average of 13 snags per acre, fail miserably to provide habitat for any avian species other than flickers, hairy woodpeckers, red tail hawks, and other non-forest canopy-dependent species--which are currently in abundance due to decades of over-logging having created far more open forest, clear-cut “meadows” and young sapling-congested even-aged stands. The action alternatives violate both NEPA--for failing to disclose actual impacts, and NFMA—for proposing logging actions which would further add to the already adverse cumulative loss of habitat and consequent population declines of forest-canopy-dependent species. A new EIS must be prepared which addresses these issues, and which proposes a range of restoration alternatives that would help recover these species habitat and long-term viability.</p>	<p>7-39</p>
<p>Lynx</p> <p>Among our many concerns is that of this proposed project’s effect on lynx. Based on data from the U.S. Fish and Wildlife Service’s (USFWS) Portland office, there have been several sightings of lynx in the Blue Mountains region. Historic evidence of lynx in these areas include positive occurrence records, lynx bounty claims, and Forest Service Wildlife Statistical Reports. Positive reports of lynx occur as far south as Modoc County, California. A few years ago, the Forest Service Prairie City RD wildlife biologist stated that he grew up in the area, had seen lynx in the area forests frequently during his younger years, and felt that while their numbers had diminished they were still in the area. The BE for this project notes that lynx LAU’s occur to the North and South of the project area, and that lynx presence may occur within the area. It also notes that “unconfirmed sightings of lynx exist on the Malheur National Forest.” As such it is quite reasonable to assume that lynx would occur in the project area, and it is known that lynx did occur within the area historically. This likelihood is further augmented by a recent confirmed sighting in the adjacent Ochoco NF, and past confirmed sightings as well as actual collections of lynx in Eastern Oregon—ranging from 10 miles to the North to as far South as the Steens Mountains. As this is the case, then the project area is likely important to long-term lynx recovery in the Blue Mountains region. It is plausible that lynx are rare in the project area (and in Oregon on the whole) due to bounties, aerial poisonings, and other efforts to eliminate them (and other predators) that were performed systematically for decades, and not due to a lack of habitat, as is the current situation with wolves as well.</p> <p>The USFS should have addressed how further fragmentation of the planning area will affect lynx. It is clear that lynx habitat is very fragmented, and that large blocks of intact forest are required to maintain viable populations of the species. Without these large blocks, lynx may need larger ranges to survive. The proposed logging in the planning area will adversely affect whatever lynx recovery is occurring, as lynx may use portions of this area for both nocturnal foraging as well as migratory and dispersal routes and refuge. Continuing to</p>	<p>7-40</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>squeeze lynx out of their habitat range by intensively managing the land runs afoul of NFMA’s requirement that the agency maintain viable populations of wildlife that are well distributed across the landscape. 36 C.F.R. § 219.19. The USFS has an obligation to accurately assess the impacts of its project on lynx.</p> <p>Next, it is clear that data is lacking on the food habits of lynx in Oregon’s forests, which represents a critical research need. Ruggiero, 1999b; Aubry, 1999. It is well accepted that lynx are dependant on snowshoe hares as a prey base, but in the southern portions of lynx range squirrels, other rabbits, small rodents, birds and other wildlife may always be an important part of lynx diet. It is critical to understanding how this project may impact lynx to examine how it will impact lynx prey.</p> <p>Snowshoe hares, squirrels, and other mammals have different habitat needs, but many of these species could be negatively impacted by the fragmentation, logging, road building, and other actions associated with this project. Most of these prey species require adequate cover (USFWS, 1999), especially conifer cover in winter (GTR-RM-254), and foliage that is accessible during winter snowpack conditions. Hares, squirrels, and forest-dependent species are typically associated with dense forest cover, including shrubs and “dog hair” thickets of small trees. McKelevey, 1999a. Many of these prey species also perform important roles in the recovery of burned area habitat, helping to spread seeds of forest plants and trees, distributing nutrients throughout area soils, and loosening compacted soil areas—none of which was disclosed or addressed in the DEIS. Edge areas within and adjacent to burned forests provide viable habitat for many species, including potential prey species for lynx. The adjacent roadless areas and nearby lynx Lau’s also provide potential habitat, and the project area likely serves as part of the region’s dispersal and migration corridors, as well as supplemental habitat for lynx which may occur within, or traverse through, the project area. The proposed action alternatives would log burned forest habitat, further thinning the area’s forests, resulting in significantly reducing needed cover for wildlife, jeopardizing both lynx and their prey species viability across the area—and thus would violate the NEPA, NFMA, and the ESA.</p> <p>Different timber harvest methods can have detrimental impacts on many of these species, including squirrels, rabbits, rodents, and birds, as well as snowshoe hares. Koehler and Britnell (1988) predict that it may take up to seven years after clear cutting an area for hares to recolonize the site and up to 25 years before they reach their highest densities. Bull (1999) examined the results of a variety of harvest prescriptions on hares and found that in lodgepole stands, the number of snowshoe hares decreased in all types of harvest. She reports that mixed conifer stands appear to be “no longer suitable for hares after harvesting.” This same is also true for many of the other forest-dependent species which comprise the lynx’s diet.</p> <p>Squirrels have different habitat needs than snowshoe hares and are associated with mature, cone-producing forests. Ruggiero, 1999a; Buskirk, 1999b; McKelvey, 1999a. They tend to reach their highest densities in late-successional, closed-canopy forests with substantial quantities of course woody debris. The DEIS fails to address potential impacts this project may have on squirrels, and ignores an important component of lynx diet. The outright lies regarding the discrepancy of the DEIS’s assertions, and the marking on the ground in the sale’s planned units, further underscores the failure of the DEIS to adequately disclose and analyze this important issue.</p> <p>The DEIS failed to provide a thorough examination of how the project will impact both hares and squirrels, as well as other wildlife species which are potential lynx prey. Without complete analysis of how these prey species will be impacted, it is impossible to quantify and qualify the impacts to lynx. The DEIS should analyze the cumulative impacts of this project on lynx prey in association with other projects on the District, Forest, and surrounding lands.</p> <p>In sum, The Lynx Conservation Assessment and Strategy (LCAS) clearly asks that the Forest Service perform project specific analysis for each project. The lack of project specific analysis has been a long-standing problem with the Forest Service. The USDA Office of the Inspector General in its January 1999 report (No. 088001-10-At.) tries to correct this problem but the Forest Service has ignored the recommendations of this report. The LCAS executive summary states:</p>	

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>Plans that incorporate the conservation measures, and projects that implement them, are not generally expected to have adverse effects on lynx.... However, because it is impossible to provide standards and guidelines that will address all possible actions, in all locations across the broad range of the lynx, project specific analysis must be completed.</p> <p>It is clear that the Forest Service has not completed such analysis and therefore is in violation of the LCAS, as well as the ESA and NFMA. Thus far the agency has failed to supply consultation agencies, in particular the FWS, with the necessary information to make a comprehensive determination regarding this proposed project’s impacts to lynx and other listed species, rendering any potential FWS’s “signing off” on this proposed project not in compliance with federal laws, and thus illegal. It is also clear that the agency’s BE conclusion that “all alternatives would have no effect on Canada lynx or their habitat” is not only unfounded—and patently illegal—but that the agency wildlife biologist who devised this unprofessional determination has done so at the loss of his individual integrity. The DEIS makes no mention as to how this determination has been arrived at, despite the disclosure of numerous historical and recent records of lynx presence throughout the region. The recent “surveys” by the Malheur fail to disclose fully or accurately survey protocol, methodology, areas or frequency. As such, this determination is arbitrary and capricious and therefore illegal. The DEIS must be withdrawn and a new EIS conducted which addresses and corrects these glaring deficiencies and illegalities.</p>	<p>7-41</p>
<p>Wolf</p> <p>The DEIS fails to credibly, comprehensively and adequately address the project’s impacts to wolves, to historic wolf habitat and to wolves which are known to be returning to the Blue Mountains region of Oregon. The BE concerning wolves fails the most basic tenets of credible professional analysis, and its determination—similar to its many other erroneous or unsubstantiated determinations—fails the requirements of NEPA and other federal policy laws (as well as professional ethics and standards). A new EIS must be conducted, with a new credible comprehensive BE—which should be performed by a qualified professional who knows how to conduct the requisite analysis—and will do this not to just parrot the sawdust dreams of the local timber industry—but to reflect the reality concerning wolves and other wildlife species. The USFS must join with the USFWS in developing a comprehensive recovery plan for wolf populations returning, and potentially remaining in Oregon. There are reports of breeding groups of wolves existent in the Strawberry and other Wilderness areas of the Blues, well before the current re-population of this region from Idaho wolves. As the project area is relatively near both the Strawberry and Monument Rock Wildernesses, as well as roadless areas, the project area is a potential home range area for returning wolf populations. Protective provisions must be incorporated into any planning which occurs in this area. In the absence of a clear plan for wolves in Oregon, and because of their known potential occurrence, future options providing for wolf re-habitation of Oregon’s forests and wilderness areas must not be precluded by proposals such as the Easy DEIS—which would adversely harm this potential if implemented. The failure of the agency to adequately address this issue necessitates that this DEIS be withdrawn and a new EIS conducted.</p>	<p>7-42</p>
<p>Wolverine</p> <p>It is suspected that wolverine may use the planning area as part of their seasonal and nocturnal foraging and territorial wandering patterns. Winter season surveys by our organization over the past decade have found likely wolverine snow tracks within the Malheur’s forest areas in both the former Bear Valley and the Burns Ranger Districts. Confirmed sightings of wolverine have been reported in both the Strawberry wilderness area and in the former Long Creek RD of the Malheur. Wolverine are known to have a 150 square mile or more winter range, and are also known to utilize roadless and wilderness areas—</p>	<p>7-43</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>including the areas surrounding these preferred places. It is also well known that human disturbance related to the proposed activities is likely to alter the movement patterns of wolverine and other wildlife species. Failing to adequately address the likely impacts to wolverine by the proposed projects, given the large home ranges of these animals (approximately a 150 square mile winter range), and the sightings of wolverines in the Malheur, violates both NEPA and NFMA.</p> <p>Nevertheless, the DEIS fails to adequately analyze how wolverine will be affected by the proposed project. Because it is probable that the species utilizes the planning area for some life cycle needs—especially during the winter season or nocturnally as both a travel corridor as well as potential temporary refuge and forage areas, the USFS is required to accurately address how the commercial logging and road building projects will affect those needs and the species itself. The DEIS’s failure to adequately and responsibly do so, and its shallowly irresponsible dismissal of the proposed project’s likely adverse impacts to wolverine, including the project’s likely incremental role in ongoing trends pushing this species towards uplisting under the ESA, violates NEPA and NFMA. 40 C.F.R. § 1502.16 (environmental consequences); 36 C.F.R. § 219.19 (fish and wildlife resources).</p> <p>Given the sensitive nature of this species, it is likely that the proposed project will decrease Wolverine viability through the actual loss of connective travel, nocturnal, and seasonal foraging habitat, and possible loss of individuals. This is inconsistent with the Forest Plan as amended and NFMA because the project would contribute incrementally to Wolverine populations trend towards listing, 36 C.F.R. § 219.19.</p> <p>Wolverine are already listed as “Sensitive” in Oregon by the Oregon Department of Fish and Wildlife, however the Forest Service fails to disclose this within the DEIS or disclose any consultation with ODF&W regarding wolverine, in violation of the requirements of the NEPA, and in contravention to the necessary cooperative interagency efforts which are sorely needed to begin the recovery of this species and its required habitat.</p> <p>Northern Goshawk</p> <p>We have several concerns regarding Northern Goshawk. It is known that Goshawks have historically utilized the forests of the proposed project and surrounding areas for nesting, fledgling, and foraging. It is also known that Goshawks, similarly to many predatory species, rotate their nesting and foraging territories over time, so as to not deplete their prey species populations and thus maintain their viability over the long-term. As such, to ascertain potential Goshawk use, agency surveys must be conducted seasonally each year to determine the rotational patterns of Goshawks for the Easy and adjacent area forests. Goshawks also have an extensive foraging territory. It is likely that nesting pairs may utilize both or either underburned portions of the Easy area as well as adjacent older green forest areas. It is also likely that burned, open-forest edge areas within the proposed logging units may be utilized as additional occasional foraging territory by this species. The DEIS fails to address impacts to this species such as how logging removal of remaining canopy cover, and further fragmentation of the area’s forests, will affect adult and juvenile Goshawks, or other direct, indirect, or cumulative effects to the species. The DEIS fails to disclose if there are any Goshawk nesting areas, including historic nesting areas, within or adjacent to the proposed Easy logging “units.” The DEIS also fails to disclose if the burned DOG and ROG areas may have contained nesting habitat for Goshawks either historically or in the recent pre-fire past. Several scientific studies exist regarding significantly detrimental logging impacts to Goshawks due to logging within or near Goshawk PFA’s, as well as from fragmentation of natural forest habitat. (Quotes from some of these studies are included herein as part of the attached exhibits: Reynolds et al, 1982, 1989, 1991; Moore and Henry, 1983; Fleming, 1987; Hall, 1984; Saunders, 1982; Crocker Bedford et al, 1988, 1990, 1991; Patla, 1991; Hayward and Escano, 1989; Kennedy, 1988; Shuster, 1980; Speiser and Bosakoski, 1987; Woodbridge et al, 1988; Bendire, 1892, Bull, 1988; Hargis et al, 1991; Bryan and Forsman, 1987; Andeson and Shommer; among others). Additionally, some of these studies were conducted for the agency. However the DEIS violates the NEPA by failing to disclose or assess the information, or even the existence of these pertinent studies, and the agency fails to uphold its</p>	<p>7-44</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>responsibility to address these issues thoroughly as required by both the NEPA and the NFMA. Because of the lack of discussion in the DEIS regarding this species, we have several additional questions. How long will it take the planning area—after the proposed logging—to get to the point that the area is capable of being utilized as either (or both) additional foraging, corridor, and/or nesting habitat by Goshawk? Will the portions of the planning area which are currently being utilized by Goshawk still be “suitable habitat” immediately post-project? If not, what type of habitat will be available for Goshawk use? Moreover, the DEIS fails to address the cumulative impacts of the proposed project along with past, present, and reasonably foreseeable future actions, in violation of NEPA, 40 C.F.R. § 1508.7. The DEIS may also be criminally fraudulent in failing to disclose the planned marking within green units which apparently may log off many of the live trees which currently provide viable goshawk nesting, foraging, connective, and dispersal habitat.</p> <p>We are concerned about the affect of the planned transformation of the commercial logging units from burned multi-storied snag forests, to open near barren terrain where the scant remaining snags (either 2.39 or 13 snags per acre—or worse if the agency’s current pattern of illegal markings as found with the Flag-tail fire sale are repeated here too!) are completely incapable of providing for any semblance of the forest-cover which is necessary for continued goshawk use of this area. It is also highly likely that most of the “leave-tree snags” will be wind-fallen soon after logging, as the increased wind exposure which such logging creates will seriously adversely impact their ability to remain long-standing. It is known that nearby suitable goshawk habitat containing a mix of dense multi-storied stands for nesting exists, and that many of the burned open stands within the Easy area are likely necessary for Goshawk foraging. It appears that the Easy project may remove necessary foraging habitat, which may result in the loss of potential Goshawk nesting habitat, as these two features are inextricably linked within the greater Goshawk territory, thus resulting in fewer pairs of nesting birds within the area, or a loss of either or both fledgling juveniles and/or adults to predation or other mortality associated with increased edge effect habitat due to logging impacts. Within much of the burn area, and surrounding forests, open non-forest or young forest habitat is abundant already far beyond the area’s historic mixed-conifer old growth stands, including burned naturally recovering forest stands—due to the adverse cumulative impacts from past logging coupled with the fire. The proposed logging would only exacerbate the loss of Goshawk habitat, further compounding the lack of nesting and foraging habitat problems in the area. Further, the DEIS fails to state whether any future logging activities would occur in historic mixed conifer nesting stands elsewhere within the district or adjacent districts and forests. Easy’s tree re-planting may also harm current and historic mixed conifer habitat needed by this species, calling for extensive shifting of these forest stands to the false, agency formula-concocted, “historic” levels of open single-storied forest. This would further reduce potential nesting habitat and thus violate NFMA’s requirement to maintain viable populations of these and many other forest canopy-dependent species, 36 C.F.R. § 219.19. Further, not disclosing that the planned agency replanting would shift this area away from historic dense multi-storied stands, resulting in impacts which may significantly adversely affect goshawk habitat, now and in the future, is in strict violation of NEPA’s disclosure requirements. (Additionally, as stated herein, the agency’s misuse of forest stand formulas violates NEPA’s site-specific and scientifically accurate requirements.) It is clear that the agency must prepare a new EIS to deal with this issue legally and adequately.</p> <p>Neotropical Migrant and Native Birds</p> <p>. Neo-tropical migrant and native forest-dependent birds (as well as numerous other forest species) are in serious decades-long population declines due to the adverse cumulative impacts from over a century of commercial logging in Oregon (see “Avian Population Trends” by Brian Sharp). The DEIS for this proposed project fails to fully and adequately disclose the current population status and trends of native forest dependent Neotropical migrant and native avian species within the Easy analysis area and adjacent forest. Compliance with both the NFMA and the MBTA requires that all alternatives presented</p>	<p>7-45</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>within the DEIS must be capable of protecting forest habitat for these many native forest species, and of reversing any current downward population trends. Such a course of proactive protective action is also required by the ESA and the NEPA, Presidential and USFS directives, and the Migratory Bird treaty Act, as well as credible conservation science and ethical integrity. However, in violation of these legal and ethical requirements, the Easy DEIS presents action alternatives which would severely imperil neotropical and native avian species populations, resulting in both individual mortality to these species as well as irreparable harm to already seriously impaired habitat.</p> <p>The proposed timber sales would significantly impact migratory birds in violation of the Migratory Bird Treaty Act, 16 U.S.C. §§ 703—712 (1994). It is well known amongst the conservation-science community that many migratory birds which are currently experiencing severe population decline trends are “strongly associated” with forested habitat, and this has also been noted in other timber sale environmental documents. The proposed commercial post-fire salvage sales would likely directly kill nesting and fledgling migratory birds. The proposed logging would further seriously reduce existing forest-dependent migratory bird habitat, which has already been significantly diminished due to the cumulative impacts of past management and the resultant severity of the Easy fire. The proposed logging “units” would also irreparably fragment migratory bird habitat. Areas that were not logged would also be negatively impacted by generalist bird species favored by the environmental conditions created in highly fragmented logged-over forests. The impact these abundant and highly competitive bird species would have on sensitive bird species dependent on natural fire recovery and less fragmented forests should have been disclosed and evaluated in the DEIS. The adverse impacts that the proposed logging would have on migratory birds are supported by multiple scientific studies.</p> <p>Forest fragmentation, including loss of viable nesting habitat within eastern Oregon’s national forests, is considered to be a primary cause behind declines observed in many forest songbird species. Further loss or fragmentation of habitat could lead to a collapse of regional populations of some forest birds (Robinson <i>et al.</i> 1995). As landscapes become increasingly fragmented, regional declines of migrant populations may result (<i>Id.</i>). In the Pacific Northwest, researchers have found that old growth forests and natural forest processes (including natural fire-recovery) are integral to the survival of migratory birds. The past and continuing logging-oriented management of the forests of Oregon and Washington, which provide nesting and fledgling habitat for numerous migratory birds, has resulted in severe ongoing population declines in forest canopy-dependent migratory and native birds. (<i>reference: “Avian Population Trends in the Pacific Northwest” by Brian Sharp</i>). Among the many avian species experiencing population declines due to Forest Service logging projects are: band-tailed pigeon, rufous hummingbird, olive-sided flycatcher, winter wren, song sparrow, golden-crowned kinglet, pine siskin, solitary vireo, willow flycatcher, tree swallow, red-eyed vireo, yellow warbler, yellow-breasted chat, and others as well. This information was not adequately addressed in the DEIS despite the obvious direct adverse impacts to many migratory and native bird species from the removal of forest canopy cover and forest structural continuity which would occur with the implementation of this project. Failure to disclose and comprehensively analyze this pertinent, essential, scientific information violates provisions of the NEPA. Implementation of this project would violate both NFMA and the Migratory Bird Treaty Act. As such the commercial logging portion of this project must either be withdrawn from the proposed alternatives, or a new EIS must be prepared which addresses these issues, before the FEIS and ROD may be issued.</p> <p>In August 1999, the FWS outlined what it perceived to be the agency’s legal obligation in terms of migratory birds and timber harvest. FWS stated that agencies should take “an extremely cautious position with respect to the intentional take of migratory birds by federal agencies.” <i>Letter from Acting Director, United States Fish and Wildlife Service, to Regional Directors, Regions 1–7 and Assistant Director, Refuges and Wildlife (August 17, 1999), 3.</i> FWS also cautioned that “the Service should not assert in any communication or correspondence that federal agencies are not covered by the prohibitions of the MBTA [Migratory Bird Treaty Act].” <i>Id.</i></p>	

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>In July 2000, the Eighth Circuit Court of Appeals held that federal agencies are required to obtain a take permit from FWS prior to implementing any project that will result in take of migratory birds. <i>Humane Soc’y of the United States v. Glickman</i>, 217 F.3d 882 (8th Cir. 2000). Due to this litigation, the FWS is operating under the assumption that the Migratory Bird Treaty Act applies to the Forest Service and its activities. 16 U.S.C. § 703 et seq. The Act states that “it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill . . . any migratory bird.” 16 U.S.C. § 703.</p> <p>In January 2001, President Clinton signed Executive Order 13,186 that outlined the federal government’s responsibility to comply with the Migratory Bird Treaty Act. Exec. Order No. 13,186, 66 Fed. Reg. 3,853 (2001). President Bush has not rescinded this Order. Recent legal analysis confirms that the Forest Service must actively prevent the take of migratory birds, or obtain a permit for incidental take of individual species. Helen M. Kim, <i>Chopping Down the Birds: Logging and the Migratory Bird Treaty Act</i>, 31 <i>Envtl. L.</i> 125 (2001).</p> <p>The Forest Service has completely ignored these legal and scientific obligations. Until the agency can demonstrate that it has complied with the requirements of the Migratory Bird Treaty Act, the timber sale(s) alternatives associated with this proposed project must be withdrawn and/or a new EIS must be prepared.</p> <p>Further, the DEIS did not deal with the direct, indirect and cumulative impacts that the project would have on migratory birds. The USFS has on record a study by Brian Sharp (“Avian Population Trends in the Pacific Northwest” as cited above), which concludes that commercial logging in public forest lands in Oregon plays a significant role in the continuing population declines of several neotropical migrant bird species. The failure to disclose the full conclusions and implications of this study in the DEIS is particularly egregious in that the study was done for Region 6 of the Forest Service specifically on Eastern Oregon forests. The lack of adequate scientific assessment of this study fails to meet NEPA’s requirement for high quality scientific analysis that would satisfy the “hard look” standard. <i>Robertson v. Methow Valley Citizens Council</i>, 490 U.S. 332, 353 (1989); <i>Blue Mountains Biodiversity Project v. Blackwood</i>, 161 F.3d 1208 (9th Cir. 1998) <i>cert. denied</i>, <i>Ochoco Lumber Co. v. Blue Mountains Biodiversity Project</i>, 119 S.Ct. 2337 (1999).</p>	
<p>American (Pine) Marten.</p> <p>There is not sufficient analysis in the EIS of the effects of the proposed project on American marten in the planning area. The forests of the Malheur have historically provided marten habitat. It is likely that the Easy fire and adjacent areas may still provide marten habitat—both for denning and foraging, as well as dispersal and travel corridors. The agency has an obligation under NEPA to assess the direct, indirect, and cumulative impacts to all species that will be affected by the proposed action. 40 C.F.R. §§ 1502.16. The Forest Service also has an obligation to obtain missing information or state why it could not be obtained if that information is necessary to make an informed decision. <i>Id.</i> § 1502.22. Finally, the agency has a duty to prepare a new EIS when there are unknown risks to the environment—and its current EIS is deficient in addressing these issues. <i>Id.</i> § 1508.27.</p> <p>In this case, the Forest Service failed to accurately and adequately assess how the proposed timber sales will impact marten. <i>See Pine Martin Fact Sheet</i>. The Malheur NF clearly is not meeting the requirements of NEPA and NFMA as they apply to pine marten, and is precluded from implementing the proposed project as a result.</p>	<p>7-46</p>
<p>Pacific Fisher.</p> <p>Similar to the lack of discussion regarding direct and indirect impacts to marten, the Forest Service falsely claims that the Easy area has no recorded evidence as ever being historic fisher habitat. However old trapping and historic records indicate that indeed fishers were present throughout the Blue Mountains Forests, including within the Malheur. Again the wildlife</p>	<p>7-47</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>biologist for this project’s BE has committed unprofessional, unsubstantiated claims which falsely inform both the public and the decision maker—in violation of the stringent requirements of the NEPA. The DEIS does not indicate how the Forest Service will remain consistent with NFMA, which requires the agency to maintain well-distributed viable populations across the landscape, including maintaining habitat for historic species. 36 C.F.R. § 219.19(1).</p>	
<p>Deer and Elk.</p> <p>Action alternatives for this project will remove canopy cover under all alternatives. It is unclear how the Forest Service can propose to remove more cover in an area that is currently violating LRMP standards for cover, thus in violation of NFMA’s requirement that projects meet Forest Plan standards. 16 U.S.C. § 1604(i); 36 C.F.R. § 219.10(e).</p> <p>The DEIS fails to adequately discuss the impacts to elk and deer, and other wildlife, from the proposed logging – including proposed road construction and reconstruction –as well as the impacts from both the proposed logging and the extensive fire. The DEIS fails to disclose the effectiveness – or lack thereof – of road closures in the area. The modeling formulas used by the agency in arriving at their HEI figures also fail entirely to assess and include these recurrent realities of closed and off road usage, and thus present a false picture to both the public and the decision-maker, in violation of the NEPA.</p>	<p>7-48</p>
<p>Finally, our organizations point out that the USFS continues to fail to address the cumulative impacts to deer and elk as a result of several timber projects adjacent to the planning area (past sales—with their still overly abundant clear-cuts riddling the area--as well as any future planned sales). The Malheur National Forest repeatedly offers timber projects that remove deer and elk habitat, but never analyzes the cumulative habitat loss and how it will affect deer and elk. Until the USFS conducts this analysis, the agency violates NEPA’s requirement that the agency assess the cumulative impacts of its actions. 40 C.F.R. § 1508.7. Impacts to native ungulate species also negatively impact their predator species, ranging from wolverine and wolves to cougars. However the DEIS fails to adequately address likely adverse impacts to these species as well.</p>	<p>7-49</p>
<p>Mycorrhizae, Armillaria, Soils, & Summit</p> <p>Interestingly the Easy DEIS does not recognize the importance of mycorrhizal fungi on forest growth and productivity—but this DEIS makes quite a big to-do over the presence of Armillaria—a natural native fungi found within the region’s forested ecosystems. Whiel the DEIS fails to adequately discuss how mycorrhizae will be impacted by the proposed timber project, it does portend to be concerned about reducing the tree-mortality impacts from Armillaria within the area. The DEIS somewhat discloses that past logging has resulted in the increased pathogenic activity and spread of Armillaria, but failed to address how past logging has affected mycorrhizae in areas within the analysis area that have been logged. Scientific evidence suggests that mycorrhizae and other soil organisms and processes are extremely important and are easily destroyed or disrupted by ground-based logging. <i>Attachment Fungi and Insects</i>; and <i>Soils and Logging in Eastern Oregon</i>. Without an adequate discussion of the impacts to soil mycorrhizae, the public and the decisionmaker are precluded from making an informed decision regarding the proposed project, and the USFS cannot assert that there will be no permanent impairment of the soil. 30 C.F.R. §§ 219.27(a)(1), 219.14(a)(2) (prohibiting activities unless technology is available to prevent impairment of soil or water resources). Additionally, the agency’s contentions regarding reducing the adverse impacts to area trees from Armillaria are not substantiated by many sources of credible scientific research on soils and fungi. The agency’s past management has already disrupted much of the natural forest soil and fungal communities, resulting in an increase in fungal pathogens in the area. Further logging at this point, including the proposed tractor use, will only compound the adverse impacts to the areas soils, fungal communities, and the trees which depend upon their healthy functioning.</p>	<p>7-50</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>roads riddle much of the area, significantly imperiling area watershed fisheries habitats, fish populations, and water quality. While the DEIS does peripherally address some of these impacts, it fails to either fully disclose the extent and seriousness of these impacts, or the serious declines of forest-dependent wildlife and aquatic populations due to the extensive adverse impacts to their habitat from past and ongoing management actions. The agency has yet to reveal any credible plans for restoring ecological functioning, wildlife habitat, fisheries habitat, and wildlife and fisheries populations to viable levels. Instead, we have yet another proposed project to further log, fragment, and degrade the tattered remains of what was once a millenas old healthy LOS forest ecosystem.</p> <p>Cumulative impacts to LOS habitat and to associated LOS-dependent wildlife species are required to be addressed within the DEIS for this timber sale project. However, the DEIS fails to adequately address many of these NEPA required, and ecologically imperative, issues (some of which are described in detail elsewhere within these comments (wolverine, lynx, etc.). This illegal deficiency needs to be corrected in a new legally compliant EIS for the entirety of the Malheur NF’s timber sale plans for the contiguous Easy Fire watershed area.</p>	
<p style="text-align: center;">Fire Suppression</p> <p>Impacts of fire fighting activities within and adjacent to the project area must be disclosed: extent and types of fire lines, amount and extent of fire retardant applied, acres and numbers of trees cut during suppression efforts, number and extent of riparian area crossings by fire lines, and other related impacts, etc. These impacts must be addressed in both the cumulative impacts section, restoration plans, road impacts, and long-term impacts to the area’s forests, fish, and wildlife. The scant information supplied within the DEIS for this proposed project fails to adequately disclose, and analyze the potential and likely impacts to area habitat, fisheries, aquatic systems, and wildlife from these fire fighting activities. Indeed the DEIS discloses some of the above but fails to analyze fully the impacts from these, including cumulative impacts along with both past and proposed timber sale actions. These deficiencies need to be corrected in a new EIS.</p>	<p>7-55</p>
<p style="text-align: center;">Fuels and Fuels Reduction</p> <p>Concerning fuel loading reduction, including the potential for a re-burn: fire areas are generally considered to be “fire-proofed” for at least the time period of the area’s historic fire return interval. Re-burn danger is initially greatly reduced, especially during the first couple of years after a fire. In time, fuel loads begin to build, with falling flash fuels such as small branches mixed with small and medium diameter fallen snags. However, re-burns at this time-period are generally low-intensity ground fires, consuming accumulated small and medium diameter ground fuels but very rarely becoming a canopy fire. The greatest risk these largely beneficial fires pose is that of causing the mortality of some of the seedling trees reforesting the burned area. Such risk can be significantly reduced without the ravages of commercial logging. Controlled spot re-burns three to six years after a fire can alleviate much of this risk without damaging the majority of the seedlings. Limited firewood sales programs can also help accomplish this goal. Ecological benefits include: retention of large, commercial logging size, snags and downed logs as wildlife habitat, erosions controls, and soil replenishing sources of nutrients, minerals, and beneficial fungal habitat—all of which are essential for a healthy, recovering forest.</p>	<p>7-56</p>
<p>Extensive intense fires such as the Easy Fire generally leave largely medium to large diameter limbs, trees, snags, and logs. These have been clearly shown in scientific research to not only not be a fuel loading problem, contrary to the Easy DEIS’s false assertions and ridiculous formulas, but instead medium and large diameter logs and snags act as moisture reservoirs for many years after drought and wildfire. This has been well proven in a study by MP Amaranthus, DS Parrish, and DA Perry entitled “<i>Decaying Logs as Moisture Reservoirs After Drought and Wildfire</i>” which was published by the USFS in “<i>Proceedings of a Watershed ‘89</i>” on pages 191-194. The failure of the DEIS authors, and ID Team to disclose the existence of this agency published study (which has been around long enough for</p>	<p>7-57</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>ignorance of its existence to not be excusable—especially as it was published by the agency itself!—and has now been cited in two previous post-fire project comments by our organization—for projects in the Malheur, including now one also in this very RD, yet the agency still chooses to ignore the existence of this study), and instead to utilize false “fuel load” formulas which contradict forest reality and scientifically credible studies, again constitutes intentional fraud on the part of the Malheur staff, and violates the requirements of the NEPA. The utilization of fuel load formulas based upon “tons per acre” which fail to differentiate between the real ignition and fire-spread prone flash fuels of small diameter limbs and wood--and the much larger (and in a “tons per acre” formula system—much heavier as well), inherently moisture retaining and fire resistant, limbs, logs, and standing medium to large diameter snags, is tantamount to intentionally misinforming both the public and the decision-maker concerning the actual fuel loads within the forest, and its potential for re-burn. This intentional—or otherwise inexplicable--fraud, wherein logs which retain enough moisture through extended summer periods of no rainfall—enough so that water can be squeezed out of their rotting, fungi-laden moist woody fibers—are categorized and presented as “fuel load hazards” is not only in violation of NEPA’s professional, and scientific quality requirements, it too appears to constitute an apparently criminal intention to violate federal laws and requirements. The much heavier nature of large logs, limbs, and snags quickly inflates the exaggerated and patently false “fuel load” totals utilized throughout the Easy DEIS to justify their destructive and illegal post-fire logging plans. The DEIS for this fraudulent project must be withdrawn, a new scientifically and legally compliant EIS conducted.</p> <p><i>Insects, Drought, & Other Natural Integral Forest Ecosystem Phenomena</i></p> <p>The forests of the Malheur evolved with fire, insects, drought, and disease as integral, essential components of the forest ecosystem. Nature has evolved many natural checks and balances which prevent insects from destroying vast tracts of forests. Among these are many species which predate upon insects such as bark beetles as well as tree defoliators. Black-backed woodpeckers are one of the keystone species which help post-fire forests survive. This species prefers burned forest habitat and adjacent green forest edge areas for nesting, roosting, and foraging. Numerous other species, including neotropical and native birds, also nest and forage within intact (unlogged) burned forests. If habitat provisions are maintained for these many species, the fabled ravages and spread of insect population “outbreaks” are minimal and well within the range of historic natural variability. However, black-backed woodpeckers, and many other species which select for burned areas, depend upon the “fire-killed and fire-damaged” trees throughout the fire area as habitat, both for their foraging and nesting potential as well as the remaining canopy closure these give—as protection against predators for themselves and their fledgling young. As has been the case in many national forest areas this past century, when burned areas are commercially logged, among the many harmful impacts is the loss of viable habitat for black-backed woodpeckers and other post-fire associated species. Among the significant irreparable harms caused by such logging, are: 1. the loss of species in the area which predate upon bark beetles and other insects, 2. serious continuing population declines of black-backed woodpeckers (Oregon State listed as Sensitive) and forest dependent neo-tropical migrant birds, and 3. significant increases in the adverse impacts of unchecked bark beetle populations. Additionally, as the Forest Service concluded in its study (Crater Lake) on decades of attempting to utilize commercial “salvage” logging to control –or minimize—the spread and adverse impacts of bark beetles, such a method is doomed to failure, as it would require the logging destruction of the very forests they were attempting to “save.” By eschewing ecologically damaging logging, and instead working with nature; protecting the essential habitat for the many native forest species which both help keep insect populations in check as well as help post-fire forests to recover, the Easy area has the best chance for recovery. Failure of the DEIS to disclose these pertinent facts and the scientific studies which have documented them violates the NEPA, and again underscores the rampant systemic fraud committed by the agency in its efforts to push through this</p>	<p>7-58</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>destructive and illegal sale. The DEIS also fails to disclose any serious consultation with ODFW regarding Oregon state sensitive listed species such as the Black-backed woodpecker, and the development of management plans for restoring this species populations to viable levels, including provisions adequately protecting their habitat. This too needs to be corrected in a new EIS.</p>	
<p><i>Economic Analysis & Issues</i></p> <p>Forests, especially post-fire ecologically sensitive recovering forests, have far more intrinsic economic value standing than they do as horizontal board feet for short-term private timber-industry profits. The true long-term economic, social, and cultural costs of restoring forest ecological functions from the many adverse impacts resultant in commercially logged post-fire forests far outweigh the small pittance garnered by the profits of private timber industry owners (including the short-term wages of laborers they may employ). The EIS for this proposed project needs to accurately and fully assess and disclose the true cost/benefit ratios involved with this proposed project. When actual costs are fully assessed, including: a. necessary restoration, b. long-term soil and ecological damage, c. loss of viable wildlife habitat—and consequent continued wildlife species-of-concern population declines, d. potential spread of invasive exotic weeds into the project area, e. needed mitigations, f. “big game” and gopher control, g. re-vegetation of the project area, h. the time to prepare the NEPA documents for this project, i. as well as the costs of any consequent appeals and litigation, etc.—it is likely that the ‘purpose and need’s” recovery of economic value would be far less than the actual comprehensive costs of this proposed project. As such, this proposed project amounts to little more than publicly subsidized welfare for any purchasing timber corporation—at the expense of the heritage of the greater public, the wildlife, and the ecosystem. Again, we ask that only credible restoration-only alternatives—in compliance with federal laws and credible science—be developed for this burned, recovering area.</p>	<p>7-59</p>
<p>The DEIS is incomplete because they do not provide an adequate economic analysis of the proposed project. NEPA requires the agency to “identify and develop methods and procedures . . . which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision-making along with economic and technical considerations.” 42 U.S.C. § 4332(2)(B). The regulation implementing this statutory section states that while a cost benefit analysis is not required for a project, if it is “relevant to the choice among environmentally different alternatives is being considered for the proposed action, it shall be incorporated by reference or appended to the statement as an aid in evaluating the environmental consequences.” 40 C.F.R. § 1502.23 (emphasis added).</p>	
<p>The DEIS fails to contain an adequate economic analysis of the project as a whole and does not include all costs incurred by the proposed project. The DEIS does not analyze or disclose expenditures such as the cost to prepare the project (including administrative overhead, publication costs, survey costs, tree marking costs, etc.), nor does it include expenditures such as reforestation, aquatic, and terrestrial mitigation measures. The DEIS also fails to disclose the added costs incurred by the agency from failing to comply with NEPA, and conducting three nearly identical EIS projects for the Malheur’s fires. Included in this assessment should be the costs which will be likely incurred by appeals on each of these three fire projects and three likely lawsuits as well.</p>	<p>7-60</p>
<p>Moreover, the General Accounting Office has recently remarked that the accounting system of the Forest Service is essentially worthless because it cannot accurately account for expenses and incomes. (See: <i>GAO Financial Management Report</i>). In this report, the GAO stated that the Forest Service has been unable to clearly identify the costs of the federal timber sale program, and that the timber sale program is likely losing money. The Malheur National Forest has not demonstrated that it has overcome this deficiency. Given this situation, we question the rationale to propose such a large-scale, and clearly illegal (as demonstrated <i>infra</i>) project that will have known detrimental impacts on the resources in the planning area as well as likely detrimental impacts upon the public treasury.</p>	<p>7-61</p>
<p>While timbering is still an important sector of the economy, the communities in the Blue Mountain region are heavily timber-dependent, that is, timber production and mill-</p>	<p>7-62</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>Mountains region are no longer timber-dependant: that is, timber production and milling, while still important sources of income, are no longer the primary source of income for most of these localities. PACIFIC NORTHWEST RESEARCH STATION, <i>County Portraits of Oregon and Northern California</i> (September 1996), 76-87. Fishing, government support, and tourism now provide greater revenue to these counties than the forest products industry. <i>Id.</i></p> <p>Evidence suggests that the proposed project will not result in positive income. Notably, the price for timber has dropped dramatically, especially for eastside forest products as noted in the report: <i>United States Forest Service, Sold and Harvest Reports</i>. Timber prices are extremely low, and show no signs of increasing. There is no indication that there is any demand for the trees that would be logged under the Easy projects. While some may claim to fully understand the impetus for national forests to meet probable sale quantity targets (which are merely targets, not volume output requirements—and which should also be disclosed within the DEIS for this project), choosing to attempt to get some of this total from an area as severely impacted by prior logging, compounded with severe fire, and then attempting to disguise this logging as “recovery” is not only unethical, it is tantamount to intentional fraud, unsubstantiated by any credible science.</p> <p>Finally, even if this ill conceived sale(s) is sold – a dubious assumption at best, given the falling prices of timber and the low quality of timber in the planning area – there is no support in the DEIS that the timber will be milled in the counties from which it is harvested, or that the project will result in a positive return to the United States Treasury. Indeed, the experience with several other timber sale projects, among them the Hash Rock sale (Ochoco NF), Mule sale (Malheur NF), Crane Prairie sale (Deschutes NF), Big Tower sale (Umatilla NF), Timber Basin sale (BLM), and Jobs timber sales (Malheur NF), among others – which resulted in the federal government litigating and eventually paying attorney costs and fees to defend illegal timber projects – suggest that the USFS has failed to consider the economic effects of litigation in preparing these timber sale projects. This is especially glaring in that this sale is similar to the original “Big Tower” fire sales—under the “Big Tower EA”—which were stopped in federal court, resulting in the USFS and US treasury having to pay tens of thousands of dollars in attorneys fees and untold many thousands in their own litigation costs. Again, failure to disclose this is a serious violation of the NEPA. Without a complete disclosure of the economic consideration of the proposed project, the DEIS is incomplete, and the agency is without adequate information to issue a FEIS or ROD, 40 C.F.R. § 1502.23 (requiring a cost-benefit analysis in analogous situations). A new EIS must be conducted to disclose and analyze this important information.</p>	<p>7-63</p>
<p>In proposing the Easy Fire DEIS timber sales, the Forest Service failed to meet NEPA’s requirements to fully disclose the direct, indirect, and cumulative economic impacts of the timber sale program and to give appropriate consideration to environmental amenities in the NEPA process by failing to incorporate important natural resource benefits and externalized costs into the DEIS. 42 U.S.C. §§ 4332(C), 4332(B). By failing to utilize appropriate professional expertise, such as that found in the ECONorthwest and Talberth & Moskowitz studies, that are capable of disclosing all natural resource benefits and externalized costs, the Forest Service is in violation of NEPA’s mandate to rely upon a systematic and interdisciplinary approach to decision making. <i>Id.</i> § 4332(A). By ignoring important natural resource benefits and externalized costs, the Forest Service also runs afoul of regulations implementing NEPA that require full disclosure of direct, indirect, and cumulative economic impacts, identification of environmental effects and values in adequate detail so that they can be compared with economic and technical analyses, rigorous analysis of the benefits of implementing the “no action” alternative in timber sales, and use of appropriate professional expertise. 40 C.F.R. §§ 1501.2(a); 1501.2(b); 1502.6; 1502.16; 1502.24; 1507.2(a); 1507.2(b); 1508.7; 1508.8; 1508.27.</p>	<p>7-64</p>
<p>Second, the National Forest Management Act (NFMA) imposes additional requirements on the Forest Service in terms of conducting an economic analysis for timber sales. The regulations implementing this statute state that Land and Resource Management Plans</p>	<p>7-65</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>(LRMPs) “shall provide for multiple use and sustained yield of goods and services from the National Forest System in a way that maximizes long term net public benefits in an environmentally sound manner.” 36 C.F.R. § 219.1(a). In turn, the regulations define “net public benefit” as</p> <p style="padding-left: 40px;">an expression used to signify the overall long-term value to the nation of all outputs and positive (benefits) less all associated inputs and negative effects (costs) <i>whether they can be quantitatively valued or not. Net public benefits are measured by both qualitative and quantitative criteria rather than a single measure or index.</i></p> <p><i>Id.</i> § 219.3 (emphasis added). Although these regulations refer to LRMPs specifically, because site-specific projects must comply with larger land management plans, the requirement that LRMPs must incorporate values such as recreation and watershed health into a cost-benefit analysis is equally applicable to site-specific project. <i>Id.</i> § 219.10(e); 16 U.S.C. § 1604(i).</p> <p>NFMA regulations go on to explain that land management plans must be implemented through site-specific projects that are sensitive to changing economic realities. They state that national forest lands must be managed “in a manner that is sensitive to economic efficiency,” and that managers must be responsive “to changing conditions in land and other resources and to changing social and economic demands of the American people.” 36 C.F.R. §§ 219.1(b)(13), (b)(14). As the ECONorthwest and Talberth & Moskowitz studies indicate, there are in fact ways to calculate the economic value of standing forests, which denotes a change in the way that the American public demands that their public lands are managed. The Forest Service has failed to address these studies or the methodologies cited in them.</p> <p>The Forest and Rangeland Renewable Resource Planning Act (RPA), as amended by the National Forest Management Act, imposes similar requirements on the Forest Service. 16 U.S.C. §§ 1600–1614 (2000). The RPA requires the agency to: incorporate natural resource benefits and externalized costs into decisions affecting the national forests; secure the maximum benefits of multiple use sustained yield management; conduct comprehensive economic assessments of all National Forest resources; identify all costs and all benefits associated with RPA Program outputs; ensure consideration of the economic aspects of renewable resource management; improve Forest Service accountability when it prepares annual budgets and reports to Congress on the costs and benefits of its programs; and conserve forests and promote the use of recycled products. 16 U.S.C. §§ 1600(7); 1601(d)(1); 1600(3); 1602(2); 1604(g)3; 1606(a); 1606(b); 1606(c); 1606(d). Regulations implementing both NFMA and the RPA require the Forest Service to maximize net public benefits, evaluate the relative values of all National Forest resources, consider all market and non-market costs and all benefits of management decisions, and assign monetary values to goods and services to the extent that they can be assigned. 36 C.F.R. §§ 219.1; 219.4(a)(1); 219.4(b)(1)(ii); 219.12; 219.13; 219.14. In this case, the Forest Service doesn’t mention these statutes and regulations, and the DEIS does not comply with these requirements of federal laws.</p>	
<p>Third, the Forest Service violated the Multiple Use, Sustained Yield Act (MUSYA) by failing to incorporate important natural resource benefits and externalized costs into the DEIS and its timber sales. 16 U.S.C. § 528–531 (2000). Without incorporating natural resource benefits and externalized costs into these decisions, the Forest Service cannot meet MUSYA’s requirements to administer National Forests for all of their resources, to maximize public benefits, and to give due consideration to the relative resource values of all National Forest resources. 16 U.S.C. §§ 528, 529, 531.</p>	<p>7-66</p>
<p>Fourth, the Easy timber sales would violate the Global Climate Change Prevention Act. 7 U.S.C. § 6701 (2000). Logging national forests (especially as Easy is actually marked) exacerbates adverse changes in the global climate by reducing the carbon absorption function of national forests and by releasing carbon stored by these forests into the atmosphere. The adverse ecological and economic effects of increases in atmospheric carbon caused by national forest timber sales has not been disclosed nor incorporated into the DEIS by the Forest Service when it proposed and authored the Easy Fire Recovery Projects DEIS timber</p>	<p>7-67</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>sales. This failure is a violation of the Global Climate Change Prevention Act.</p> <p>Finally, other federal guidance explains the types of factors that should be considered in any cost-benefit analysis undertaken for a federal project. The Office of Management and Budget has stated that cost-benefit analyses</p> <p style="padding-left: 40px;">should include comprehensive estimates of the expected benefits and costs to <i>society</i> based on established definitions and practices for program and policy evaluation. Social net benefits, and not the benefits and costs to the Federal Government, should be the basis for evaluating government programs or policies that have effects on private citizens or other levels of government. Social benefits and costs can differ from private benefits and costs as measured in the marketplace because of imperfections arising from: (i) <i>external economies or diseconomies</i> where actions by one party impose benefits or costs on other groups that are not compensated in the market place; (ii) monopoly power that distorts the relationship between marginal costs and market prices; and (iii) taxes or subsidies.</p> <p>OFFICE OF MANAGEMENT AND BUDGET, CIRCULAR A-94 § 6 (1992) (emphasis in original). As applied to the management of the timber sale program, this guidance clearly indicates the need not only for analysis of the socioeconomic benefits of unlogged forests in areas where logging is contemplated, but also an analysis of the rate of return that could be achieved if timber sale monies were spent on other projects such as recreation, wildlife, or watershed restoration.</p> <p>While not binding to the same extent as statutes and regulations, the Forest Service Handbook and Forest Service Manual also provide guidance regarding conducting an adequate economics analysis for timber sales. The agency’s Economic and Social Analysis Handbook requires the Forest Service to maximize net public benefits and fully account for all market and non-market benefits and costs in the context of market studies, economic efficiency analysis, and economic impact assessments of its plans and programs. FSH 1909.17.11.1; 1909.17.14.1; 1909.17.14.11; 1909.17.14.6; 1909.17.23. The Forest Service’s Timber Sale Preparation Handbook requires the agency to address all marketed and non-marketed costs and benefits in analyses of the financial and economic efficiency of individual timber sales and the timber sale program as a whole. FSH 2409.18.13.1; 2409.18.32. Similarly, the Forest Service Manual requires the Forest Service to: manage the timber sale program so that total benefits exceed total costs; account for non-timber economic effects in its timber sale analyses; ensure that economic values used in economic efficiency and economic impact assessments adequately reflect biological, economic, and social conditions; and base its decisions on the economic and social impacts and costs and benefits. FSM 2403.4; 2403.5; 1971.5; 1970.1(1), (2), (3); 1970.2; 1970.3(1), (5). The DEIS and associated Easy documents neither mention nor comply with these recommendations.</p> <p>In sum, these studies, statutes, regulations, and other guidance indicate that the economics analysis conducted for the Easy Fire Recovery Projects DEIS is inadequate. The analysis in the DEIS fails to consider the economic value of standing forests. Had the Forest Service conducted the economics analysis required by law, the agency should have disclosed that the value of the planning area in its natural state far outweighs commercially logging it. It would also have been apparent to the agency that the time, and financial resources, which have been needlessly wasted in the preparation and design of the Easy DEIS’s commercial logging and hazard tree sales (and this waste is thrice compounded by the parallel waste incurred by the Malheur’s other post-fire EIS process also), would have been far better spent on developing true restoration projects, including some of those which have been eliminated in the DEIS for this project. The DEIS for this proposed project fails the requirements of the NEPA, and its so-called economics “analysis” as well as its inclusion of false economic provisions within its Purpose and Need is arbitrary and capricious and violates the Administrative Procedure Act. 5 U.S.C. § 706(2)(A).</p>	<p>7-68</p>

<p>Letter #7 – Asante Riverwind, League of Wilderness Defenders / BMBP</p> <p>Comment</p>	<p>Response #</p>
<p>99201 (509) 838-4912 (541) 468-2028 Office, (541) 385-9167 message</p>	

Letter # 8 – Josh Laughlin, Cascadia Wildlands Project Comment	Response #
<p>Eric Ornberg, IDT Leader Middle Fork Ranger Station 46375 Highway 58 Westfir, Oregon 97492</p> <p>DATE: 6 December 2003</p> <p>RE: Easy Fire Recovery Project DEIS comments</p> <p>Dear Eric Ornberg,</p> <p>The following are comments from the Cascadia Wildlands Project (CWP) concerning Easy Fire Recovery Project DEIS. The Cascadia Wildlands Project is a conservation organization based in Eugene, Oregon, which works to restore degraded landscapes and ensure protection for wild lands and species. The Malheur National Forest, especially the Upper John Day and Upper Middle Fork John Day, is an area that many of our members spend considerable time recreating in — fishing, hunting, hiking and boating. The Easy Fire Recovery Project DEIS presents many problems to our organization and membership.</p> <p>In general, we oppose the concept of salvage logging. We do support genuine fuels reduction and restoration forestry, especially around the wildland-urban interface and in young managed stands. We spend considerable time working with Congressional members to find adequate funding for this type of silviculture. Salvage logging, though, has no direct benefits to the land or species. The Easy proposal is located within an area that burns often. Although past mismanagement—particularly logging, road-building and fire suppression—may have caused unnaturally severe fire effects, fire in this area, even high severity fires, have happened before and will happen again.</p>	
<p>Fires are a completely natural (and even necessary) feature of western forest landscapes. Removing much of the biomass from the area after a fire is NOT natural. Salvage logging and road work:</p> <ul style="list-style-type: none"> • removes or damages many of the building blocks needed to build the future forest (soil, large wood, and habitat structures), • disrupts many of the post-fire recovery processes (nutrient storage and cycling in down wood, falling snags that thin the young reprod, water storage in down wood, erosion control, etc), and • alters the developmental pathways of the future forest. <p>The DEIS fails to disclose the significant adverse effects of salvage on these building blocks and recovery processes. Below are a few concerns the EIS presents:</p>	<p>8-1</p>
<p>Salvage logging increases fire risk</p> <p>If the Easy proposal is to remove the large diameter dead and “dying” trees and replant with fire prone, even-aged trees, then this project will increase, not decrease, the risk of fire. This contradicts the first issue identified in the Purpose and Need section which says is to “accelerate ecosystem restoration” (p. S-1). Plantations, loaded with resinous material, provide an ideal environment for future, high-intensity fire. (Take a look at some of the plantations that burned in the planning area.) After salvage logging operations, accumulations of large volumes of fine slash on the ground will again create a climate ripe for future high intensity fire to return. This situation will not accelerate ecosystem restoration, but only hamper it.</p>	<p>8-2</p>

<p align="center">Letter # 8 – Josh Laughlin, Cascadia Wildlands Project Comment</p>	<p align="center">Response #</p>
<p>The dead and dying trees from the fire will soon naturally become large downed material that provide important shade structures that obstruct solar radiation and surface winds. Large downed logs can also reduce the speed and variability of surface winds, which inhibits extreme or erratic fire behavior. Thus, the ability of large downed logs to store water and provide shade from the sun and wind can function to lower the fire intensity and rate of spread on those specific sites.</p>	
<p>Old growth</p>	
<p>The CWP recognizes the effort made in the Easy DEIS to reestablish new replacement old-growth groves for the ones that were burned in the fire event. This makes logical sense, as the severely burned old growth, in the short term, will not provide old-growth habitat for species associated with these living forests types. Our organization supports any effort to set aside old-growth reserves from commercial extraction. Many species associated with Eastside old-growth forests have been on the decline and populations continue to suffer as remaining old-growth pockets are targeted for commodity production.</p>	<p align="center">8-3</p>
<p>But the proposal to create new old-growth groves in exchange for salvage logging the burned groves is a bad idea. Burned old-growth forests provide habitat and foraging opportunities for a host of species. This area will become a Mecca for hundreds of migratory songbirds, as well as a host of excavator species, looking to feed on insect-filled snags. Converting these burned, old-growth groves into General Forest is not consistent with the Forest Plan and would require amending it. All remaining old-growth on the Malheur NF should be set aside to recover old-growth dependent species, many of which continue to teeter on the brink of extinction.</p>	<p align="center">8-4</p>
<p>Salvage of “dying” trees in dedicated and replacement old-growth groves will violate the 21-inch diameter limit set in place. The Regional Forester’s Plan Amendment #2 known as the “eastside screens” requires that:</p> <p>“All sale activities (including intermediate and regeneration harvest in both even-age and uneven-age systems, and salvage) will maintain snags and green replacement trees of >21 inches dbh, (or whatever is the representative dbh of the overstory layer if it is less than 21 inches), at 100% potential population levels of primary cavity excavators. This should be determined using the best available science on species requirements as applied through current snag models or other documented procedures.”</p>	<p align="center">8-5</p>
<p>Ammendment #2 also says we should be working toward creating more old growth habitat from mid-seral stands. Salvage logging “dying” mid-seral stands contradicts the amendment.</p>	
<p>Beschta Report and science</p>	
<p>Salvage logging is extremely controversial and has been the center of extensive scientific debate for years. The National Forest Management Act (NFMA) planning regulations give a prominent role to science. The Forest Service is required to ensure “that the best available science is considered in planning.” 36 C.F.R. § 219.2(a). In particular, the requirement to consider the best available science applies to all project decisions implementing current forest plans. 36 C.F.R. § 219.35(a).</p>	
<p>“[I]nsure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. <i>The information must be of high quality.</i> Accurate scientific analysis, expert agency comments and public scrutiny are essential.” 40 CFR 1500.1(b).</p>	
<p>Although the DEIS address the Beschta Report (1995), which the courts have consistently</p>	

<p align="center">Letter # 8 – Josh Laughlin, Cascadia Wildlands Project Comment</p>	<p align="center">Response #</p>
<p>found offers some of the best current science surrounding treatment of post-fire landscapes, its analysis is biased and favors extraction over natural recovery.</p> <p>There simply is no scientific literature in support of salvage logging as an ecologically beneficial activity, but there is substantial literature explaining the negative impacts of such logging. The Beschta Report advances several recommendations, nearly all of which are in direct opposition to various aspects of the Easy proposal. These recommendations include:</p> <ul style="list-style-type: none"> ✓ Prohibition of salvage logging in severely burned sites, and other areas susceptible to extreme erosion; ✓ No tractors and skidders in all salvage areas because of the exacerbated soil compaction and erosion problems they create on sensitive soils; ✓ No road building; ✓ Retention of at least 50% of all snags in all size classes; ✓ Retention of all snags greater than 20 inches or older than 150 years; ✓ Presumption against reseeded; and, ✓ General recommendation to allow burned areas to recover naturally rather than resorting to human intervention. <p>The full report can be found at www.fire-ecology.org/science/Beschta_Report.pdf.</p>	<p align="center">8-6</p>
<p>Roads</p> <p>The Forest Service should take this opportunity to close roads in the Easy planning area. Roads are one of the primary reason noxious weeds are so prolific in the area. Besides encouraging the movement of noxious weeds, roads and new roading have an adverse effect on a host of species. Roads and accompanying human interaction have all but extirpated species like wolverine, lynx and the wolf which all need large block of relatively undisturbed habitat to survive. If we are trying to recover these species and avoid ESA listing, we should be closing roads and re-wilding degraded landscapes, not degrading them further through new road construction and ensuing salvage logging like the Easy proposal suggests. Roads are also a vector for future fire.</p>	<p align="center">8-7</p>
<p>Snags and snag-dependant species</p> <p>On a landscape scale, wildfires create patches of highly attractive habitat for a myriad of wildlife species. Increased abundance of certain insects in burned stands attracts insectivorous birds. One consequence of changes in food composition and breeding habitat is that burned forests support different bird communities, with many species dependent on stand-replacement fires (McIver and Starr 2000 pp. 8-9). To maintain healthy populations of these species over the landscape, burned patches of forest should be managed with great care.</p> <p>The Cascadia Wildlands Project recognizes the efforts made in the DEIS to delineate snag patches ranging from 100 to 570 acres, totaling 1524 acres. The snag patch retained around Clear Creek is especially important with its proximity to Clear Creek, which supports listed bull trout and summer steelhead. It is refreshing to see such an emphasis put on snag retention, although this doesn't and shouldn't mitigate the effects of salvage logging 2,820 acres, which the preferred alternative 3 calls for.</p> <p>The Easy DEIS recognizes many primary cavity excavators as "management indicator species," including the black-backed woodpecker (<i>Picooides arcticus</i>) and three-toed woodpecker (<i>P. tridactylus</i>). Post-fire logging changes these bird species composition in burned forests, reflecting effects of large woody debris removal on foraging and nesting habitat of cavity-nesting species. For example, a study by Caton (1996) showed negative</p>	<p align="center">8-8</p>

Letter # 8 – Josh Laughlin, Cascadia Wildlands Project Comment	Response #
<p>responses to post-fire logging, with significantly more nests found in unlogged sites.</p>	
<p>Leaving just a few snags per acre is not sufficient to maintain habitat for the myriad of excavator species found in the planning area. The Beschta report suggests a much different approach. See Beschta reference above.</p>	
<p>Listed fish runs</p>	
<p>Salvage logging will have a direct effect on federally listed fish runs. As the DEIS states, bull trout and summer steelhead, both listed as Threatened under the Endangered Species Act (ESA), reside in creeks in the Easy planning area. Spring chinook, redband trout, cutthroat trout, all listed as Sensitive under the ESA, also reside in creeks in the planning area. As the DEIS notes, these species require clean gravel with little silt for successful spawning and survival. Salvage logging, road maintenance, new roading and yarding will all contribute to increased peak flows and siltation into rearing habitat. The DEIS even notes “there is an increased risk of short-term sediment into local perennial streams with haul road maintenance and reconstruction activities associated with implementation of action alternatives” (Appendix F). By law it is illegal to degrade this habitat. This could lead to further population declines for species continuing to teeter on the brink of extinction.</p>	8-9
<p>The DEIS notes bull trout was classified as “probably extinct” in 1992 in the Upper Middle Fork John Day watershed and the Clear Creek subpopulation was classified as “high risk of extinction” in 1997. Salvage logging just above their habitat will hinder this species recovery. Aquatic species in the planning area have evolved with intense fire events like that of the Easy burn for centuries.</p>	
<p>Wildlife</p>	
<p>The Biological Evaluation claims there will be “No Effect” to Threatened and Sensitive species in the project area. It is wrong to assume that this is the case. Gray wolf and Canada lynx use or could potentially use this area for recovery. Salvage logging 2,820 acres potential habitat could be detrimental to their populations.</p>	8-10
<p>The State of Oregon is currently drafting a gray wolf recovery plan. It would make sense to not further degrade their habitat, but to be proactive and begin to close roads and re-wild areas, not plan even more industrial extraction in the area. This will lead to successful recovery of a species returning to Oregon. What communication has the Forest Service had with the State regarding the Easy DEIS and the recovery of wolves? The DEIS fails to mention this.</p>	8-11
<p>The DEIS and the Biological Evaluation for state and federally listed species recognizes that habitat for a host of species has been compromised through years of intensive management (grazing and logging). Why then would the DEIS propose to regeneration harvest in the planning area? Salvage logging is going to continue to compromise this already degraded landscape.</p>	8-12
<p>Cumulative Effects</p>	
<p>The DEIS fails to adequately analyze the cumulative effects of past impacts to the landscape with the Easy DEIS. The combined effects of the Easy proposal and the severely forestland on</p>	8-13

<p align="center">Letter # 8 – Josh Laughlin, Cascadia Wildlands Project</p> <p align="center">Comment</p>	<p align="center">Response</p> <p align="center">#</p>
<p>species viability, soils, hydrology, and water quality were never disclosed in the EIS. The Forest Service Environmental Policy and Procedures Handbook sets the standard for analysis of cumulative effects:</p> <p align="center">"Individual actions when considered alone may not have a significant impact on the quality of the human environment. Groups of actions, when added together, may have collective or cumulative impacts, which are significant. Cumulative effects that occur must be considered and analyzed without regard to land ownership boundaries. Consideration must be given to the incremental effects of past, present, and reasonably foreseeable related future actions of the Forest Service, as well as those of other agencies and individuals."</p> <p>The Council on Environmental Quality has extensively described the minimum requirements for analysis and mitigation of cumulative impacts on Environmental Quality in its publication "Considering Cumulative Effects Under the National Environmental Policy Act (1997), by the CEQ regulations implementing NEPA (40 C.F.R. 1508.7; 1508.8), and by the Forest Service's Environmental Policy and Procedures Handbook (FSH 1909.15.15.1). Specific examples of quantitative information to be addressed by cumulative effects analyses are identified by these sources.</p> <p>At minimum, an adequate cumulative effects analysis must:</p> <ul style="list-style-type: none"> ✓ identify the past, present, and reasonably foreseeable actions of Forest Service and other parties affecting each particular aspect of the affected environment; ✓ must provide quantitative information regarding past changes in habitat quality and quantity, water quality, resource values, and other aspects of the affected environment that are likely to be altered by Forest Service actions; ✓ must estimate incremental changes in these conditions that will result from Forest Service actions in combination with actions of other parties ✓ must identify any critical thresholds of environmental concern that may be exceeded by Forest Service actions in combination with actions of other parties, and; ✓ must identify specific mitigation measures that will be implemented to reduce or eliminate such effects. <p>Using these minimum criteria established by the CEQ, by regulations implementing NEPA, and by Forest Service rules and regulations as a guide, will need to complete a legally adequate cumulative effects analysis for all aspects of the environment affected by the proposed Easy proposal.</p> <p>Also for background reference, in "Cumulative Effects of Forest Practices in Oregon," Robert Beschta et al. (1995) reviewed nine different methods for analyzing cumulative effects, many of which are used on federal lands in the Northwest, and concluded:</p> <p>"Many of the historically utilized approaches to cumulative effects assessments of water resources involved designating an arbitrary limit or threshold. This threshold typically represented a specific percentage of the watershed area that could be affected by a particular forest practice within a specified time period. In many cases, the threshold was defined as the percent of the basin area harvested at which a significant shift in system behavior (such as change in peak flow) was expected to occur. Unfortunately, there is often insufficient data available to support limitations on the amount of basin harvesting that occur at any one time nor is there good evidence or an agreed upon procedure for determining what the magnitude of those limitations or thresholds should be. Other problems of current cumulative effects methodologies are their general emphasis on peak flows as the driving force behind downstream channel changes. Many of the earlier developed procedures did not not [sic] consider the effects from sedimentation, woody debris management, or riparian management. In addition, there is very little allowance made in many methods for natural variability amongst basins. Finally, many cumulative effects methods fail</p>	

<p align="center">Letter # 8 – Josh Laughlin, Cascadia Wildlands Project Comment</p>	<p align="center">Response #</p>
<p>to identify monitoring needs that will confirm whether cumulative effects goals are being attained.” Beschta et al. 1995, Section 7.11.11.</p> <p>These recommendations should be thoroughly analyzed when addressing the cumulative effects of the Easy salvage proposal.</p> <p>Thank you for considering our comments. We look forward to working with you during the planning process to ensure this project is environmentally sound and will not further degrade the landscape.</p> <p>Sincerely,</p> <p>Josh Laughlin Campaign Coordinator Cascadia Wildlands Project</p>	

Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment	Response #
<p>Eric Ornberg Middle Fork Ranger Station 46375 Highway 58 Westfir, OR 97492</p> <p>December 5, 2003</p> <p>RE: Comments on the Draft Environmental Impact Statement for Easy Fire Recovery Project and Proposed Nonsignificant Forest Plan Amendments</p> <p>Dear Mr. Ornberg,</p> <p>The Northwest Environmental Defense Center (NEDC) has numerous concerns related to the proposed actions described in the Easy Fire Recovery Project Draft Environmental Impact Statement (Easy DEIS). The DEIS often ignores or fails to utilize best available science and contains numerous questionable assumptions, unsubstantiated conclusions, and unsupported recommendations. We do not believe it provides an adequate basis for management within the Easy Fire area and is simply used to justify additional logging in sensitive and impaired watersheds on the Malheur National Forest (MNF).</p> <p>Current fuel loading and fire hazard is low in the project area. Easy DEIS 9, 89, 100. Snags and logs in burned stands play vital roles in natural recovery processes. Imposing the severe disturbance of salvage logging as proposed would put recovery processes at risk and cause damage to multiple ecosystem components. There is absolutely no valid ecological reason to log right now for the sake of fuels reduction. The rush to log in burned stands is strictly an economic matter of trying to extract the maximum timber value.</p> <p>We conclude that the proposed actions will not achieve the projects' stated goals and objectives to recover resources, but will instead likely cause unacceptable environmental impacts and increase the risk of catastrophic fire rather than decrease it. Therefore, we object to the proposed actions outlined in the Easy DEIS and urge you to develop a management plan for the area based on restoring natural fire processes and watershed function while reducing fire risk adjacent to communities. The DEIS must develop and analyze an alternative that will adequately protect the Easy Fire landscape, actively restore some parts of the landscape, allow passive restoration to occur on the rest of the area, reduce risk of fire-related injury, and be fiscally responsible.</p> <p>The Forest Service cannot ignore its role as trustee, responsible for managing the nation's natural resources. 42 U.S.C. § 4331(b)(1). This duty includes managing natural resources "without degradation, risk to health or safety, or other undesirable and unintended consequences." <i>Id.</i> at § 4331(b)(3). The Forest Service is also responsible for carrying out Congress' promise of providing aesthetically pleasing surroundings for all Americans. <i>Id.</i> at §</p>	<p>9-1</p> <p>9-2</p>

¹ It is important to first note that the Forest Service acknowledges in the EIS that the proposed action, by definition, will lead to the loss of snag habitat, upon which the cavity excavators and woodpecker species MIS depend.

² DecAID is a computer program, where managers can input tree species and size, and the program will generate the number, size, and type of snags per acre that should be retained. Based on these numbers, there is an associated "estimation of likelihood of use" by some species of cavity excavators.

³ The Forest Service states that "tolerance levels have less to do with viability of species and populations, and more to do with the distribution of individuals across a project area."

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>4331(b)(2). Moreover, each person at the Forest Service is responsible for contributing to the preservation and enhancement of the environment. <i>Id.</i> at § 4331(c). Consequently, forest managers must balance these goals with the Malheur National Forest Land and Resource Management Plan (MLRMP) objectives. Critical analysis, necessary to ensure that these Congressional policies are met, is lacking in the Easy Salvage Sale Draft Environmental Impact Statement. As a result, the following issues arise.</p>	
<p>I. PURPOSE AND NEED</p>	
<p>The Easy Fire Recovery Project (Easy Salvage Sale) Draft Environmental Impact Statement (DEIS) lists five needs for the proposed action. They include: capturing the economic value of dead-and “dying” trees; re-vegetating the project area to improve wildlife and fish habitat; designating new old growth Management Areas to replace DOG/ROG that is “no longer suitable”; reduce dead standing and down fuel; and reduce road related impacts. <i>Easy Fire Recovery Project Draft Environmental Impact Statement (Easy DEIS)</i>, 1-2. Implementation of Alternative 3, 4, or the preferred Alternative 2 of the Easy Salvage Sale will not achieve desired future conditions. Therefore, we recommend the implementation of the no action alternative 1. In the alternative, we recommend protecting all existing Dedicated and Replacement Old Growth, and logging the lesser habitat to ensure meeting the MNF Forest Plan, NFMA, and NEPA requirements.</p>	<p align="center">9-2b</p>
<p>A. Implementation of the Easy Salvage Sale will not meet the purpose and need of the project.</p>	
<p>The Forest Service claims salvage logging must occur now because there is a “limited window of opportunity in which to utilize salvage harvest as a tool to reduce fuels.” <i>Easy DEIS</i> 9. First, the window of opportunity to decrease fuels is not limited because there is very little in down fuel thanks to the fire, and the standing dead wood is providing essential habitat. As it stands, literally, the dead wood in the project area can barely provide enough habitat for fire dependent species. Second, the stated purpose and need to reduce fuels is unnecessary and costly. It is too late in the day to propose harvesting for fuels reduction. The fire took care of the fuels build up; that is what fires do. Furthermore, harvesting on the sensitive soils and taking post-fire habitat necessary for species survival will cause irreversible harm. Still, the Forest incorrectly claims this project to be an overall benefit despite “some” negative short and long term impacts. <i>Easy DEIS</i> 3.</p>	<p align="center">9-3</p>
<p>Instead, the Forest should turn fuel reduction efforts to the thousands of surrounding acres that have significant fuels built up from the agency’s fire suppression efforts. It is misleading to portray the need to reduce fuels in this post-fire area. Instead, the forest, soil, watershed, and species need time to recover. Salvaging in this sensitive ecosystem fails to provide any benefit to tax payers. <i>Easy DEIS</i> 9. In fact, logging entire post-fire hillsides is a detriment to the species that rely on that ecosystem, it’s a detriment to the public that visits those forests, and it is a detriment to all taxpayers who will be picking up the tab to restore these living forests the Malheur so carelessly discards.</p>	<p align="center">9-4</p>
<p>As noted <i>supra</i>, scientific findings dispute claims that post-fire logging reduces fire hazard. Recent empirical data compares fire severity where post-fire logging occurred and where it had not occurred. Researchers found that 68 percent of salvage logged areas returned at high severity. Only 26 percent returned at high severity where no logging had occurred. Harma and Morrison 2002. Other researchers studied an 247,000 acre area in the Klamath National Forest that burned in 1987 and found that the greatest fire severity occurred in an area previously burned, logged and planted in 1977. Odion and others in press. The burn severity in this area was more than five times that found in unlogged forests and twice that in shrublands. Based on this scientific background, it is unlikely the Easy Salvage project will meet the purported purpose and need of the project. Additionally, the Forest Service failed to support its conclusions with scientific data, resulting in an arbitrary and capricious decision by</p>	<p align="center">9-5</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>the agency. 5 U.S.C. § 706(2)(A).</p>	
<p>The DEIS also identifies the need to revegetate to provide “appropriate forest structure and tree species to improve wildlife and fish habitat.” <i>Easy DEIS</i> 2, 3. We commend the Forest for including habitat restoration in its stated purpose. However, all actions alternatives fail to provide habitat for wildlife or fisheries, and instead – take the little habitat that is available. The Forest must provide habitat <i>within</i> the project area sufficient to sustain viable populations. 36 C.F.R. 219.19. Despite this mandate, the Forest proposes to take even the protected old growth management stands, stands which the Forest recognizes as providing habitat for old growth dependent <i>and</i> many other species. <i>Easy DEIS</i> 112.</p>	<p align="center">9-6</p>
<p>It is arbitrary to harvest old growth that currently provides appropriate forest structure and wildlife habitat. In fact, unlike harvested areas outside the fire which fail to provide snag densities for 100% population levels, the fire created an abundance of new snags, habitat which 11 management indicator species require for their survival. <i>Easy DEIS</i> 128-129, 140. Furthermore, over 100 species found in eastern Oregon are known to use snags or down wood for nesting, shelter, and foraging. <i>Easy DEIS</i> 128. Stand replacement fires are particularly important for species such as the black-backed woodpecker and three-toed woodpecker because fire serves as source habitat. <i>Easy DEIS</i> 141. While the Forest concedes that previous salvage reduced snag densities below levels needed for these species, and that there is insufficient habitat outside the project area, it continues to assert salvage logging is beneficial to wildlife habitat. <i>Easy DEIS</i> 141. It is absurd to remove essential post-fire habitat and call it “habitat improvement.”</p>	<p align="center">9-7</p>
<p>Even though the MNF admits habitat on the Malheur “is quite limited and few formal old growth stands have been formally designated, ” it still proposes to salvage protected old growth habitat in the project area. <i>Easy DEIS</i> 112. The Forest cannot harvest protected habitat, and replace it with old growth habitat that (1) is <i>outside</i> the project area; (2) does “not quite” meet the definition of a DOG; and (3) cannot by itself sustain viable populations. <i>Easy DEIS</i> 116-117,</p>	<p align="center">9-8</p>
<p>While it may be necessary to plant trees where seed dispersal is not possible for future habitat, that does not eliminate the mandate to provide sufficient habitat today. Even though NFMA allows salvage sales in management areas not suited for timber harvest (NFMA §1604 (k)), the Act directs land managers to avoid harvesting areas if it would cause irreversible damage. <i>Future</i> habitat is beneficial to species someday, but future habitat cannot substitute for the wildlife habitat needs of today. There will be no habitat needs in the future if there is no habitat to support viable populations today. Thus, the Forest must not harvest for the sake of re-planting to creates ‘someday’ habitat because all action alternatives leave us without the wildlife.</p>	<p align="center">9-9</p>
<p>B. MNF fails to demonstrate a viable need for the proposed action to reduce the risk of reburn.</p>	
<p>The Forest Service admits that current fire risk is low in the project area but claims that post-fire logging and plantation establishment in the Easy Fire Salvage would reduce fire hazard. <i>Easy DEIS</i> 290. The report states: “the objective of fuels management is to reduce the fire hazard...” <i>Easy DEIS</i>, 279. The report does not give scientific data to back up the statements that the ecosystem is susceptible to high severity fires unless some fuel reduction action is taken. <i>Easy DEIS</i>, 286. NEPA requires that data analyses in a statement shall be commensurate with the importance of the impact. 40 C.F.R. § 1502.15. This section of the DEIS is certainly of great enough importance to require a higher level of data analysis.</p>	<p align="center">9-10</p>
<p>In the Beschta Report, scientists concluded that after a fire has burned through an area, no urgency arises making immediate action necessary. Robert L. Beschta, et. al. <i>Wildfire Salvage Logging: Recommendations for Ecologically Sound Post-Fire Salvage Management and other Post-Fire Treatments on Federal Lands in the West</i>, 4 (1995). In</p>	<p align="center">9-11</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>fact, there is no ecologically-based need to log such areas at any point; logging such areas can actually create more problems than can be solved. <i>Id.</i> The scientists advocate allowing these areas to recover naturally to avoid the negative impacts associated with salvage logging. These impacts include “soil compaction and erosion, loss of habitat for cavity nesting species, and loss of structurally and functionally important woody debris.” <i>Id.</i> at 6.</p> <p>The Forest Service predicts that “future” fuel loads will be dangerously high if not salvaged to remove all “dead and dying” trees now. The DEIS provides no objective data or scientific analysis to support its assumption that commercial logging in the severely burned areas will somehow decrease the risk or intensity of a future fire. In addition, the DEIS fails to address the considerable scientific evidence that directly contradicts the projects’ assumptions. Simply stating that the Beschta Report presents scientific controversy over whether post-fire logging can in fact reduce future fire risk is not enough. <i>Easy DEIS</i> 131, 216. The Forest must discuss and consider the Beschta Report’s recommendations to ensure the agency takes the requisite “hard look” at environmental consequences of post-fire logging. <i>Blue Mountains Biodiversity Project v. Blackwood</i>, 161 F.3d 1208 at 1213.</p> <p>First, the Forest Service fails to present any scientific evidence that the risk of reburn increases in the fire area or that post-fire logging decreases the threat or intensity of future fire. In January, 2000, the Forest Service’s Pacific Northwest Research Station reviewed all available post-fire logging studies and prepared a comprehensive literature review, titled “Environmental Effects of Postfire Logging: Literature Review and Annotated Bibliography.” McIver & Starr 2000. This review found no studies documenting a reduction in fire intensity in a stand that had previously burned and then been logged. <i>Id.</i> The Forest Service review considered the 1995 report prepared by a team of prominent university and agency scientists headed by Dr. Robert Beschta titled “Wildfire and Salvage Logging: Recommendations for Ecologically Sound Post-Fire Salvage Management and Other Post-Fire Treatments On Federal Lands in the West.” Beschta et al. 1995. The authors of the Beschta Report were also “aware of no evidence supporting the contention that leaving large dead woody material significantly increases the possibility of reburn.” <i>Id.</i></p> <p>As recognized by the Beschta Report, fine fuels carry fire, not the large trees that the Forest Service targets for logging. The Pacific Northwest Research Station’s literature review also considered the Forest Service’s response to the Beschta Report, prepared by Forest Service scientist Richard Everett and others. The Everett Report agreed that “[t]here is no support in the scientific literature that the probability for reburn is greater in post-fire tree retention areas than in salvage logged sites” and “[t]he [Beschta] authors are correct that the intense reburn concept is not reported in the literature.” Everett et. al. 1999. In fact, according to the Everett Report, current research suggests that salvage logged areas may have elevated fire hazard compared to unlogged sites for the first 20 years. Although the DEIS acknowledges the Beschta Report, the agency blatantly ignores the reports suggestions. Instead the agency claims human intervention is necessary now because salvage is cheap. <i>DEIS</i>, 3.</p> <p>The agency does not explain why or how such a high threat of reburn resulted. The agency completely fails to consider the Everett Report, the McIver and Starr literature review, and other scientific evidence that runs counter to the Easy Salvage Sale proposal. These scientific reports indicate that the Easy Salvage Sale purpose and need is unsupported by fact. According to the available literature, there is no evidence that commercial logging in the wake of an intense wildfire will decrease the possibility of reburn. The DEIS failed to disclose or address the fact that there is no scientific evidence to support its future reburn theory.</p> <p>Second, the Forest Service’s proposed need contradicts scientific opinion because it incorrectly assumes that all woody biomass will be available fuel for combustion and large burned trees will contribute to a severe fire in 10-30 years. <i>Easy DEIS</i> 279-280; <i>See generally</i> Agee 1993, Amaranthus & others 1989, Borchert & Odion 1995, Brown & others in press,</p>	<p align="center">9-12</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>Countryman 1955, McIver & Starr 2000, and Rothermel 1991. Again, simply mentioning the study does not constitute consideration of controversial effects required by law. <i>Blue Mountain Biodiversity v. Blackwood</i>, 161 F.3d 1208 at 1212-1213. None of these relevant scientific studies were considered by the Forest Service. The Forest Service fails to provide scientific support for the contention that standing large trees on the landscape increase fire risk. In fact, the MNF proposes to log all large diameter trees, leaving mostly trees less than 7”dbh and probably less than 12” dbh. <i>Easy DEIS</i> 293. The preferred alternative 2 would only leave 2.4 snags/acre that are greater than 21”dbh. Thus, the Forest arbitrarily decided to leave a tinder box in the forest and call it fuels reduction.</p> <p>Fire scientists use the “available fuel” concept to identify biomass that may be consumed by fire. The availability of fuel to combustion, particularly flaming combustion, is inversely proportional to the size of fuel particles. Agee 1993. In general, the contribution of very large logs to fire severity and intensity is almost negligible. Brown et al. in press. When large trees do burn, it is the presence of smaller fuels that ignite and sustain combustion. Logs burn mainly by smoldering combustion, which is not even considered in scientific calculations of fire intensity. Borchert and Odion 1995; Rothermel 1991.</p> <p>It is contrary to principles of wildland fire science to consider the least available fuel (tree boles) to be the paramount issue in terms of fire intensity because they are generally not consumed by fire. When tree boles are consumed, it is mainly by smoldering combustion, which does not contribute to fire intensity, as it is scientifically defined. The Forest Service never cites to a single scientific study to support its contention that large diameter logs pose a fire hazard. NEPA requires the Forest Service to “make explicit reference by footnote to the scientific and other sources relied upon for conclusions” in the environmental document. 40 C.F.R. § 1502.24. Until the agency supplies this information, the Easy DEIS is inadequate and should not be implemented.</p>	
<p>Large downed logs can provide important shade structures that obstruct solar radiation and surface winds. These microclimate influences can result in lower ground surface temperatures and reduced surface wind speeds, which translate into higher live and dead fuel moisture levels compared to areas cleared of shade from standing or downed trees. Large downed logs can also reduce the speed and variability of surface winds, which inhibits extreme or erratic fire behavior. Thus, the ability of large downed logs to store water and provide shade from the sun and wind can function to lower the fire intensity and rate of spread. Countryman 1955. The Forest Service failed to calculate the moisture retention, shade contribution, and other factors related to large downed logs in determining the purpose and need of the Easy project.</p>	<p align="center">9-13</p>
<p>Third, the Forest Service proffers the unsubstantiated claim that without post-fire logging, standing burned trees will fall to the ground in 10 to 20 years and increase the fire hazard. This assertion is not based on available scientific data describing surface fuel accumulation and tree fall rates. The Forest Service’s projection that burned trees will fall to the ground within 20 years assumes unnaturally high fall rates. The authorized action would leave behind the smaller trees that will most likely fall soonest but remove the vast majority of larger trees that otherwise will remain standing the longest.</p>	<p align="center">9-14</p>
<p>Forest Service research, which the Malheur National Forest fails to apply, clearly shows that small fire killed conifers fall most rapidly and larger trees stand increasingly longer with greater size. Everett et al. 1999. Larger trees may remain standing and unavailable to combustion far longer than 30 years after a fire. For example, Everett and others (1999) studied burned forests in the eastern Washington Cascades and determined that 79 percent of ponderosa pine trees larger than 41 centimeters (16.1 inches) in diameter still stood after having been killed by fire 60 years earlier. There are thousands of trees larger than 16 inch DBH proposed for removal in the Easy Salvage Project. The Forest Service fails to acknowledge this fact, fails to provide a scientific basis for the assertion, and accordingly makes an arbitrary and capricious decision to implement the project. 5 U.S.C. § 706(2)(A).</p>	

Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment	Response #
<p>Finally, the Easy DEIS fails to consider the influence of fuel accumulation relative to other important factors in the Easy Fire. The MNF asserts that vegetation change resulting from human-caused fire suppression is a primary factor in explaining the size and behavior of the Easy Fire. <i>Easy DEIS</i>, 23. Disruption of natural fire cycles is an important component to understanding forest health. However, the Forest must not neglect to consider the complex interaction of the many temporal and spatial factors that are known to influence fire regimes as well as the behavior of individual fire events. Of these factors, short-term weather, climate, topography and the fire-fighting actions themselves are all likely to have played an influential role in why the Easy Fire burned as it did. In a detailed analysis of the 1987 fires on the Klamath National Forest, Odion et al. (in review) found no significant relationship between high severity fire effects and long absence of fire, suggesting that factors other than fuels are more strongly linked to <i>extreme</i> fire behavior in the region’s forests.</p> <p>Large, intense crown fires are typically generated and driven by the forcing mechanism of extreme fire weather. Johnson et al. 2001, Keeley & Fotheringham 2001, Moritz 1997, Agee 1997, Bessie & Johnson 1995. The Easy Fire appears to be a prime example of this general pattern. The DEIS does not address the extreme drought conditions of 2000-2002, combined with record-breaking 100 degree temperatures that set the stage for unusually large and intense fires.</p>	9-15
<p>The Forest Service must provide the public with an explanation of the purpose and need of the proposed project. NEPA’s implementing regulations require the agency to “briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.” 40 C.F.R. § 1502.13. The agency may not create a false need for the project in order to justify its implementation. In addition, NEPA requires the Forest Service to “make explicit reference by footnote to the scientific and other sources relied upon for conclusions” in the environmental document. <i>Id.</i> at § 1502.24. The Forest Service failed to support its “purpose and need” conclusions with any evidence whatsoever. Thus, the statement of need for the Easy Salvage Sale is premised on unsupported conclusions violating the requisite “hard look” required by NEPA.</p>	9-16
<p>II. NATIONAL ENVIRONMENTAL POLICY ACT</p> <p>The Easy Salvage Sale DEIS violates the National Environmental Policy Act and its implementing regulations. National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321–4370d (1994 & Supp. III 1997); 40 C.F.R. § 1500–1508.28 (1998). The DEIS is arbitrary and capricious in violation of the Administrative Procedure Act. Administrative Procedure Act, 5 U.S.C. §§ 551–559, 701–706, 1305, 3105, 3344 (1994 & Supp. III 1997).</p>	
<p>A. MNF fails to ensure professional and scientific integrity in discussing the proffered need for the project</p> <p>As noted <i>supra</i>, the Forest Service failed to support the purpose and need of the project with scientific information and failed discuss contradictory information available to the agency. In fact, the Forest Service’s basic assumptions of fire spread and available fuel are contradictory to recent research. NEPA requires the agency to ensure scientific integrity in environmental analyses. 40 C.F.R. § 1502.24. By ignoring abundant research contrary to the agency’s analysis, the Forest Service fails to ensure scientific integrity of the research used.</p> <p>Specifically, the Forest Service failed to analyze and disclose the full range of adverse effects on wildlife, vegetation, and natural recovery processes (such as elimination of refugia during future fire events) that would result from salvage logging the large-diameter snags and logs. The agency also failed to analyze the factors that mitigate the flammability of large fuels. Accordingly, the analysis of tradeoffs between removing or retaining the large-diameter snags and logs is incomplete, ignores countervailing scientific opinion within the</p>	9-17

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>Forest Service, and fails to ensure professional and scientific integrity. 40 C.F.R. § 1502.24</p>	
<p>NEPA’s disclosure goals are two-fold: (1) to insure that the agency has carefully and fully contemplated the environmental effects of its action, and (2) “to insure that the public has sufficient information to challenge the agency.” <i>Idaho Sporting Congress v. Thomas</i>, 137 F.3d 1146, 1151 (9th Cir. 1998); <i>Robertson v. Methow Valley Citizens</i>, 490 U.S. 332, 349 (1989). By focusing the agency’s action on the environmental consequences of its proposed action, NEPA “ensures that important effects will not be overlooked or underestimated only to be discovered after resources have been committed.” <i>Robertson</i>, 490 U.S. at 349.</p>	<p align="center">9-18</p>
<p>The Easy DEIS fails to disclose important information that contradicts the Forest Service’s proposed action. NEPA requires that the Forest Service “disclose responsible scientific opinion in opposition to the proposed action, and make a good faith, reasoned response to it.” <i>Seattle Audobon Society v. Lyons</i>, 871 F.Supp. 1291, 1318 (W.D. Wash. 1994). The DEIS does not provide enough information for the public and the decision-maker to make a carefully and fully contemplated decision. Nor can the public be assured that the scientific quality of the information used to make this decision is of high quality. Consequently, the proposed action violates NEPA, and the decision to implement the Easy Salvage Project is arbitrary and capricious. 5 U.S.C. § 706(2)(A).</p>	<p align="center">9-19</p>
<p>B. The Easy Salvage Sale DEIS does not adequately consider a reasonable range of alternatives.</p>	
<p>NEPA mandates that an agency “shall to the fullest extent possible: use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment.” 40 C.F.R. § 1500.2(e). NEPA also requires the Forest Service to “study, develop, and describe appropriate alternatives to the recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses available resources as provided by section 102(2)(E) of 40 C.F.R. § 1501.2 (c).” <i>Id.</i></p>	<p align="center">9-20</p>
<p>The Easy DEIS, however, fails to give a meaningful evaluation of alternatives to the proposed action. The Forest Service fails to offer a restoration-only alternative to the salvage project, thereby failing to provide a reasonable range of alternatives for the project as required by NEPA. 42 U.S.C. §§ 4331, 4332(2)(E); 40 C.F.R. § 1508.9(b). Although the Forest presents a No Action alternative, it fails to provide a restoration only alternative. The No Action alternative fails to adequately weigh the positive consequences: and instead, the USFS focuses on the “negative” economic result and potential fuels if no action is taken. The agency fails to propose any action alternatives that would support species viability. The Forest fails to provide an action alternative that complies with DOG/ROG mandates which preclude harvest, and instead masks the issue by providing lesser quality forest outside the planning area that is “not quite” characteristic of old growth. <i>Easy DEIS</i> 117.</p>	<p align="center">9-21</p>
<p>Environmental analysis documents must “[r]igorously explore and objectively evaluate all reasonable alternatives” to the project. 40 C.F.R. § 1502.14(a). A decisionmaker must explore alternatives in sufficient enough detail to “sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decisionmaker and the public.” <i>Id.</i> § 1502.14. All reasonable alternatives must receive a “rigorous exploration and objective evaluation . . . , particularly those that might enhance environmental quality or avoid some or all of the adverse environmental effects.” <i>Id.</i> § 1500.8(a)(4) (emphasis added). The analysis of the alternatives must be “sufficiently detailed to reveal the agency’s comparative evaluation of the environmental benefits, costs and risks of the proposed action and each reasonable alternative.” <i>Id.</i></p>	<p align="center">9-22</p>
<p>In order to comply with NEPA, “the discussion of alternatives ‘must go beyond mere</p>	<p align="center">9-23</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>assertions’ and provide sufficient data and reasoning to enable a reader to evaluate the analysis and conclusions and to comment on the EIS.” <i>Citizens Against Toxic Sprays v. Bergland</i>, 428 F. Supp. 908, 933 (D. Or. 1977). A detailed and careful analysis of the relative merits and demerits of the proposed action and possible alternatives is of such importance in the NEPA scheme that it has been described as the “linchpin” of the environmental analysis. For this reason, the discussion of alternatives must be undertaken in good faith; it is not to be employed to justify a decision already reached. <i>Id.</i></p> <p>NEDC concedes that NEPA “does not mandate particular results,” but “simply provides the necessary process” to ensure that federal agencies take a “hard look” at the environmental consequences of their actions. <i>Robertson v. Methow Valley Citizens Council</i>, 490 U.S. 332, 350 (1989). This “hard look” requires the agency to provide a good faith consideration of the proposed alternatives. In discussing Alternatives, the Forest clearly acknowledges that it did not consider the No Action Alternative. In fact, the DEIS describes three alternative ways to manage land and resources in the Easy Fire Area. <i>Easy DEIS</i> 43. Alternative 1, the no action alternative that would count as the fourth alternative discussed in the DEIS, is not included in the “framework of ecological stewardship” considered in detail by the MNF. Failure to consider the no action alternative violates the very procedural safeguards NEPA is meant to ensure.</p>	
<p>The agency must discuss the merits of a restoration-only alternative, not just identify how such an alternative was not developed because it would not “accelerate recovery of resources.” <i>Easy DEIS</i> 45. The Forest’s assertion that restoration would not better the forest is absurd. Restoration without commercial timber harvest reduces potential sedimentation, compaction, water quantity fluctuations, fragmentation, and effects on wildlife because prescriptions are lighter. The agency should also acknowledge that a restoration-only alternative would be supported by the public, thus allowing the project to be completed unhindered by appeals and litigation.</p>	<p align="center">9-25</p>
<p>Second, as part of all of the action alternatives, the MNF proposes an amendment to its Forest Plan. <i>Easy DEIS</i>, 51, 56, 60. The purpose of this amendment is to redesignate much of the old-growth areas (MA-13) that were affected by the fire as general forest (MA-1) and to create new old-growth areas to replace areas lost by the fire. <i>Id.</i> However, only one alternative is examined. NEPA requires the MNF to “[r]igorously explore and objectively evaluate all reasonable alternatives” to the project. 40 C.F.R. § 1502.14(a). The MNF plainly failed to comply with this regulation with respect to the proposed plan amendment.</p> <p>The Forest cannot call this DEIS a “Proposed Nonsignificant Forest Plan Amendment” without discussing it. The DEIS lacks any meaningful analysis of this Forest Plan Amendment and any information as to why it could possibly be called “insignificant.” Although NEDC recognizes the need for the Forest to retain flexibility in its forest management and that the MNF must be able to amend the Forest Plan, it cannot slide under the radar with a significant action by making a bald assertion that this amendment is “insignificant.”</p> <p>Considering the likely effects an amendment would have on MIS, PCE, and over 100 other species that use old growth, the potential negative effects of harvesting DOG/ROG are extraordinary. The Forest readily admits old growth habitat is not readily available in the Malheur. The Forest also readily admits that 11 MIS species (roughly 65% of the management indicator species on the Malheur) would use snags in the post-fire DOG/ROG. Moreover, threatened Goshawks rely on mature old growth, especially post-fire because they prey on primary excavator species, which flock to post-burn areas for foraging habitat. <i>Easy DEIS</i> 145. This is just one example of the significant effects that the proposed forest amendment may have.</p> <p>The Forest must also consider the cumulative effects of amending the forest plan.</p>	<p align="center">9-26</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>The MNF may not simply amend protected DOG/ROG piece by piece to avoid a significance determination. Significance cannot be avoided by breaking [an action] down into small component parts. 40 C.F.R. § 1508.27(b)(7). The MNF fails to analyze the past, present, and future Forest amendments that allow designating new DOG/ROG – to allow for the harvest of existing DOG/ROG. Taken to its logical conclusion, the MNF is amending itself out of all the old growth in the forest.</p> <p>There are multiple reasonable alternatives to the proposed Forest Plan Amendments. For example, a reasonable alternative would be to designate new Dedicated Old Growth areas but to manage all of the old-growth areas affected by the fire as Replacement Old Growth rather than general forest. This alternative would provide more continuity to the management of the forest. Fires will continue to occur within this ecosystem. <i>See Easy DEIS</i>, 79 (“[t]here is an increasing realization that forests in the Blue Mountains evolved with fire, insects, and other periodic disturbances...and that the historical condition was often more resilient and sustainable than the present condition.”). Therefore, to ensure continuous and effective management, if Dedicated Old Growth is no longer functioning as old growth habitat, it should be managed as Replacement Old Growth until it regains old growth characteristics. Another alternative would be to establish larger Dedicated Old Growth areas. Larger areas managed for old growth would ensure that even as the natural fire cycle returns there will be sufficient functioning old growth habitat in the Forest to support viable populations of old growth dependent species.</p> <p>There are many reasonable Forest Plan amendments that could be used to achieve the goals of the MNF. However, the Easy DEIS fails to examine a single one of these alternatives. Therefore, because the MNF has failed to consider an adequate range of alternatives, the Easy DEIS is inadequate and violates NEPA. 40 C.F.R. § 1502.14(a).</p>	
<p>C. The Easy Salvage Sale DEIS Does Not Adequately Consider the Impacts of this Project.</p> <p>The Easy DEIS does not provide enough information to determine the extent of indirect, direct, or cumulative environmental impacts associated with the Easy Salvage Project. Moreover, the DEIS does not furnish substantive and quantitative evidence showing this project will not cause serious and irreversible damage to soils, forest productivity, plant diversity, water quality, and wildlife habitat. In fact, the evidence strongly suggests that the project will cause significant impacts to these resources that preclude the implementation of the proposed project.</p> <p>The goal of NEPA is two-fold: (1) to ensure the agency will have detailed information on significant environmental impacts when it makes its decisions; and (2) to guarantee that this information will be available to a larger audience. <i>Inland Empire Public Lands v. U.S. Forest Service</i>, 88 F.3d 754, 758 (9th Cir. 1996). NEPA requires the Forest Service to take a “hard look” at the impacts of proposed projects. <i>Neighbors of Cuddy Mountain v. United States Forest Serv.</i>, 137 F.3d 1372, 1380 (9th Cir. 1998). The Forest Service failed to ensure the public that it took a “hard look” at the impacts of the proposed Easy Salvage Project. Failure to provide this information constitutes a violation of NEPA and shows the agency’s decision is arbitrary and capricious. 5 U.S.C. § 706(2)(A).</p> <p>1. The Easy DEIS is inadequate because it fails to provide sufficient information regarding watershed effects</p>	<p>9-27</p>
<p>The Easy DEIS does not indicate the extent of impairment of water quality and fails to disclose the direct impacts of the sale. The Forest Service asserts that The Ninth Circuit has held that "general statements about 'possible' effects and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided." <i>Neighbors of Cuddy Mountain v. United States Forest Serv.</i>, 137 F.3d 1372, 1380 (9th Cir.</p>	<p>9-28</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>1998). The Forest Service acknowledges that "[current] aquatic conditions in the watersheds reflect almost 140 years of human activities," including roads, logging, livestock, and loss of beaver population. <i>DEIS</i> 7. The agency has not yet monitored the effects of fire suppression and rehabilitation activities. While the Forest Service admits that fire suppression activities like dozer lines "may have more effect on fisheries than the fire itself [may have]," it has failed to quantify the effect of fire suppression activities on the watershed. <i>DEIS</i> 211. Without an appropriate baseline, the agency cannot legitimately claim there are no negative effects of this project on watershed condition. NEPA also requires the agency to obtain missing information. 40 C.F.R. § 1502.22.</p>	
<p>The Easy DEIS also fails to adequately address water quantity effects. The DEIS acknowledges that the fire increased hydrologic openings to over 34 percent in one watershed. <i>DEIS</i> 235. The agency references research that an increase of 60 percent may create water quantity effects. <i>Id.</i> at 236. Using this as a baseline, the agency concludes that removing dead and dying trees will not have any measurable effect on water yield, peak flows, or flow minimums because the "dead and dying trees would already have a low amount of retaining tree canopy." <i>DEIS</i> 238.</p>	<p align="center">9-29</p>
<p>The Forest Service has elected to use a rating system, published in 2002, which the agency admits has yet to be scientifically validated. <i>DEIS</i> 24. The Forest Service does not discuss how the mortality guide provided will consider all of the factors that influence mortality. According to Forest Service research, site-specific factors including elevation, wind exposure, slope aspect, soil depth, site moisture, bark thickness, burn severity and seasonality of disturbance all influence tree mortality and decay rates. Lowell and others 1992. The Malheur National Forest failed to account for site-specific factors that affect tree mortality and decay rates, despite the clear recommendation of relevant scientific research:</p>	<p align="center">9-30</p>
<p>Good estimates of loss of timber volume and value over time are necessary for each of the alternatives listed in the impact statement and to help in the planning and decision-making process. The one goal for determining the rate of deterioration is to be able to apply the information to the appraisal of fire-killed and fire-damaged timber. The conditions of each sale must be carefully evaluated for all factors influencing the rate of deterioration and selling values adjusted accordingly. Lowell and others 1992, p. 23.</p>	
<p>Stephens and Finney 2002, current and former Forest Service researchers, respectively, found that among ponderosa pines approximately 20 inches DBH, about 60 percent of the trees studied survived a 90 percent crown scorch by fire. Also, a substantial percentage of the ponderosa pines studied survived 100 percent crown scorch. This study is particularly significant to the Easy Project area, where the primary forest type (mixed conifer/dry forest) is dominated by ponderosa pine trees. Another study by Ryan and Reinhardt (1988) identified bark thickness as an important factor influencing tree mortality after fire. Only 60 percent of conifers with bark thickness of 3 cm (which equates to fairly small trees - in the range of 15 inches DBH) survived 65 percent crown scorch. 75 percent of trees with bark 4 cm thick survived 65 percent crown scorch. For trees with bark 5 centimeters thick and 65% crown scorch, over 80 percent survived.</p>	
<p>A substantial portion of the large ponderosa pines that had 100% crown scorch in the North Fork fire of 2001 on the Sierra National Forest produced significant new green foliage in 2003, despite the fact that they showed no signs of life in the late summer and fall of 2001 or the entirety of 2002. Pers. Comm. with Mike Price, Sierra National Forest, 7/10/03. So many of the large ponderosas that were previously believed dead came "back to life" nearly two years after the fire that Forest Service personnel are not sure they will be able to sell the timber sale. <i>Id.</i></p>	

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>The Forest Service's failure to disclose published findings that contradict its own assessment of tree mortality and decay rates violates NEPA. The Easy DEIS lacks a reasoned discussion of scientific disagreements <i>See Seattle Audobon Society v. Mosely</i>, 798 F.Supp. 1473, 1482 (W.D. Wash. 1992), <i>affirmed</i>, 998 F.2d 699 (9th Cir. 1993). The NEPA document must meaningfully address uncertainties surrounding the relevant scientific evidence concerning post-fire forest conditions. <i>See Seattle Audobon Society v. Espy</i>, 998 F.2d 699, 704 (9th Cir. 1993).</p> <p>The DEIS also fails to adequately discuss impacts from sedimentation. The Forest Service admits that bull trout, a species found in the Clear Creek drainage, is "so sensitive to sedimentation and habitat degradation that their range has decreased drastically." <i>DEIS</i>, 198. Despite this sensitivity, the agency fails to quantify sediment input that will result from the Easy Fire Salvage proposal. Although the agency has identified a 0.25 stretch of road within the Clear Creek subwatershed which will be reconstructed under this proposal, it neglects to identify the impact this action will have on the subwatershed. <i>DEIS</i>, 207. Neither does the agency articulate, explain, or quantify the "cumulative increase" that has occurred "in area[s] with compacted/disturbed soils has resulted in increased potential for surface erosional processes across the watersheds." <i>Id.</i></p> <p>The agency claims that site specific Best Management Practices (BMPs) will be implemented and "the largest portion of the sediment will pass through the system during the winter high flows, no measurable effects on fishery resources is anticipated from project activities." <i>DEIS</i>, 220. The Agency proposes to construct new, temporary spur roads and reopen decommissioned roads, although the overall number of permanent road miles would not change. <i>DEIS</i>, 221. BMPs permit up to one cubic yard of sediment to enter the stream from culvert replacements and road reconstruction, but the DEIS fails to acknowledge that any sediment increase would occur from the harvest.</p> <p>The Clean Water Act (CWA) Section 313 requires that all federal agencies "shall comply with all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution, and federal actors must comply with all record keeping, recording and permitting requirements" 33 U.S.C. § 1323(a). The Ninth Circuit has interpreted this provision to mean that the U.S. Forest Service must comply with all state water quality standards when carrying out its road-building and logging activities. <i>Northwest Indian Cemetery Protective Ass'n v. Peterson</i>, 795 F.2d 688 (9th Cir. 1986). The Forest Service cannot claim that the agency's own policies and regulations supersede state water quality standards. In <i>Peterson</i>, the Forest Service claimed that BMPs were the only water quality standards applicable. <i>Id.</i> at 697. The Ninth Circuit held that adherence to BMPs did not automatically ensure that state water quality standards were met. The Ninth Circuit recently reiterated this standard. <i>Blue Mountains Biodiversity Project v. Blackwood</i>, 161 F.3d 1208, 1214 (9th Cir. 1998), <i>cert. denied</i>, <i>Ochoco Lumber Co. v. Blue Mountains Biodiversity Project</i>, 119 S.Ct. 2337 (1999).</p> <p>Accordingly, the Forest Service must describe how the selected alternative for the Easy Salvage Sale complies with Oregon's water quality standards. The DEIS does nothing to indicate how post-fire logging and road reconstruction in the Easy planning area - in addition to logging and road building in on private lands in the area - will meet water quality standards. The Forest Service then claims that after logging an additional 3,652 acres of a severely burned landscape, there will be no negative cumulative (not to mention direct and/or indirect) impacts to the watershed or its tributaries. This conclusion defies logic, and is unsupported by the administrative record. 5 U.S.C. § 706(2)(A).</p>	<p align="center">9-31</p>
<p>Clear Creek and Reynolds Creek are 303(d) listed for temperature concerns for bull trout. <i>DEIS</i>, 243. Despite that streams in the planning area already do not meet Oregon standards, the Forest Service nonetheless offers a project that will exacerbate the current conditions. Neither the Malheur nor post-fire salvage logging is exempt from the Clean Water</p>	<p align="center">9-32</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>Act. Data to support the conclusion in the DEIS that water quality is not a problem in the planning area are unavailable. Therefore, Easy Salvage Project should be withdrawn until data is available that shows this project will not further degrade the water quality in the planning area. 40 C.F.R. § 1500.1(b); 36 C.F.R. § 219.14(2).</p> <p>Additionally, the Forest Service claims that water quality will be improved in the long term from this project because of road decommissioning. Although NEDC supports road decommissioning, the Clean Water Act does not permit "short term" degradations of water quality, and that any project that proposes such degradations is unlawful. The MNF's claim that decommissioning will decrease sedimentation is further weakened by the fact that the MNF has a poor record implementing road closure and decommissioning. The Forest Service fails to analyze the road closures in detail, acknowledge the likelihood that road closures will not occur, or explain how effective the measures would as required by NEPA. 40 C.F.R. § 1502.16(h); <i>Northwest Indian Cemetery Protective Ass'n v. Peterson</i>, 764 F.2d 581 (9th Cir. 1985).</p>	<p align="center">9-33</p>
<p>Furthermore, the Forest Service's claim that the initial increase of sediment caused by the proposed action will be followed by a greater decrease over current levels after the project is completed is pure speculation. Neither the Forest Service nor the state of Oregon has established TMDLs for the planning area. Presently, there is no baseline to determine whether sediment from the proposed action will impact water quality. Without knowing what the TMDL limits are for the adjacent creeks and rivers, the Forest Service cannot know whether sediment from road building and logging operations will be irreversible or insignificant. Consider the following:</p> <p>The Forest Service argues that the initial increase caused by the Project will be followed by a greater decrease over current levels after the Project is completed. That may or may not be true. However, the Forest Service is working by speculation here because neither it nor the State of Montana has established Total Maximum Daily Loads. By the Forest Service's own estimates, fish are likely to be threatened. Before the Forest Service decides to do anything that will increase sedimentation, even if the proposed action should ultimately decrease long-term sedimentation, the Forest Service must know how much the stream can carry away. Without a baseline, there is no way but speculation to determine how the sediment impacts water quality, adversely or beneficially. The Best Management Practices employed in the Project are not sufficiently reasonable under Mont. Code Ann. 75-5-703(10)(b), because it is possible that even perfect compliance with the best practices would not be enough. The Forest Service simply does not know. By deciding to carry out this project in watersheds with already compromised streams, without knowing the exact condition and capacity to cope of those streams, the approval of the Lolo Post-Burn Project is arbitrary and capricious within the terms of the APA. Consequently, sales impacting these streams segments cannot proceed until TMDL's are established.</p>	<p align="center">9-34</p>
<p><i>Sierra Club v. Austin</i>, No. CV-03-22-M-SWM, slip op. at 18 - 19 (D. Mont. Apr. 30, 2003).</p> <p>The Easy project is analogous to the situation in <i>Austin</i>. This case makes it clear that timber harvest that will exacerbate degraded conditions may not go forward absent a TMDL for the listed waterways. Because the streams in the planning area are at risk or are not properly functioning according to Oregon State standards, the Forest Service will violate the Clean Water Act and NFMA if the Easy project is implemented. 36 C.F.R. § 219.23(d). By proposing to carry out this project in watersheds with already compromised streams, without knowing the exact condition and capacity to cope of those streams, approval of the Easy DEIS is arbitrary and capricious under the Administrative Procedure Act. 5 U.S.C. § 706(2)(A).</p> <p>There is a general lack of sufficient information surrounding the water quality</p>	<p align="center">9-35</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment</p>	<p align="center">Response #</p>
<p>in the planning area. A recent General Accounting Office (GAO) study indicates that federal and state land management decisions are limited by the lack of information about the aquatic systems at issue. Key EPA and State Decisions Limited by Inconsistent and Incomplete Data (available at http://www.gao.gov/archive/2000/rc00054.pdf). There is no indication that the Malheur National Forest has assessed the implications of this report or changed its management practices so as to comply with the recommendations in the GAO report.</p> <p>Finally, there is no indication in the DEIS that the Forest Service has complied with PACFISH and INFISH, both of which prohibit changes in water quality, timing, flow, and other parameters relating to water condition. Until the Forest Service can demonstrate compliance with the Clean Water Act, NFMA, and PACFISH and INFISH, the agency’s analysis is incomplete at best. Any decision to implement the Easy project without this analysis is arbitrary and capricious.</p>	<p align="center">9-36</p>
<p>2. The Easy DEIS is inadequate because it fails to provide sufficient information regarding the impact of roads.</p>	
<p>The Easy DEIS fails to adequately disclose the impact of the proposed road construction. Although the MNF plans to decommission temporary roads that are constructed as part of this sale, the proposed temporary roads will several impacts on the environment including sedimentation, compaction, fragmentation, and soil displacement. These impacts must be disclosed in the Easy DEIS. 40 C.F.R. § 1500.1(b).</p>	<p align="center">9-37</p>
<p>3. The Easy DEIS is inadequate because it fails to provide sufficient information regarding the impact of the proposed plan amendment</p>	
<p>Although each of the action alternatives propose to amend the Forest Plan (<i>Easy DEIS</i> 51, 56, 60), the MNF has failed to disclose the environmental impact of harvesting designating existing DOG/ROG as general forest (MA-1). Under the general forest designation, the areas will be managed to emphasize timber production on a sustained yield basis while providing for other resources and values. <i>MNF LRMP</i>. Managing these areas as general forest instead of old growth will have an impact on the soils, watersheds, and wildlife of the Forest; impacts that were not considered when the Plan was adopted. The Easy DEIS should, therefore, disclose the environmental impact of this management change. 40 C.F.R. § 1500.1(b).</p>	<p align="center">9-38</p>
<p>4. The Easy DEIS is inadequate because it fails to provide sufficient information regarding effects on wildlife.</p>	
<p>The Forest Service completely failed to survey for Management Indicator Species, Sensitive species, or Threatened and Endangered species. As discussed in the NFMA viability section <i>infra</i>, the Forest Service failed to provide enough information to determine whether the project “maintain[s] species viability” as required by NFMA. 36 C.F.R. § 219.19. Again, one of NEPA’s goals is provide the public with enough information to be able to challenge the agency’s action. <i>Idaho Sporting Congress v. Thomas</i>, 137 F.3d at 1151. The Forest Service fails to provide sufficient information regarding terrestrial wildlife species.</p>	<p align="center">9-39</p>
<p>5. The Easy DEIS is inadequate because it fails to provide sufficient information regarding effects from grazing.</p>	
<p>Although the DEIS provides information regarding the Easy Salvage Sale’s impact on grazing, the Forest Service fails to fully analyze the effect of <i>grazing</i> on the on the pre- and post-salvage landscape. The DEIS does not discuss impacts of grazing because no grazing will be allowed for at least two years. <i>Easy DEIS</i>, 29. NEDC commends the Forest Service for acknowledging that cows can affect the post-salvage landscape but question why two years is</p>	<p align="center">9-40</p>

<p>Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment</p>	<p>Response #</p>
<p>the appropriate time to withdraw the land from grazing. Beschta et al. (1995) state that grazing on post-fire landscapes is inappropriate because the animals increase compaction and erosion of already sensitive soils, as well as the spread of invasive weeds. The Forest Service fails to analyze the effects of grazing, even though the effects are indeed “foreseeable future actions.” 40 C.F.R. § 1508.7. In the short term (at least 5 years), grazing must be eliminated to allow recovery of plants, soil, and to protect water quality. In the long term, grazing must be eliminated if the agency is sincere about re-establishing natural fire regimes which depend on natural fuel profiles, which are seriously adversely affected by livestock grazing.</p> <p>6. The Easy DEIS is inadequate because it fails to provide sufficient information regarding effects to roadless areas.</p> <p>Contrary to the statement in the DEIS, there are roadless areas in the Easy project area. <i>Easy DEIS</i>, 365. One is located in the portion of the project area, near the designated old growth, and the other is near the replacement old growth. <i>Easy DEIS</i> Fig. 27. Roadless areas greater than about 1,000 acres, whether inventoried or not, provide valuable natural resource attributes that must be protected. These include: water quality; healthy soils; fish and wildlife refugia; centers for dispersal, recolonization, and restoration of adjacent disturbed sites; reference sites for research; non-motorized, low-impact recreation; carbon sequestration; refugia that are relatively less at-risk from noxious weeds and other invasive non-native species, and many other significant values. <i>See</i> Forest Service Roadless Area Conservation FEIS, November 2000. This project involves activities in such unroaded areas. The NEPA analysis for this project does not adequately discuss the impacts of proposed activities on the many significant values of roadless areas.</p> <p>Recent scientific literature emphasizes the importance of unroaded areas greater than 1,000 acres as strongholds for the production of fish and other aquatic and terrestrial species, as well as sources of high quality water. Henjum, Karr, Bottom, Perry, Bednarz, Wright, Beckwitt and Beckwitt 1994; Interim Protection for Late-Successional Forests, Fisheries, and Watersheds: National Forests East of the Cascade Crest, Oregon and Washington- A Report to the Congress and President of the United States. Rhodes, McCullough, and Espinosa 1994; A Coarse Screening Process for Potential Application in ESA Consultations- Technical Report 94-4. Prepared for National Marine Fisheries Service.</p> <p>NEPA analysis must acknowledge and discuss impacts on roadless areas. The NEPA process can be used to validate roadless area boundaries. Currently, only arbitrary Forest Service designation, outside of any public appeal opportunity, set these boundaries. An action does not have to occur inside a RARE II boundary to affect a roadless area. <i>California v. Block</i> held that actions affecting wilderness status could not rely on RARE II. RARE II did not comply with NEPA and “was inadequate to support the non-wilderness designations of the disputed areas and therefore violated NEPA.” 690 F.2d 753, 767 (9th Cir. 1982). In the present case, the Forest Service is relying on an illegitimate RARE II boundary of this roadless area to support its contention that logging may occur in de facto roadless land without affecting future wilderness designation. Further, the Forest Service Washington Office ruled in its appeal decision of the Idaho Panhandle Forest Plan Appeal that roadless areas must be evaluated individually when logging is to occur in them.</p>	<p>9-41</p>
<p>The agency must consider the significant environmental impacts of proposed activities in roadless areas. The agency should consider the effects of this project on uninventoried roadless areas like the Rogue River National Forest considered unroaded areas in the recent Mill Creek DEIS. (Note: Although the Rogue River National Forest should be commended for considering uninventoried roadless areas in an EIS and for developing an alternative that deferred entry into unroaded and old-growth areas, they did not adequately analyze the impact of the proposed project on the values embodied by the uninventoried roadless areas.)</p>	<p>9-42</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>roadless areas.)</p> <p>While the Forest Service does not have an explicit legal obligation to protect these uninventoried areas, the agency does have a legal obligation pursuant to NEPA to describe the environmental consequences of logging and road building in ecologically significant areas. The Forest Service Roadless EIS described several qualities of roadless areas that are not limited to those over 5,000 acres and that happen to have been inventoried in the RARE process. The Forest Service should not rely on the arbitrary roadless boundaries drawn as part of RARE. To fulfill NEPA’s mandate, the agency must look at the ecological limits of roadlessness.</p> <p align="center">7. The Easy DEIS fails to adequately consider the cumulative environmental impacts of the proposed project and past, present, and future Forest Service and Private activities.</p> <p>The Easy DEIS fails to identify and evaluate the cumulative impacts of the project. Cumulative impacts are defined as “the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions” on both public and private lands. 40 C.F.R. § 1508.7. The Forest Service fails to discuss the effects of concurrent or future projects occurring near the project area. The agency only mentions small proposed rehabilitation projects located in the project. <i>Easy DEIS</i>. The DEIS also fails to indicate the severity or consequences that past management actions have on the project area environment. The DEIS does not assess the cumulative effects of the Monument or Flagtail fires that burned during the same fire season and in the same vicinity. Nor does the EIS include a discussion of proposed salvage harvest in those planning areas. The DEIS does not indicate whether the Forest Service is planning future green timber sales in or near the project area. The Forest Service on the MNF did not assess the cumulative impacts of the Easy Salvage Sale. Because there is no indication that the agency assessed the nature of the cumulative impacts to species, soil, and aquatic resources within the planning area, the Easy Salvage Sale DEIS must be withdrawn. <u>Id.</u></p>	<p align="center">9-43</p>
<p>Examples of failure to adequately assess cumulative impacts include:</p> <p>a) In the vegetation discussion, the Forest Service fails to discuss the effects of nearby fires and future green timber sale projects on forest stands and old forest structures. The agency also fails to assess the CE that the fire and fire suppression have in conjunction with the proposed actions. In addition, the Forest violates NEPA in failing to assess the environmental consequences of the roadside salvage.</p>	<p align="center">9-44</p>
<p>b) In the terrestrial wildlife discussion, the Forest Service fails to provide information or adequately analyze and disclose potential impacts to Sensitive and Management Indicator Species (MIS), and fails to ensure their viability, in violation of NFMA. 36 C.F.R. § 219.19. The cursory discussion of cumulative effects in the <i>DEIS</i> hardly constitutes the “hard look” and substantive analysis of cumulative effects that is required by NEPA. <i>Neighbors of Cuddy Mountain v. United States Forest Serv.</i>, 137 F.3d at 1380; <i>Easy DEIS</i>, 117-126. It cannot form the basis for a viability determination for wildlife species of concern. No mention is made of the acreage or habitat affected by the proposed action as well as other past, present, and foreseeable future actions. Nor does it provide any information in population trends or viability.</p>	<p align="center">9-45</p>
<p>d) In the watershed discussion, the Forest Service finds no cumulative impacts to the watershed because the agency fails to even mention concurrent federal or private land projects. The agency makes the same brief boiler plate statement for all three action alternatives, illustrating an obvious failure to analyze cumulative impacts. <i>Easy DEIS</i>, 228-229, 231, 233. Not only does the agency fail to analyze cumulative impacts, it goes so far as pointing downriver to show that legacy impacts are worse over there. That may be true, but it does not relieve the Forest of its duty to analyze</p>	<p align="center">9-46</p>

Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment	Response #
<p>the past, present, and future effects of activity in the project area. If anything, nearby degradation present a red flag for the Forest, alerting it to the potential harm salvage may cause in the aggregate. NEPA simply does not allow the agency to forgo a cumulative impacts analysis. 40 C.F.R. § 1502.16, 1508.7.</p>	
<p>e) In the soils discussion, the MNF fails to consider the impact all of the past, present and future impacts in combination with the impact of the proposed action. The cumulative impact analysis of the project on the Forest’s soil fails to consider the impacts of past, present and future green timber harvest, road building, fire suppression, salvage logging, and grazing. Moreover, the Easy DEIS fails to consider impacts that exist outside of the fire perimeter on both public and private land.</p>	9-47
<p>f) Roads discussion is lacking in the Easy DEIS. The MNF fails to consider the impact of proposed road activities (e.g., road construction, road decommissioning, temporary road construction) in combination with all past, present and future road activities. The Easy DEIS acknowledges extensive road degradation, but fails to consider cumulative impacts upon the watershed that existing road conditions would have. <i>Easy DEIS</i>, 228-229, 231, 233</p>	9-48
<p>g) The <i>Easy DEIS</i> must analyze the direct, indirect, and cumulative impacts associated suppression and emergency rehabilitation. This includes approximately 22.6 miles of fire line built with dozers for fire suppression. <i>Easy DEIS</i>, 4. NEDC contends that the impacts associated with fire suppression efforts and emergency rehabilitation activities were on par with the effects the wildfire itself. The destruction of thousands of acres of forest from burnout operations, fire lines, chemical retardants, and other suppression actions must be included as cumulative effects. The <i>DEIS</i> must analyze the direct, indirect, and cumulative impacts associated with these actions in combination with other past, present, and reasonably foreseeable future actions.</p>	9-49
<p>h) Roads did cause, are causing, and will continue to cause severe impacts. Specifically, they cause “sedimentation to filter into adjacent streams.” <i>Easy DEIS</i>. Before any salvage action is taken, the MNF must establish a sediment budget to determine cumulative impacts from the roads, road construction, and road maintenance. Oregon Administrative rules mandate that “no more than 10% natural cumulative increase in natural streams turbidities shall be allowed.” OAR Ch. 340 – Division 41: Statewide Water Quality Management Plan Standards and Treatment Criteria. Lack of data and analysis can to ensure compliance with state water quality standards is unacceptable. The Forest must ensure its road re-construction and opening activity will not cumulatively effect water. This means the Forest must analyze past, present, and future road maintenance to ensure water quality can in fact be met.</p>	9-50
<p>i) In its discussion of the proposed Forest Plan amendment, the Easy DEIS fails to consider the cumulative impacts of re-designating old growth areas (MA-13) as general forest (MA-1). Areas within the MA-1 designation are managed “to emphasize timber production on a sustained yield basis while providing for other resources and values.” <i>Malheur LRMP</i> IV-50. The Easy DEIS fails examine the cumulative impact this management change will have when combined with all past, future and reasonably foreseeable future impacts (e.g., road building, fire suppression, salvage logging, future timber harvest). For example, because the MNF is proposing to manage current DOG/ROG as general forest future timber harvests are not only reasonably foreseeable but inevitable. This fact notwithstanding, the Easy DEIS fails to consider the cumulative impact of future activities. Further, the agency fails to acknowledge the cumulative impact of “insignificant” plan</p>	9-51

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>amendments made in nearly every other proposed action. As the Deschutes National Forest amends the DLRMP piece-by-piece, the cumulative effect will be a completely different Forest Plan as a whole.</p> <p>In each area of discussion throughout the DEIS, the Forest Service fails to mention any concurrent federal or private project or acknowledge any cumulative effect whatsoever. The brief attention given to the cumulative impacts of the Easy Salvage Sale is inadequate and fails to meet NEPA’s requirement for high quality scientific analysis that would satisfy the “hard look” standard. <u>Robertson v. Methow Valley Citizens Council</u>, 490 U.S. 332, 353 (1989); <u>Blue Mountains Biodiversity Project v. Blackwood</u>, 161 F.3d 1208 (9th Cir. 1998) <i>cert. denied</i>, <u>Ochoco Lumber Co. v. Blue Mountains Biodiversity Project</u>, 119 S.Ct. 2337 (1999). Failure to conduct a cumulative impacts analysis is fatal to a project. <u>Neighbors of Cuddy Mountain v. United States Forest Serv.</u>, 137 F.3d 1372 (9th Cir. 1998); <u>Idaho Sporting Congress v. Thomas</u>, 137 F.3d 1146 (9th Cir. 1998); <u>Muckleshoot Indian Tribe v. U.S. Forest Serv.</u>, 177 F.3d 800 (9th Cir. 1999).</p>	<p align="center">9-52</p>
<p>III NATIONAL FOREST MANAGEMENT ACT</p> <p>The National Forest Management Act (NFMA) provides the MNF with the responsibility to ensure resource conservation management that will meet the requirements of out people in perpetuity. 16 § U.S.C. 1600(6). Even though NFMA allows salvage sales in management areas not suited for timber harvest (NFMA §1604 (k)), the Act directs land managers to avoid harvesting areas if it would cause irreversible damage to the watershed, soil, or slope conditions. Moreover, the NFMA and the Malheur LRMP require the MNF to ensure 100% species viability. 16 § U.S.C. 1604; 36 C.F.R. § 219.19; MNF LRMP Amendment 2. Although the Forest Service may harvest for salvage purposes, the timber harvest is not exempt from meeting environmental considerations. Thus, the salvage timber harvest must not irreversibly damage the soil, slope, or watershed.</p> <p>The Easy Salvage Sale DEIS fails to provide required assurances and environmental considerations mandated by the National Forest Management Act (LRMP). National Forest Management Act of 1976, 16. U.S.C. §§ 1600-1614. The following NFMA mandates are not met by the Easy DEIS:</p>	<p align="center">9-53</p>
<p>A. Forest management decisions were not made in light of multiple uses such as recreation, watershed, wildlife, and fish. 16 U.S.C. § 1604(e)(1)-(2).</p> <p>The proposed action removes a significant portion of the forest in an area that is already impaired by fire and land management activity. For example, the salvage alternatives fail to consider the proposed actions effect on road densities, poor stream health, eroded banks, 303(d) water quality limited streams, fire dependant wildlife, and sensitive soils <i>during</i> the activity. <i>Post</i> harvest activity mitigation cannot substitute as the effects analysis to these vital resources. Harvest impacts to the majority of multiple uses are largely ignored, as are the impacts the Easy fire had on the forest ecosystem. NFMA’s precautionary principle requires that decisions to harvest be made <i>in light of</i> multiple uses, not in spite of them. The following multiple uses were not adequately considered in the Easy DEIS:</p>	
<p>1. Recreation</p> <p>Recreation will be significantly impaired. For example, loss of the visual quality from remnant stumps, skid trails, and a logged landscape will impede the ability to recreate. Recreation, scenic and aesthetic values are important ones that should be carefully considered in the Easy area. Recreation is a driving force for the local, state, and regional economy and is closely tied to the above values. Also, quality of life issues are important to local residents and are also closely tied to those values. Throughout the fire area, the scenic vistas, both fore, middle, and background, should be retained in a natural state. NEDC expects that the driving experience for Forest visitors be pleasant and scenic. More and more, recreationists want to</p>	<p align="center">9-55</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment</p>	<p align="center">Response #</p>
<p>see not just natural vistas, but also a natural ecosystem in the scientific sense. What they do not want to see are logged areas. Keep the vistas natural.</p>	
<p>2. Wildlife</p>	
<p>a Old Growth Dependent Species</p>	
<p>Post-fire dependent species requiring old growth will be impaired by massive salvage harvest. <i>Easy DEIS</i> 129, 135, 137, 141. The MNF arbitrarily determines that despite the fact that old growth habitat in the Malheur is limited, there will be no cumulative impacts of removing protected DOG/ROG. The reasoning for this, the Forest incorrectly contends, is that post-fire DOG/ROG no longer function as old growth. <i>DEIS</i> 119. Such a general statement is contrary to the MNF’s own findings and is unsubstantiated by science. Moreover, the courts warn that, “‘general’ statements about ‘possible’ effects and ‘some risk’ do not constitute a hard look absent justification.” <i>Blue Mountain Biodiversity v. Blackwood</i>, 161 F.3d 1208 at 1213; <i>Neighbors of Cuddy Mountain v. United States Forest Service</i>, 137 F.2d 1372, 1380.</p> <p>To salvage protected old growth contravenes NFMA multiple use directive and MLRMP directives which aim to promote old growth structural stages in the MNF. The Easy DEIS also concedes that “since 1993, the Forest is directed to “conduct timber sales in a manner that moves stands toward OFSM and OFSS stages, and timber sales planned since that time should not have contributed to the loss of mature old growth.” <i>Easy DEIS</i> 119. Yet, a the MNF habitually ignores these mandates, as is illustrated by the gross number of DOG/ROG harvested since that time. Easy further illustrates the inability of the MNF to follow a multiple use approach to land management – that enhances old growth rather than ripping it out.</p>	<p align="center">9-56</p>
<p>b. Primary Cavity Excavators</p>	
<p>Primary cavity excavators (PCE) will be impaired by any salvage activity, especially logging in the DOG/ROG. This group of MIS species represents the most glaring example of impaired habitat and failure to consider multiple uses when planning timber sales. PCEs require specific snag habitats for their continued survival. For example, snag size, density, and location matter to these habitat specific species. As mentioned in the Easy DEIS, habitat in <i>non-harvested</i> areas is well in excess of Forest Plan Standards. However, current scientific research contends that even those places may not ensure species viability because (1) the Forest Plan snag standards are inadequate, and (2) without grouping snags in clumps, the PCEs will not utilize the tree.</p> <p>The most best available science requires the Forest to reconsider its snag retention standards, or risk losing viable populations. The MNF completely ignores contrary science that it references, and instead, makes the incorrect assumption that Forest Plan snag standards are adequate to maintain viable PCE populations. Considering the fact that none of the action alternatives will meet an already inadequate Forest Plan standards – the Forest must reconsider its proposed actions to ensure multiple uses are considered in full and to ensure species viability of 65% of all management indicator species in the Malheur. Furthermore, Amendment 2 mandates the MNF to use the “best available science” to ensure wildlife standards are met. Failure to use the best available science to ensure adequate habitat is arbitrary and capricious.</p>	<p align="center">9-57</p>
<p>3. Watershed Health</p>	
<p>Soil health and water quality will be significantly impaired by the salvage activity. Water quality will be impaired, especially in down stream areas that are already 303(d) listed. In a race to cut trees while they have economic value, the Forest tosses its duty</p>	<p align="center">9-58</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>to ensure multiple use out the window. The Easy DEIS fails to analyze and consider imminent harm caused by salvage logging to the watershed.</p> <p>B. The Easy DEIS fails to “Provide for diversity of plant and animal communities based on suitability and capability of specific land area in order to meet overall multiple-use objectives.” 16 U.S.C. § 1604 (g)(B).</p> <p>While admitting that impacts will occur to Sensitive and MIS species such as the three toed and black-backed woodpeckers, northern goshawk, and countless species represented by the MIS barometer, the Easy DEIS fails to provide any analysis or data for populations of these species to support the conclusion that viability of these species will be maintained and that the project is not likely to result in a trend toward federal listing or loss in viability of species as required by NFMA and the MLRMP. Instead, the DEIS relies on designating new Dedicated and Replacement Old Growth Habitat to fix conditions that: (1) cannot be ameliorated through salvage logging; (2) cannot by itself remedy habitat loss; and (3) cannot replace the value post-fire Old Growth habitat, but only supplement it.</p> <p>A <i>future</i> Old Growth stand is beneficial to species, but it cannot replace the values and wildlife needs of today.</p> <p>The 1982 regulations implementing NFMA require that “Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area.” 36 C.F.R. § 219.19. Further, the Ninth Circuit recently held “using old growth habitat as a proxy for population monitoring of the management indicator species was arbitrary and capricious.” <i>Idaho Sporting Congress, Inc. v. Rittenhouse</i>, 305 F.3d 957, 974 (9th Cir. 2002). The Forest Service’s use of habitat as a proxy of for management indicator species surveys does not ensure species viability as required by NFMA. <i>Id.</i>; 36 C.F.R. § 219.19.</p> <p>Despite this clear direction contained in the LRMP, as well as direction provided by NFMA itself, the DEIS fails provide data on population trends for MIS or sensitive species impacted by this project. <i>MLRMP</i> Fish and Wildlife Management Objectives IV-17; Instead, the MNF admits that “species populations and distributions are not discussed in depth, as little quantitative data is available for most species.” <i>Easy DEIS</i>, 108. It is not clear that the Malheur National Forest has even conducted systematic species surveys at the Forest level to estimate population numbers or trends for most MIS species in the Forest, including those impacted by the proposed project.</p> <p>Failure to conduct surveys for the project logically implies that the Forest Service did not and cannot adequately evaluate the impacts to sensitive and MIS species. Therefore, the Easy DEIS fails to demonstrate that the project will not threaten the viability of these species, in violation of the NFMA (36 C.F.R. § 219.19), the Malheur National Forest LRMP, the Endangered Species Act and its implementing regulations (16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.12(g)(3)), and NEPA (40 C.F.R. §§ 1508; 1502.16, 1508.25(a)).</p> <p>In addition, surveys for MIS species were based on “suitable habitat.” The Easy DEIS admits that “effects on habitats are discussed with the assumption that <i>if appropriate habitat is available</i> for a species, then that species occupies or could occupy the habitat.” <i>Easy DEIS</i>, 108,109. This is not sufficient. Obviously, the Forest Service is not required to look for fish out of water. However, a thorough survey of each proposed unit is necessary for reliable scientific information to support the conclusions reached in the DEIS. Without surveying each unit, one could not know if suitable habitat exists</p>	<p align="center">9-59</p>
<p>The agency has failed to maintain viable populations of cavity excavator and woodpecker species MIS.¹ When drafting the Malheur LRMP in 1990, the Forest Service created a forest-wide standard of retaining 2.39 snags per acre in order to meet the needs of</p>	<p align="center">9-60</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment</p>	<p align="center">Response #</p>
<p>the suite of primary cavity excavators. However, due in part to the growing scientific information since 1990 that indicated that this retention standard would be unlikely to result in viable populations of these species, the Regional Forester implemented “Regional Forester’s Eastside Forest Plans Amendment #2” in 1995, which directs that snags shall be maintained at 100 percent potential population levels of primary cavity excavators. Consequently, as of 1995, the Forest Service acknowledged that the forest plan standard of retaining 2.39 snags/acre were inadequate to maintain viable populations of MIS such as primary cavity excavators and pileated and northern three-toed woodpeckers.</p> <p>Because the Malheur National Forest is currently without a sufficient snag retention standard that would maintain 100% potential population levels on the forest, the Forest Service has turned to <i>DecAID, the Decayed Wood Advisor for Managing Snags, Partially Dead Trees, and Down Wood for Biodiversity in Forests of Washington and Oregon</i> (Mellen et al. 2003).² However, the utilization of DecAID is inappropriate for the Easy project for several reasons. First, as the Forest Service and Mellen et al. admit, DecAID is simply a literature review of existing science regarding snag habitat and the species that use it. However, the Forest Service rejects the findings of the individual studies that comprise the literature review, usually in favor of the lower numbers of snags generated by the DecAID program.</p> <p>Second, the authors of DecAID very clearly state that DecAID is inappropriate for use in post-fire ecosystems because there is a paucity of information on these types of ecosystems and the associated use by cavity excavators. The record for the Easy project indicates that the Forest Service is well aware of this limitation, but chose to use DecAID anyway.</p> <p>Third, DecAID cautions against extrapolating the meager post-fire data in DecAID for use in site-specific situations, a recommendation that was also dismissed by the Forest Service: the agency is basing its conclusions on one post-fire study from Idaho, where the conditions and species at issue are admittedly different from those in the Easy planning area.</p> <p>Fourth, the Forest Service is applying DecAID at the wrong scale. DecAID is a planning tool, such as for basin- or forest-wide management plans. It is not intended for site-specific projects, and the authors of DecAID warned against this misuse.</p> <p>Perhaps most importantly, DecAID does not determine population viability, which is what the law requires. The authors state that “DecAID is NOT...a wildlife population simulator or analysis of wildlife population viability.” Instead, the numbers from DecAID relate to “tolerance,” which is merely an estimate of “assurance of use” or “the likelihood that individuals in a population of a selected species will use an area given a specified snag size and density.” There is nothing in NFMA, its implementing regulations, or the case law that would allow the Forest Service to use a model that does not meet the needs of the law.</p> <p>The “assurance of use” concept is similarly flawed.³ The USFS has an obligation to insure that viable populations of species exist throughout the planning area, not that MIS exist at certain tolerance levels. Moreover, the Forest Service has not demonstrated any correlation between tolerance level and species viability, so while the tolerance level concept may be interesting, it has no relevance to whether or not the Forest Service has complied with NFMA.</p> <p>Likewise, the “tolerance level” concept does not maintain 100% population potential or viable populations. There is no relationship between tolerance and viable populations or 100% population potential. Therefore, this is an inappropriate measure of whether the Forest Service is meeting its NFMA obligations.</p> <p>There are several additional factors that render it inappropriate for use in the Monument project. One, the bottom line is that the numbers generated by DecAID are still</p>	<p align="center">9-61</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>well below what the relevant science recommends for cavity excavators. Two, the model does not address several MIS and cavity excavators that are found in the planning area. Three, the Forest Service has “averaged” snag retention levels across the <i>landscape</i> (which makes sense, since DecAID is a landscape planning tool), not within the <i>planning area</i>: “when snag numbers from salvage units and unsalvaged areas are combined and averaged over all forest-capable acres, snag levels would support most primary cavity excavators at the 30% to 50% tolerance or assurance level.” As stated previously, even a 50% tolerance level is insufficient to meet the requirements of NFMA.</p> <p>It is clear from the foregoing analysis that the Forest Service has failed to meet its legal obligations to maintain viable populations of primary cavity excavators, including pileated, black backed, and northern three-toed woodpeckers. There are no surveys for these species, there is insufficient suitable habitat in the planning area (and what habitat does exist will be drastically reduced if logging takes place), and the habitat model selected by the Forest Service – DecAID – is inappropriate for the proposed project.</p>	
<p>Although fires can cause mortality of individual animals, in general, wildlife populations respond positively to fires and in fact are attracted to burns for the vibrant flush of nutrients and new vegetation, and the pulse of new snags and logs, that result from fire. Gorte 1995. The MNF recognizes the fact that fire can increase some wildlife habitats. <i>Easy DEIS</i>, 8. Cavity-nesting species are prime beneficiaries of fires, and 62 species of birds and mammals use snags, broken-topped, diseased or otherwise "defective" trees for roosting, denning, foraging, or other life functions. Thomas, et al. 1979. Woodpeckers are an especially important species, for they excavate cavities essential for non-excavating species such as bats and squirrels; however, recent studies indicate that current management guidelines for maintaining snag density may be too low to provide for desired population levels of woodpeckers because the guidelines only focus on their nesting requirements. Bate et al. 1999; Bull et al. 1997. In fact, “snag levels are now greatly elevated, maximizing habitat for many woodpecker species; black-backed woodpeckers in particular respond positively to post-fire habitats.” <i>Easy DEIS</i>, 129.</p>	<p align="center">9-62</p>
<p>Larger-diameter trees (e.g. greater than 20 inches DBH) are not only more utilized by cavity-nesting wildlife, but they also stand longer and have greater longevity as downed logs than smaller-diameter trees. Morrison and Raphael 1993; Bull, et al. 1997. Large-diameter trees enable bigger cavities for larger-sized animals, and the deep furrows of their bark provide greater food supply of insects. Cline et al. 1980; Bate, et al. 1999. However, salvage logging primarily targets larger-diameter trees because these comprise the most commercial value for logging companies. In addition to snags, large-diameter logs are utilized for feeding, shelter, and reproduction by a number of mammals, reptiles, amphibians, and insects. Brown et al. 2001. Additionally, the Forest Service’s discussion of snag retention is focused on cavity excavators and fails to address the many other values (structure, function, and process) of snags and decayed wood as presented in Rose, C.L., Marcot, B.G., Mellen, T.K., Ohmann, J.L., Waddell, K.L., Lindely, D.L., and B. Schrieber. 2001. <u>Decaying Wood in Pacific Northwest Forests: Concepts and Tools for Habitat Management</u>, Chapter 24 in <u>Wildlife-Habitat Relationships in Oregon and Washington</u> (Johnson, D. H. and T. A. O’Neil. OSU Press. 2001)</p>	<p align="center">9-63</p>
<p>The density and distribution of snags and logs in Douglas-fir forest ecosystems greatly influences the density and distribution of snag/log-dependent wildlife. Cline et al. 1980. Empirical studies have found that the range of snag diameters, and average length and frequency of downed logs in streams was greatest in unmanaged old-growth stands compared to salvage-logged areas. Sedel et al. 1988; Cline et al. 1980. In fact, forest managers are finding it difficult to meet the number, density, size, and condition of snags required by their Forest Plans due to past salvage logging and old-growth clearcutting that removed snags. Bate et al. 1999; Parks et al. 1999. Far from being a "wasted resource," large-diameter snags and logs play critical structural and functional roles in maintaining healthy, diverse wildlife populations. Harmon et al. 1986; Maser and Trappe 1984. Indeed, an ecologist could argue</p>	<p align="center">9-64</p>
<p>The density and distribution of snags and logs in Douglas-fir forest ecosystems greatly influences the density and distribution of snag/log-dependent wildlife. Cline et al. 1980. Empirical studies have found that the range of snag diameters, and average length and frequency of downed logs in streams was greatest in unmanaged old-growth stands compared to salvage-logged areas. Sedel et al. 1988; Cline et al. 1980. In fact, forest managers are finding it difficult to meet the number, density, size, and condition of snags required by their Forest Plans due to past salvage logging and old-growth clearcutting that removed snags. Bate et al. 1999; Parks et al. 1999. Far from being a "wasted resource," large-diameter snags and logs play critical structural and functional roles in maintaining healthy, diverse wildlife populations. Harmon et al. 1986; Maser and Trappe 1984. Indeed, an ecologist could argue</p>	<p align="center">9-65</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>that a dead tree sustains more wildlife than a live tree.</p>	
<p>Even though the Easy DEIS recognizes fire’s natural role in the ecosystem, it fails to analyze and consider fire’s necessary function of promoting plant and animal diversity. Post fire ecosystems are important in maintaining biodiversity of a healthy forest. This stage of forest development is required by fire dependent species such as aspen and wood peckers. The proposed action fails to consider this essential life stage of western forest ecology.</p>	<p align="center">9-66</p>
<p>Even if it were demonstrated that the risks associated with a possible re-burn justify removing some of the trees killed by the Easy Fire, the trees appropriately removed for this reason would be the smaller trees most likely to ignite and to carry a fire, not the larger trees typically salvage logged to capture economic value. Larger trees provide critical habitat for many species of wildlife, as well as coarse woody debris essential to long-term soil productivity, aquatic habitat quality, and natural post-fire recovery. Beschta et al. 1995; Henjum et al. 1994. In addition, large trees are the least flammable fuels and are the most important for recovery processes within burned areas. Franklin et al. 2001; Beschta et al. 1995; Perry & Amaranthus 1997.</p>	<p align="center">9-67</p>
<p>Finally, there is no evidence to support the Forest Service’s claim that proposed logging will maintain habitat capability for these species, or accelerate the development of large, old trees, and mature forest conditions.</p>	<p align="center">9-68</p>
<p>C. The Proposed Salvage Causes Irreversible Damage</p>	
<p>The Easy DEIS fails to “insure that timber will be harvested from National Forest System Lands only where – soil, slope, or other watershed conditions will not be irreversibly damaged.” 16 U.S.C. § 1604 (g)(3)(E)(i).</p>	
<p>1. Irreversible Damage to Watershed Conditions</p>	
<p>Salvage logging in Designated Old Growth causes irreversible watershed damage, in violation of NFMA. The proposed activities harvest Old Growth from an impaired watershed, thereby further decreasing structural diversity, harming essential wildlife habitat, and impairing water quality.</p>	<p align="center">9-69</p>
<p>We commend the MNF for adding Replacement Old Growth stands to the Forest. However, the new designation cannot replace the DOG but should merely supplement it while the forest regenerates. To act otherwise is unreasonable risk to watershed health. The MNF admits that “replacement” stands “may not have all the characteristics of old growth, but are managed to achieve those characteristics.” <i>Easy DEIS</i>, 112. Since burnt Old Growth retains its structure, and will likely regenerate before the “Replacement Old Growth” resembles an Old Growth forest, it is unreasonable to assume that ROG can immediately replace necessary watershed functions provided by an Old Growth forest. Replacing Designated Old Growth with areas that are simply not Old Growth, while logging the strongest portions of the watershed harms the structural integrity of the ecosystem. Following this management practice means that all areas of Designated Old Growth are vulnerable to logging post fire, and thus are not really a protected under the current management scheme. Allowing the MNF to harvest DOG means these stands will be logged until there are no more areas retaining these characteristics left – only Re-designated areas that will have old growth “some day.” This is a significant impact that violates NFMA. 16 U.S.C. § 1604 (g)(3)(E)(i).</p>	<p align="center">9-70</p>
<p>2. Irreversible Damage to Soil</p>	

Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment	Response #
<p>instead relying on “representative sampling.” This is inadequate. Without specifically analyzing each unit, the Forest Service cannot know potential impacts and cannot make a determination that the impacts are insignificant.</p> <p>Thus, the DEIS fails to ensure that each timber harvest unit will comply with LRMP standards and guidelines and other applicable laws. 16 U.S.C § 1604(i); 36 C.F.R. § 219.10(e). The DEIS also fails to analyze the effects from the proposed logging on long term organic debris input into soil, in violation of NFMA, NEPA, and the Malheur National Forest LRMP.</p> <p>Failure to address the direct, indirect, and cumulative impacts associated with the proposed activities results in the Forest Service’s inability to ensure that timber will be harvested only where soils will not be irreversibly damaged. In addition, the DEIS fails to identify and disclose technology and mitigation measures necessary to prevent irreversible damage to soils and site productivity from the proposed activities. Because the DEIS does not adequately analyze impacts on soils and long-term productivity, it fails to ensure compliance with the LRMP for the Malheur National Forest, which requires the Forest to maintain soil productivity. <i>MLRMP</i> Goal 30, IV-3.</p>	9-73
<p>3. Irreversible Damage to Slopes</p> <p>The Forest Service must closely analyze and take a hard look at the impacts of the proposed action to this impaired watershed’s slopes. The Easy Fire area is impaired due to high road density, fire, and past timber harvest. <i>Easy DEIS</i>. Yet, the MNF asserts that the recommended actions will <i>avoid</i> unstable lands, avoid constructing new roads, and avoid erosion. Proposing to harvest timber in an impaired watershed with eroded roads and cut-banks is not avoiding significant impacts to slope by any stretch of the imagination.</p>	9-74
<p>The DEIS must rigorously discuss and analyze the numerous known adverse environmental impacts that have been documented with respect to post-fire logging. One of the most important revelations in forest science over the past several decades has been recognition of the importance of standing dead trees and logs in maintaining ecosystem function (e.g. Lindenmayer and Franklin 2002 for review). The critical importance of dead trees challenges the traditional forestry model that treats these biological legacies simply as wood fiber, fire hazards, and mechanical impediments. To move away from outdated approaches, the Forest Service must provide a sound scientific basis for post-fire management actions, particularly those (i.e. salvage logging) that have the most potential to adversely and cumulatively affect water quality, wildlife, soils, and other key biological resources. Aber et al. 2000.</p>	9-75
<p>The most comprehensive review of the environmental effects of post-fire logging was prepared by McIver & Starr (2000). As noted <i>supra</i>, the authors, from the Forest Service’s Pacific Northwest Research Station, found no scientific evidence supporting the claim that removal of dead trees will decrease the intensity of future fire on a site (referred to as the “reburn hypothesis”). Instead, recent scientific research advises limited activity in sensitive postfire areas.</p>	9-76
<p>In their review, McIver & Starr (2000) highlight a the Beschta Report (1995). The eight authors of the Beschta report collectively represent many decades of scientific research and land management experience, and as such their recommendations are particularly significant in light of the paucity of empirical, peer-reviewed research on the effects of post-fire logging. Two primary findings of the Beschta Report are that: (1) there is no ecological need for immediate intervention after fire, and (2) post-fire logging is likely to result in significant adverse impacts on the environment:</p>	9-77

Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment	Response #
seedlings under droughty conditions characteristic of much of the Easy area. Perry 1994.	
<p>Third, in addition to mitigating environmental extremes, snags and logs provide enriched soil micro-sites for seedling establishment, in part because they are centers of biological activity for mycorrhizal fungi and nitrogen-fixing bacteria (Maser & Trappe 1984), reduce erosion by acting as physical barriers to soil movement (Franklin et al. 1985), provide cover for small mammals that disseminate mycorrhizal spores into disturbed areas (Maser et al. 1978, Tallmon & Mills 1994), and exhibit higher water-holding capacity that aids seedling survival during drought (Harvey et al. 1989, Amaranthus et al. 1989a). The DEIS must incorporate and analyze these considerations.</p>	9-80
<p>Fourth, the DEIS must also disclose available scientific evidence which refutes the notion that salvage logging would aid in reforestation by inhibiting resprouting hardwoods, which can compete with conifer seedlings, such as Grifantini (1990), Grifantini et al. (1992) and Stuart et al. (1993) (more vigorous hardwood regeneration in their post-fire logged and burned treatments, relative to post-fire unlogged controls; and that the higher cover of hardwoods in logged areas was found to inhibit establishment and growth of Douglas-fir seedlings).</p>	9-81
<p>The DEIS must disclose and analyze available scientific evidence which shows that conifers benefit – both directly or indirectly – from the regeneration of shrubs and hardwoods in recently burned areas. Because sprouting hardwood and shrub species recover quickly after fire, they help minimize loss of soil carbon and nutrients that facilitate reestablishment of later-arriving plants, maintain critical elements of soil structure, and provide critical habitats for soil organisms that depend on plants for their continued survival. Amaranthus & Perry 1989b, Borchers & Perry 1990, Perry et al. 1989, Conrad et al. 1985, Perry 1994, Amaranthus et al. 1987, Perry et al. 1987, Horton et al. 1999, Amaranthus & Perry 1989a,b; Amaranthus et al. 1990; Borchers & Perry 1990, Wilson 1982.</p>	
<p>Furthermore, allowing natural reforestation provides sustainable forestry practices while also ensuring the protection of human and environmental health. Since no additional planting would occur in the No Action Alternative, there would be no manual, mechanical, or herbicide control methods, and thus no health or safety risks to forest workers or the public. The DEIS must analyze alternatives to planting seedlings, such as aerial seeding and natural seeding in its action alternatives. Where natural reforestation is not possible in the short term, aerial seeding is an option. It could be done without site prep and without salvage logging. Additionally, this method would have less safety concerns, and costs less.</p>	9-82
<p>E. The Easy DEIS fails to “insure that timber will be harvested from National Forest System Lands only where protection is provided for streams, streambanks, shorelines, lakes, wetlands and other bodies of water from detrimental changes in water temperature, blockages of water courses, and deposits of sediment, where harvests are likely to seriously and adversely affect water conditions or fish habitat.” 16 U.S.C. § 1604 (g)(3)(E)(iii).</p>	9-83
<p>NEDC recognizes the efforts to protect stream using riparian buffers. This is an important component to protecting streams. However, in the context of salvage operations, more must be done to ensure water quality. As the DEIS states, road conditions in the sale area are in a state of disrepair, stream quality is low due to past management activities. In fact, conditions of the proposed area pre-fire exhibited an inability to maintain water quality. This illustrates the failure of Best Management Practices (BMPs).</p>	9-84
<p>The proposed action anticipates the “temporary” addition of skid trails, roads, and yarders, all which cause erosion and input significant amounts of sediment into 303(d) impaired water bodies. Without a sediment load budget (determined by TMDL), this proposed action fails to insure protection of the water bodies. Even though the sediment loads</p>	9-85

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment</p>	<p align="center">Response #</p>
<p>from the proposed activity are not quantified, we are supposed to believe that it will be insignificant because mitigation will have long term benefits. Yet, decommissioning roads five to ten years <i>after</i> the activity cannot prevent massive sediment loads from entering impaired water bodies <i>during</i> the activity. In light of the fact that adjacent water bodies are already impaired, there is no way the Forest can insure their protection through the preferred alternative. Thus, <i>future</i> mitigation cannot insure water protection. The DEIS does not adequately analyze the potential impacts from the proposed temporary road and landing construction. The DEIS fails to provide site-specific information in the proposed roads, such as specific location, size, soils, slopes, and proximity to stream and riparian reserves.</p>	
<p>IV REGIONAL FOREST PLAN AMENDMENT 2: EASTSIDE SCREENS</p>	
<p>In 1994, the Region 6 Regional Forester adopted the Eastside Forest Plan Amendment Number 2 to guide timber proposals on the Colville, Deschutes, Malheur, Ochoco, Umatilla, Wallowa-Whitman, Wenatchee-Okanogan, and Winema-Fremont National Forests. This plan became known as the Eastside screens. Although initially adopted as interim standards until the Forest Service proposed ICBEMP, the screens continue to be in effect and are incorporated into the Malheur National Forest’s Land and Resource Management Plan (MLRMP). The direction applies to all timber, qualified by a number of exceptions. The Eastside Screens require timber sales to incorporate three sets of standards: riparian, ecosystem, and wildlife. The MNF’s Easy Salvage proposal violates all three of these standards.</p>	<p align="center">9-86</p>
<p>A. The Easy Salvage violates riparian standards required by Amendment 2</p>	
<p>The Easy Salvage Sale DEIS contravenes the riparian standards required by the Eastside screens. The riparian standards set specific buffers for fish bearing (at least 300 feet on each side of the stream), non-fish bearing perennial streams (at least 150 feet from each side of the stream), non-fish bearing intermittent streams (at least 100 feet), and ponds, lakes, and reservoirs (at least 150 feet). <u>Regional Forester’s Eastside Forest Plan Amendment Number 2</u> (Eastside screens), p. 2. The screens prohibit green and salvage timber sales in the riparian areas. <u>Id.</u> The Easy DEIS proposes riparian buffers of 50 feet around non-fish bearing intermittent streams. <i>Easy DEIS</i>, 225. These buffers are only half of the required width. Harvesting within 100 feet of intermittent non-bearing streams violates the Eastside screens. NFMA requires that site-specific proposals be consistent with the forest wide LRMPs. 36 C.F.R. § 219.10(e). As the Eastside screens are incorporated into the MLRMP, the Easy Salvage Sale proposal must be consistent with the Eastside screens or violate NFMA. <u>Id.</u></p>	<p align="center">9-87</p>
<p>B. The Easy Salvage violates wildlife standards required by Amendment 2</p>	
<p>The Easy Salvage Sale DEIS violates the Eastside screens wildlife standards. Although the agency acknowledges the wildlife standards apply and even list two pertinent provisions of the wildlife standards (no net loss of Late and Old Structural stages (LOS) and manipulate vegetation not currently LOS towards LOS conditions), the Forest Service fails to discuss how they will satisfy these requirements. <i>Easy DEIS</i>, 76-77, 109. The project area is highly deficient in LOS, significantly below the Historic Range of Variability (HRV) for all Plant Association Groups. <u>Id.</u> When current conditions are below HRV for LOS, the wildlife standards require no net loss of LOS. The Forest Service claims that the Easy Salvage Sale meets the Eastside screen wildlife standards because live trees are not harvested, so harvesting does not decrease LOS. <u>Id.</u> at 119.</p>	<p align="center">9-88</p>
<p>The Forest Service misinterprets the direction of the wildlife standards. The Eastside screens do not define LOS based on an individual tree standard; instead the screens define LOS on a stand by stand basis. For example, the definition of single-stratum LOS is: “A single stratum of later trees is present. Large trees are common. Young trees are absent or few in the understory. Park-like conditions may exist.” The description provided is: “The single</p>	

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>dominant canopy stratum consists of medium sized or large trees. One of more cohorts of trees may be present. An understory may be absent or consists of sparse or clumpy seedlings. Grasses, forbs, or shrubs may be present in the understory.” A stand with a light to moderate burn severity in which only <i>some</i> were trees killed by the fire may still fall under this expansive definition of LOS. The agency is thereby prohibited from removing any tree, even dead trees, from within the LOS.</p> <p>The agency did not provide the public with adequate information to evaluate whether harvest is prescribed in LOS. If the MNF permits harvest in the LOS, the agency violates the Eastside screens, the MLRMP, and NFMA. 36 C.F.R. § 219.10(e). The wildlife standards further require connectivity corridors that are 400 feet wide, protective areas around goshawk nests, 100 percent snag retention, and prohibit harvest in non-LOS that is surrounded by LOS. The MNF fails to provide documentation that these requirements have been followed in accordance with the Eastside screens. <u>Id.</u></p>	
<p>C. The Forest Must Apply Ecosystem Standards</p> <p>The MNF must apply ecosystem standards. <u>Eastside Screens</u>. Even though the screens provide a number of exemptions to the standards, none apply in the Easy Salvage sale. Four types of sales are exempt from only the ecosystem standards but still must apply riparian and wildlife standards. They include: pre-commercial thins, sales of material sold as fiber, sales of dead material less than 7-inch dbh, salvage sales with incidental green trees <i>located outside currently mapped old growth</i>, and commercial thinning and understory removal outside mapped old growth. <u>Eastside screens</u>, p.2.</p>	<p align="center">9-89</p>
<p>Yet, the Forest incorrectly asserts that it does not have a duty to follow ecosystem standards. <i>Easy DEIS</i> 15. While it is true that salvage sales that harvest live trees, except for incidental harvest, are exempt from ecosystem standards, the Forest does not fit under this exclusion for two reasons.</p> <p>First, the Forest is harvesting substantial numbers of live trees from the DOG/ROG management areas. The Forest’s claim that “fire has essentially eliminated all old growth from the burn area” is based on unsubstantiated data. There is no proof in the record, nor do agency models determine whether old growth is dead. All the agency models can tell us is the probability of death. <i>Easy DEIS</i> 77. In short, the public is misled to believe that living old growth is dead because it has a chance of dying.</p>	<p align="center">9-90</p>
<p>Furthermore, this rating system is not scientifically validated. <u>Id.</u> In fact, the Forest goes so far as equating potential tree survivorship with tree mortality. <i>Easy DEIS</i> 77. According to the agency, it is reasonable to call a tree dead if it has merely a moderate probability of surviving a fire. <i>Easy DEIS</i> Appendix B-2. The Forest’s sweeping generalities concerning supposedly “dead” trees fails to consider scientifically documented resiliency of old growth. <i>Neighbors of Cuddy Mountain v. USFS</i>, 137 F.3d 1372, 1380. The MNF cannot create dead trees out of whole cloth to log protected old growth stands. MLRMP IV-106. Calling entire living stands of DOG/ROG dead just to enable their harvest is arbitrary and in violation of the APA. 5 U.S.C. § 706(2)(A).</p> <p>In addition, even if the method is a reasonable in general, it requires individual determinations made in the field. <i>Easy DEIS</i> Appendix B-2. The Forest fails to even apply this inadequate mortality measure correctly. In order to have any basis in fact, the Forest must apply this tree by tree, which it did not do, and does not plan to. Instead, the Forest visited a paltry 10 stands and extrapolated that to thousands of acres. <i>Easy DEIS</i> 77. The public has no idea where these 10 stands are, what tree species, forest stage, or past what human intervention occurred. Thus, blanket determinations of “dead” trees is arbitrary and not based on fact.</p>	<p align="center">9-91</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>Second, the Forest Service must also show the agency plans salvage harvest “outside mapped old growth areas” for the salvage exemption to apply. The Forest Service does not indicate where “mapped old growth areas” are located or whether salvage occurs within those areas. If the salvage is within the mapped old growth, ecosystem standards apply, so the project areas must be chosen using comparisons of HRV and current conditions. <i>Id.</i> at 4. The Forest Service fails to provide the public with adequate information to be able to challenge the agency. <i>Idaho Sporting Congress v. Thomas</i>, 137 F.3d at 1151. If the Forest Service proposes any type of harvest in “mapped old growth,” the agency violates the Eastside screens, forest plans, and NFMA. 36 C.F.R. § 219.10(e).</p>	<p align="center">9-92</p>
<p>Even if the MNF is not required to apply ecosystem standards, it must provide a Historic Range of Variability analysis (HRV analysis). <i>Easy DEIS</i> 89. Although we acknowledge the Eastside screens exempt certain salvage from the ecosystem standards, the agency must still analyze the HRV for three reasons. First, the ecosystem standards require a comprehensive HRV analysis and comparison to current conditions. The ecosystem standards also require the agency to identify areas “outside HRV condition” to determine potential treatment areas. <i>Eastside screens</i>, p.4. As noted <i>infra</i>, the wildlife standards prohibit harvesting in LOS stands if the current condition of stands is below HRV for LOS. To be able to determine whether the prohibition applies, logically the Forest Service must compare HRV and current conditions. This requires a comprehensive HRV analysis. Simply because the agency proposes to salvage dead trees, the agency is not exempt from the HRV analysis requirement. The agency is only exempt from having to determine potential treatment areas based on the HRV analysis. Failure to provide an HRV analysis and comparison to current conditions violates the Eastside screens, the MLRMP, and NFMA. 36 C.F.R. § 219.10(e).</p>	<p align="center">9-93</p>
<p>Finally, as the current conditions are below HRV, the wildlife standards require that the agency “maintain all remnant late and old seral and/or structural live trees [greater than or equal to] 21” dbh in stands outside the LOS. <i>Eastside screens</i>, p.10. As discussed <i>supra</i>, the agency’s analysis of mortality is not supported by science. The agency cannot be sure whether these large trees will be “live” when removed in the salvage sale. Harvesting live trees greater than 21 inches violates the Eastside screens, the MFP, and NFMA. 36 C.F.R. § 219.10(e). Failure to provide strong science is a violation of NEPA. 40 C.F.R. § 1502.24.</p>	<p align="center">9-94</p>
<p>D. Tree Mortality Guidelines</p>	
<p>The Easy DEIS fails to provide adequate scientific support for tree mortality guidelines. The Forest Service claims it will only harvest dead trees. <i>Easy DEIS</i>, 76. The agency claims it will determine mortality following recommendations in “Factors Affecting Survival of Fire Injured Trees: A Rating System for Determining Relative Probability of Survival of Conifers in the Blue Mountain and Wallowa Mountains,” Scott, et al. 2002, provided in Appendix B. <i>Easy DEIS</i>, 77. This document has not been used by the Forest Service to determine mortality before, has not been scrutinized by peer review, and the agency does not provide an estimate of how effective the system is in actually predicting mortality. As a result, the Forest Service cannot ensure that no live trees will be harvested.</p>	<p align="center">9-95</p>
<p>As noted <i>infra</i>, the Eastside screens contain a salvage exemption to the ecosystem standards. <i>Eastside screens</i>, p.2. Although the screens do not provide a definition of “salvage,” other guidance frameworks, like the Sierra Nevada Framework, define salvage as only “dead” trees. For the salvage exception to apply, the Forest Service must ensure only dead trees are salvaged. The wildlife standards also prohibit harvest of “live” trees greater than 21 inches in diameter. <i>Eastside screens</i>, p.10. If the Forest Service harvests <i>any</i> live trees greater than 21 inches in diameter, the agency violates the Eastside screens.</p>	
<p>The Forest Service acknowledges that determining survival and marking trees accordingly is difficult and complex in the rating system guidelines. Factors Affecting Survival of Fire Injured Trees: A Rating System for Determining Relative Probability of Survival of Conifers in the Blue Mountain and Wallowa Mountains, Scott, et al. 2002, p.1.</p>	

Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment	Response #
<p>The Forest Service does not discuss how the mortality guide provided will consider all of the factors that influence mortality. According to Forest Service research, site-specific factors including elevation, wind exposure, slope aspect, soil depth, site moisture, bark thickness, burn severity and seasonality of disturbance all influence tree mortality and decay rates. Lowell and others 1992. The Malheur National Forest failed to account for site-specific factors that affect tree mortality and decay rates, despite the clear recommendation of relevant scientific research:</p>	
<p>Good estimates of loss of timber volume and value over time are necessary for each of the alternatives listed in the impact statement and to help in the planning and decision-making process... The one goal for determining the rate of deterioration is to be able to apply the information to the appraisal of fire-killed and fire-damaged timber... The conditions of each sale must be carefully evaluated for all factors influencing the rate of deterioration and selling values adjusted accordingly. Lowell and others 1992, p. 23.</p>	9-96
<p>Stephens and Finney 2002, current and former Forest Service researchers, respectively, found that among ponderosa pines approximately 20 inches DBH, about 60 percent of the trees studied survived a 90 percent crown scorch by fire. Also, a substantial percentage of the ponderosa pines studied survived 100 percent crown scorch. This study is particularly significant to the burned forest in the Easy Project area, which is dominated by ponderosa pine trees. Another study by Ryan and Reinhardt (1988) identified bark thickness as an important factor influencing tree mortality after fire. Only 60 percent of conifers with bark thickness of 3 cm (which equates to fairly small trees – in the range of 15 inches DBH) survived 65 percent crown scorch. 75 percent of trees with bark 4 cm thick survived 65 percent crown scorch. For trees with bark 5 centimeters thick and 65% crown scorch, over 80 percent survived.</p>	9-97
<p>A substantial portion of the large ponderosa pines that had 100% crown scorch in the North Fork fire of 2001 on the Sierra National Forest produced significant new green foliage in 2003, despite the fact that they showed no signs of life in the late summer and fall of 2001 or the entirety of 2002. Pers. Comm. with Mike Price, Sierra National Forest, 7/10/03. So many of the large ponderosas that were previously believed dead came "back to life" nearly two years after the fire that Forest Service personnel are not sure they will be able to sell the timber sale. <u>Id.</u></p>	
<p>The Forest Service’s failure to disclose published findings that contradict its own assessment of tree mortality and decay rates violates NEPA. The Easy DEIS lacks a reasoned discussion of scientific disagreements <i>See Seattle Audobon Society v. Mosely</i>, 798 F.Supp. 1473, 1482 (W.D. Wash. 1992), <i>affirmed</i>, 998 F.2d 699 (9th Cir. 1993). The NEPA document must meaningfully address uncertainties surrounding the relevant scientific evidence concerning post-fire forest conditions. <i>See Seattle Audobon Society v. Espy</i>, 998 F.2d 699, 704 (9th Cir. 1993).</p>	
<p>NEPA requires the Forest Service to provide the “hard data” upon which it relies for its conclusions and decisions. <u>Idaho Sporting Congress v. Thomas</u>, 137 F.3d 1146, 1150 (9th Cir. 1998). The record must disclose the studies and data used compiling NEPA documents, which must be “sufficient to enable those who did not have a part in its compilation to understand and consider meaningfully the facts involved.” <u>Environmental Defense Fund v. Corps of Engineers</u>, 492 F. 2d 1123, 1136 (5th Cir. 1974). Without full disclosure the public is not be able to make independent judgments about the agency's action. <u>Izaak Walton League of America v. Marsh</u>, 655 F. 2d 346, 368-369 (D.C. Cir. 1981). “Conclusory statements which do not refer to scientific or objective data supporting them do not satisfy NEPA's requirement for a ‘detailed statement’” <u>Citizens Against Toxic Sprays v. Bergland</u>, 428 F. Supp. at 908.</p>	

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment</p>	<p align="center">Response #</p>
<p>The MNF fails to provide enough information for the public to be able to challenge the agency. <u>Robertson v. Methow Valley Citizens</u>, 490 U.S. at 349. NEPA requires the agency to prepare a detailed analysis of the environmental impacts and adverse environmental effects of proposed actions. 42 U.S.C. § 4332(2)(C). The DEIS fails to divulge the extent of live, green and partially burned trees that would otherwise survive that would be removed due to use of Scott et al. mortality guidelines, and the impacts of this on habitat, spotted owls and other old forest species and fire severity.</p> <p>The Forest Service cannot ensure that it will not log live trees. As a result, the Forest must apply ecosystem standards and refrain from harvesting mapped old growth to comply with the Malheur Forest Plan, Eastside Screen standards, and NFMA. 36 C.F.R. § 219.10(e). The Forest Service must also provide the public with science and hard data to support <i>individual</i> mortality determinations, acknowledge and analyze contradictory science, and provide an impacts analysis for the effect of harvesting live trees. The Forests determination mortality determination constitutes arbitrary and capricious decision making in violation of the APA. 5 U.S.C. § 706(2)(A).</p> <p>V MALHEUR LAND RESOURCE AND MANAGEMENT PLAN</p> <p>A. MNF old growth management standards clearly preclude the Forest from harvesting Dedicated Old Growth (DOG).</p> <p>The Malheur old growth management standards (MA-13) clearly preclude harvesting dedicated old growth stands. The Forest Plan plainly states “in dedicated old growth units, schedule no timber harvest.” <i>MNF LRMP</i> at IV-106, old growth management standard 12. To be sure, the standards further note that dedicated old growth “lands are classified as ‘unsuitable’ for timber management.” <i>Id.</i> Lands classified as “unsuitable” are by definition, not managed for timber production. <i>MNF LRMP</i> at VI-39, Glossary. Thus, proposals to harvest DOG contravenes the plain language of the Malheur Forest Plan.</p> <p>Furthermore, there is no post-fire exception allowing the Forest to harvest dedicated old growth. In fact, even when DOG stands “deteriorate beyond suitable old growth conditions” the Forest must (1) change the status of dedicated old growth to replacement habitat while taking action to restore DOG to suitable old growth conditions; <i>and</i> (2) change the status of replacement old growth to dedicated old growth. <i>MNF LRMP</i> at IV-106, old growth management standard 7, emphasis added. Thus, at the very least, the Forest must retain all of the DOG <i>and</i> change the status of replacement old growth to dedicated old growth.</p> <p>In Addition, the MNF Forest plan prevents DOG/ROG harvest that is aimed at deterring insect or disease infestation. MNF Forest Plan directs land managers to refrain from harvesting <i>any</i> old growth that exhibits increased levels of insects or disease. Old growth management standard 20 specifically states, “allow endemic levels of infestation to occur.” <i>MNF LRMP</i> at IV-107. Even when insect or disease levels hit epidemic proportions, Forest standards clearly favor biological methods of control. <i>Id.</i> Harvesting entire dedicated and replacement old growth stands contravenes explicit Forest Plan direction to utilize biological methods. Even if old growth standard 20 does not expressly speak to post-fire events, that standard must be applied to this project because it is well established by the scientific community that insect infestations are essential to post-fire recovery of old growth dependent and Management Indicator Species living in the Malheur Forest.</p> <p>We understand that as land managers the Forest Service must retain some discretion to make site specific determinations. However, public agency discretion must be exercised with caution, and within the confines of law. The Malheur LRMP standards provide clear substantive requirements which the Forest must follow. The mere fact that fire may require</p>	<p align="center">9-98</p>

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>atypical management direction does not permit unbridled agency discretion to harvest DOG or ROG where and whenever it pleases. A decision to harvest DOG and ROG is clearly contrary to the Forest Plan, and arbitrarily ignores the Forest’s own programmatic standards in violation of MNF LRMP and APA. MLRMP IV-106-107; 5 U.S.C. § 706(2)(A).</p> <p>VII. FEDERAL WILDLAND FIRE POLICY</p> <p>The Easy DEIS fails to fully analyze and disclose essential information from the Federal Wildland Fire Management Policy and Program Review</p> <p>The Easy DEIS must comply with the Federal Wildland Fire Management Policy and Program Review. No alternative in the DEIS should contradict or fail to fully incorporate the letter and spirit of the Federal Wildland Fire Management Policy, and the DEIS must explain the relationship of the project to this Fire Policy. The DEIS should disclose to the public specific, relevant items from the Federal Wildland Fire Management Policy and Program Review. The DEIS should disclose the Policy's restoration oriented fire management strategy that mandates the development of new fire management plans that integrate fire as an essential ecosystem process.</p> <p>The Policy also confesses to the impracticality and unfeasibility of suppressing all wildfires, and the need to change public and agency expectations about systematic fire suppression and exclusion. This need for public disclosure on the Fire Policy is one of the ways that the proposed project can serve the educational mandates of the Fire Policy, and is a necessary investment for garnering public support for future fire and fuels management activities in the Malheur National Forest. The Forest Service must use the EIS process as an opportunity to inform and educate the public about the Federal Wildland Fire Policy and incorporate the Policy in all relevant aspects of developing alternatives and decision-making.</p>	<p align="center">9-99</p>
<p>VII CONCLUSION</p> <p>In summary, the supposition that post-fire logging is effective at reducing future fire severity has not been demonstrated, while there is substantial evidence that removing large dead trees can and often does result in numerous adverse impacts to biological and physical resources (Henjum et al. 1994, Minshall et al. 1994, Peters et al. 1996, Beschta et al. 1995, Lindenmayer & Franklin 2002). If the Forest Service is to justify post-fire salvage logging on the basis of restoring wildlife and aquatic habitat, and reducing fire severity of future wildfires (as is suggested by the Easy DEIS 1), then a rigorous, balanced analysis of this issue needs to be presented that supports this claim, as well as adequate mitigation strategies to minimize cumulative effects to terrestrial and aquatic resources already impacted by the fire.</p> <p align="center">Sincerely,</p> <p align="center">Kathleen Hitt</p> <p align="center">Meg Heaton</p> <p align="center">Sarah Uhlemann</p> <p align="center">Kristen Winges</p> <p align="center">Northwest Environmental Defense Center 10015 SW Terwilliger Portland, OR 97219</p>	<p align="center">9-100</p>

Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment	Response #
<p>REFERENCES CITED</p> <p>Aber, J., N. Christensen, I. Fernandez, J. Franklin, L. Hiding, M. Hunter, J. MacMahon, D. Mladenoff, J. Pastor, D. Perry, R. Slangen and H. van Miegroet. 2000. Applying ecological principles to management of the U.S. National Forests. Issues in Ecology. No. 6. Ecological Society of America, Washington, D.C.</p> <p>Agee, J.K. 1993. Fire ecology of Pacific Northwest forests. Island Press, Washington, D.C.</p> <p>Agee, J.K. 1997. Severe fire weather – too hot to handle? Northwest Science 71(1): 153-156.</p> <p>Amaranthus, M.P., D. Parrish and D.A. Perry. 1987. Reduction of native mycorrhizae reduce growth of Douglas-fir seedlings. In: D.M. Sylvia and J.H. Graham, eds. Proc. 7th NACOM. Institute of Food and Agricultural Sciences, University of Florida. Gainesville, FL.</p> <p>Amaranthus, M.P., R. Molina and D.A. Perry. 1990. Soil organisms, root growth and forest regeneration. Pp. 89-93 in: Forestry on the Frontier. Society of American Foresters, Washington, D.C.</p> <p>Amaranthus, M.P., D. Parrish and D.A. Perry. 1989a. Decaying logs as moisture reservoirs following drought and wildfire. In: E. Alexander, ed. Stewardship of soil, water and air resources. Proc. Watershed 89, Juneau, Alaska. USDA Forest Service, Region 10, R10-MB-77.</p> <p>Amaranthus, M.P. and D.A. Perry. 1989b. Rapid root tip and mycorrhiza formation and increased survival of Douglas-fir seedlings after soil transfer. New Forestry 3: 259-264.</p> <p>Bate, L.J.; Garton, E.O.; and M.J. Wisdom. 1999. Estimating Snag and Tree Densities and Distributions on a Landscape for Wildlife Management. USDA-FS Pacific Northwest Research Station. Gen. Tech. Rep. PNW-GTR-425. 76p.</p> <p><i>Beschta, R.L., C.A. Frissell, R. Gresswell, R. Hauer, J.R. Karr, G.W. Minshall, D.A. Perry and J.J. Rhodes. 1995. Wildfire and salvage logging: recommendations for ecologically sound post-fire salvage logging and other post-fire treatments on Federal lands in the West. Eugene, OR: Pacific Rivers Council.</i></p> <p>Bessie, W.C. and E.A. Johnson. 1995. The relative importance of fuels and weather on fire behavior in subalpine forests. Ecology 76(3): 747-762.</p> <p>Borchers, S.L. and D.A. Perry. 1990. Growth and ectomycorrhiza formation of Douglas-fir seedlings grown in soils collected at different distances from pioneering hardwoods in southwest Oregon. Can. J. For. Research 20: 712-721.</p> <p>Borchert, M.I. and D.C. Odion. 1995. Fire intensity and vegetation recovery in chaparral: a review. Pat 91-100 in: <i>Brushfires in California Wildlands: Ecology and resource management</i>. International Association of Wildland Fire, Fairfield, WA.</p> <p>Brown, J.K.; Reinhardt, E.D.; and K.A. Kramer. 2001. Coarse Woody Debris and Succession in the Recovering Forest. Unpublished manuscript. 21p.</p> <p>Bull, E.L.; C.G. Parks; and T.R. Torgersen. 1997. Trees and Logs Important to Wildlife in the Interior Columbia River Basin. Gen. Tech. Rep. PNW-GTR-391. USDA-FS. 55p.</p> <p>Cline, S.P.; Berg, A.B.; and H.M. Wright. 1980. Snag Characteristics and Dynamics in</p>	

Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment	Response #
<p>Douglas-fir Forests, Western Oregon. <i>Journal of Wildlife Management</i> 44(4):773-786.</p> <p>Cohen, Jack. 1999. Report, Reducing the Wildland Fire Threat to Homes: Where and How Much?</p> <p>Conrad, S. G., A. E. Jaramillo, and S. Rose. 1985. The role of the genus <i>Ceanothus</i> in western forest ecosystems. USDA Forest Service General Technical Report PNW-GTR-182.</p> <p>Countryman, C.M. 1955. Old-growth conversion also converts fire climate. <i>Fire Control Notes</i> 17(4): 15-19.</p> <p>Everett, Richard, et al., USDA Forest Service 1999. Response to the Beschta Report.</p> <p>Franklin, J.F., D.A. Perry, R. Noss, D. Montgomery and C. Frissell. 2001. Simplified forest management to achieve watershed and forest health: A critique. Published by the National Wildlife Federation, Seattle, WA. Available on-line at: http://www.nwf.org.</p> <p>Franklin, J.F., J.A. MacMahon, F.J. Swanson and J.R. Sedell. 1985. Ecosystem responses to the eruption of Mount St. Helens. <i>National Geographic Res. Spring</i>: 198-216.</p> <p>Gorte. 1995.</p> <p>Grifantini, M.C. 1990. Early-seral changes following wildfire, salvage logging and reforestation, Klamath Mountains, CA. M.Sc. Thesis, Humboldt State University. Arcata, CA.</p> <p>Grifantini, M.C., J.D. Stuart and L. Fox III. 1992. Deer habitat changes following wildfire, salvage logging and reforestation, Klamath Mountains, California. Pp. 163-167 in: Proc. of symposium on biodiversity of northwestern California, Report #29, Univ. California, Wildland Resources Center. Berkeley, CA.</p> <p>Harma, K.J. and P.H. Morrison. 2002. <i>Analysis of Vegetation Mortality and Prior Landscape Condition, 2002 Biscuit Fire Complex</i>. Pacific Biodiversity Institute. Winthrop, WA. 23 pp.</p> <p>Harmon, M.; Franklin, J.F.; Swanson, F.; Sollins, P.; Gregory, S.V.; Lattin, J.D.; Anderson, N.H.; Cline, S.P.; Aumen, N.G.; Sedell, J.R.; Linekaemper, G.W.; Cromack, K.; and Cummins, K.W. 1986. Ecology of Coarse Woody Debris in Temperate Ecosystems. In: MacFayden, A. and E.D. Ford (eds.) <i>Advances in Ecological Research</i>. Academic Press 15:133-302.</p> <p>Harvey, A.E., R.T. Meurisse, J.M. Geist, M.F. Jurgensen, G.I. McDonald, R.T. Graham and N. Stark. 1989. Managing productivity processes in the inland Northwest – mixed conifers and pines. In: D.A. Perry, ed. <i>Maintaining the long-term productivity of Pacific Northwest forest ecosystems</i>. Timber Press, Portland, OR.</p> <p>Helvey, J.D. 1980. Effects of a north central Washington wildfire on runoff and sediment production. <i>Water Resources Bulletin</i> 16(4):627-634.</p> <p>Henjum, M.G., J.R. Karr, D.L. Bottom, D.A. Perry, J.C. Bednarz, S.G. Wright, S.A. Beckwitt and E. Beckwitt 1994. Interim protection for late-successional forests, fisheries, and watersheds: National forests east of the Cascades crest, Oregon and Washington. <i>The Wildlife Society Technical Review</i> 94-2.</p>	

Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment	Response #
<p>Hinds et al. 1965. Beetle-killed Engelmann spruce: Its deterioration in Colorado. J. For. 63(7):536-542.</p> <p>Horton, T. R., T. Bruns and V. T. Parker. 1999. Ectomycorrhizal fungi in <i>Arctostaphylos</i> patches contribute to the establishment of <i>Pseudotsuga menziesii</i>. Canadian Journal of Botany 77: 93-102.</p> <p>Johnson, E.A., K. Miyanishi and S.R.J. Bridge. 2001. Wildfire regime in the Boreal forest and the idea of suppression and fuel buildup. Conservation Biology 15(6): 1554-1557.</p> <p>Keeley, J.E. and C.J. Fotheringham. 2001. History and management of crown-fire ecosystems: summary and response. Conservation Biology 15: 1561-1567.</p> <p>Klock, G. 1975. Impact of five post-fire salvage logging systems on soils and vegetation. J. Soil and Water Conservation 30:78-81.</p> <p>Lindenmayer, D.B. and J.F. Franklin. 2002. Conserving Forest Biodiversity: A Comprehensive Multi-scaled Approach. Island Press, Washington, D.C.</p> <p>Lowell, E.C., S.A. Willits and R.L. Kraemer. 1992. Deterioration of Fire-Killed and Fire-Damaged Timber in the Western United States. USDA For. Serv. Pac. Nor. Res. Sta. Gen. Tech. Rep. PNW-GTR-292. Portland, OR.</p> <p>Lowery, D. 1982. The Dead Softwood Timber Resource and its Utilization in the West", Intermountain Forest and Range Experiment Station. U.S. Forest Service, Gen. Tech. Report INT 125.</p> <p>Lyon, L.J. 1977. Attrition of lodgepole pine snags on the Sleeping Child burn, Montana. U.S. Forest Service, INT-219.</p> <p>Maser, C.; Cline, S.P.; Cromack, K.; Trappe, J.M.; and E. Hansen. 1988b. What We Know About Large Trees That Fall to the Forest Floor. In: Maser, C.; Tarrant, R.F.; Trappe, James, M.; and J.F. Franklin (eds.). 1988. From the Forest to the Sea: A Story of Fallen Trees. USDA-FS and USDI-BLM Gen. Tech. Rep. PNW-GTR-229. p.25-44.</p> <p>Maser, C. and J.M. Trappe, eds. 1984. The seen and unseen world of the fallen tree. USDA Forest Service Gen. Tech. Report PNW-164.</p> <p>Maser, C., J.M. Trappe and D. Ure. 1978. Implications of small mammal mycophagy to the management of western coniferous forests. Transactions of the 43rd North American Wildlife and Natural Resources Conference 43: 78-88.</p> <p>McIver, J.D. and L. Starr. 2000. Environmental effects of post-fire logging: Literature review and annotated bibliography. USDA Forest Service Pacific Northwest Research Station, Gen. Tech. Report PNW-GTR-486. Portland, OR.</p> <p>Mielke, J.L. 1950. Rate of Deterioration of beetle-killed Engelmann spruce. J. For. 48(12):882-888.</p> <p>Minshall, G.W., J.L. Meyer, J.A. Stanford, J.R. Karr and C.A. Frissell. 1994. Open letter to the President on fire and salvage logging. September 19, 1994.</p>	

Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center Comment	Response #
<p>Moritz, M. A. 1997. Analyzing extreme disturbance events: Fire in Los Padres National Forest. <i>Ecological Applications</i> 7: 1252-1262.</p> <p>Morrison, M.L.; and M.G. Raphael. 1993. Modeling the Dynamics of Snags. <i>Ecological Applications</i> 3:322-330.</p> <p>Odion, D.C., E.J. Frost, J.R. Strittholt, H. Jiang, D.A. DellaSala and M.A. Moritz. In review. Patterns of fire severity and forest management in the Klamath Mountains, northwestern California, USA. <i>Conservation Biology</i>.</p> <p>Parks, C.G.; Conklin, D.A.; Bednar, L.; and H. Maffei. 1999. Woodpecker Use and Fall Rates of Snags Created by Killing Ponderosa Pine Infected with Dwarf Mistletoe. USDA-FS Pacific Northwest Research Station. Research Paper PNW-RP-515. 11p.</p> <p>Perry, D.A., C. Choquette and P. Schroeder. 1987a. Nitrogen dynamics in conifer-dominated forests with and without hardwoods. <i>Can. J. For. Research</i> 17: 1434-1441.</p> <p>Perry, D.A., R. Molina and M.A. Amaranthus. 1987b. Mycorrhizae, mycorrhizospheres, and reforestation: current knowledge and research needs. <i>Can. J. For. Research</i> 17: 929-940.</p> <p>Perry, D.A., M.P. Amaranthus, J.G. Borchers et al. 1989. Bootstrapping in ecosystems. <i>Bioscience</i> 39: 230-237.</p> <p>Perry, D.A. 1994. <i>Forest ecosystems</i>. John Hopkins University Press. Baltimore, MD.</p> <p>Perry, D.A. and M.P. Amaranthus. 1997. Disturbance, recovery and stability. Pp. 31-56 in: K.A. Kohm and J.F. Franklin, eds. <i>Creating a forestry for the 21st century: the science of ecosystem management</i>. Island Press, Washington, D.C.</p> <p>Peters, R.L., E.J. Frost and F. Pace. 1996. Managing for forest ecosystem health: a reassessment of the “forest health” crisis. <i>Defenders of Wildlife</i>, Washington, D.C. Available online at: http://www.defenders.org/publications.html.</p> <p>Rhodes, McCullough, and Espinosa .1994. A Coarse Screening Process for Potential Application in ESA Consultations- Technical Report 94-4. Prepared for National Marine Fisheries Service.</p> <p>Rose, C.L., Marcot, B.G., Mellen, T.K., Ohmann, J.L., Waddell, K.L., Lindely, D.L., and B. Schrieber. 2001. Decaying Wood in Pacific Northwest Forests: Concepts and Tools for Habitat Management, Chapter 24 in <u>Wildlife-Habitat Relationships in Oregon and Washington</u> (Johnson, D. H. and T. A. O’Neil. OSU Press. 2001)</p> <p>Rothermel, R. 1991. <i>Predicting behavior and size of crown fires in the northern Rocky Mountains</i>. USDA For. Serv. Rocky Mtn. Res. Sta. Gen. Tech. Rep. INT-GTR-438. Ogden, UT.</p> <p>Ryan, Kevin C. and Reinhardt, Elizabeth D. 1988. "Predicting postfire mortality of seven western conifers", U.S. Forest Service, Intermountain Fire Sciences Laboratory, Intermountain Forest and Range Experiment Station, p. 1294, Fig. 2, published in <i>Can. J. For. Res.</i> Vol. 18.</p>	

<p align="center">Letter #9 – Kathleen Hitt, Northwest Environmental Defense Center</p> <p align="center">Comment</p>	<p align="center">Response #</p>
<p>Stephens, Scott. 1998. Evaluation of the Effects of Silvicultural and Fuels Treatments on Potential Fire Behavior in Sierra Nevada Mixed Conifer Forests. U.S. Forest Service, Pacific Southwest Research Station, Table 7.</p> <p>Sexton, T. 1994. Effects of Post-Fire Salvage Logging and Grass Seeding on Pinus ponderosa and Purshia tridentate Survival and Growth. Corvallis, OR: Department of Rangeland Resources. (Unpublished manuscript) 27p.</p> <p>Stephens, S. L. and M.A. Finney. 2002. Prescribed fire mortality of Sierra Nevada mixed conifer tree species: effects of crown damage and forest floor combustion. <i>Forest Ecology and Management</i> 162: 261-271.</p> <p>Stuart, J.D., M.C. Grifantini, and L. Fox III. 1993. Early successional pathways following wildfire and subsequent silvicultural treatment in Douglas-fir/hardwood forests, northwest California. <i>Forest Science</i> 39: 561-572.</p> <p>Swanson, F.; Clayton, L.; Megahan, W.F.; and G. Bush. 1989. Erosional Processes and Long-Term Site Productivity. In: <i>Maintaining the Long-Term Productivity of Pacific Northwest Forest Ecosystems</i>. Edited by: D.A. Perry; R. Meurisse; B. Thomas; R. Miller; J. Boyle; J. Means; C.R. Perry; and R.F. Powers. Timber Press. P.164-184.</p> <p>Tallmon, D.A. and L.S. Mills. 1994. Use of logs within home ranges of red-backed voles on remnants of forest. <i>Journal of Mammology</i> 75: 97-101.</p> <p>Thomas, J.W.; Anderson, R.G.; Maser, C.; and E. Bull. 1979. Snags. In: <i>Wildlife Habitats in Managed Forests: the Blue Mountains of Oregon and Washington</i>. Agriculture Handbook 553. USDA-FS Washington Office. P.60-77.</p> <p>USDA Forest Service. 2003. Flagtail Fire Recovery Project, Draft Environmental Impact Statement. USDA Forest Service, Malheur National Forest.</p> <p>USDA Forest Service. 2000. <i>Managing the Impact of Wildfires on Communities and the Environment - A Report to the President in Response to the Wildfires of 2000</i>.</p>	

<p align="center">Letter #10, Judith Leckrone Lee, U.S. Environmental Protection Agency Comment</p>	<p align="center">Response</p>
<p>May 14, 2004</p> <p>Reply To Attn Of: ECO-088</p> <p align="right">Ref: 03-027-AFS</p> <p>Eric Ornberg, IDT Leader Department of Agriculture - U. S. Forest Service Middle Fork Ranger Station 46375 Highway 58 Westfir, OR 97492</p> <p>Dear Mr. Ornberg:</p> <p>The U.S. Environmental Protection Agency (EPA) has reviewed the draft Environmental Impact Statement (EIS) for the Easy Fire Recovery Project and Proposed Nonsignificant Forest Plan Amendments (CEQ No. 030480) in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. Section 309, independent of NEPA, specifically directs EPA to review and comment in writing on the environmental impacts associated with all major federal actions and the document’s adequacy in meeting NEPA requirements.</p> <p>We have assigned a rating of EC-2 (Environmental Concerns - Insufficient Information) to the draft EIS. This rating and a summary of our comments will be published in the Federal Register. A copy of the rating system used in conducting our review is enclosed for your reference. Our concerns are highlighted below and discussed further in our enclosed detailed comments.</p> <p>The draft EIS proposes various forest activities for timber salvage and fuels reduction within matrix lands inside the 2002 Easy Fire area in the Malheur National Forest. The EIS contains three action alternatives that propose salvage of merchantable timber from the Easy Fire burn area, revegetation to speed forest regeneration, reestablishment of old growth areas outside the fire perimeter, and reduction of fuels that may cause a repeat fire event. Alternative 2 maximizes recovery of merchantable timber from the burn site, while Alternative 3 emphasizes reducing sediment delivery to Clear Creek and Easy Creek by avoiding salvage operations on steeper slopes and Alternative 4 emphasizes leaving dead snags in place in amounts which exceed Forest Plan snag density requirements for cavity excavator species. The EIS identifies Alternative 3 as the preferred alternative.</p> <p>EPA has environmental concerns about the potential longer term impacts of salvage logging on surface water quality temperatures from the increase in sediment delivery to streams, coupled with the removal of large wood from upslope areas. We believe the EIS needs to better substantiate the conclusions that surface water temperatures would not be impacted.</p> <p>EPA concurs with the selection of Alternative 3. This alternative provides better protection of water quality for the intended beneficial uses (bull trout and salmonid rearing) by reducing sediment delivery to streams, minimizing the removal of large dead wood, maintaining a more complicated stream structure, and keeping water temperatures lower. We would also favor the development of a hybrid alternative between Alternatives 3 and 4 that curtails salvage on the steepest slopes, minimizes salvage acreage, and provides the additional benefits of improved habitat for terrestrial wildlife.</p> <p>Thank you for the opportunity to review this draft EIS. We would like to apologize for being so late in our response to your draft EIS. We realize that the tardiness of this letter may have made</p>	<p>10-1</p> <p>10-2</p>

<p align="center">Letter #10, Judith Leckrone Lee, U.S. Environmental Protection Agency</p> <p align="center">Comment</p>	<p align="center">Response</p>
<p>planning your preparation of the Final EIS that much more difficult, and we regret any inconvenience it has caused you. If you would like to discuss the content of this letter, please contact Jonathan Freedman at (206) 553-0266 or feel free to contact me at (206) 553-6911.</p> <p align="right">Sincerely,</p> <p align="right">Judith Leckrone Lee, Manager Geographic Unit</p> <p>Enclosures</p> <p>cc: Dan Opalski, EPA (Oregon Operations Office) Christine Kelly, EPA LaGrande, OR</p>	
<p align="center">EPA’s Detailed Comments Easy Fire Recovery Project Draft Environmental Impact Statement</p> <p>Mitigation for Environmental Impacts from Harvest</p> <p>The EIS states that surface erosion will be mitigated in the harvest units by retaining and scattering harvest slash across clearcut and burned slopes to function as effective ground cover. However, the EIS does not propose any mitigation for the direct impacts from timber harvest activities such as skidding. The EIS should provide mitigation measures for the direct impacts from harvest activities along with information that demonstrates that these measures are effective in reducing soil compaction, erosion, exposure, vegetation displacement, and increasing infiltration. The EIS should also describe to what extent mitigation measures would ensure that the objectives of the Malheur Forest Plan Standards and Guidelines, including those for aquatic habitat and water quality, are met.</p> <p>Water Quality Impacts from Salvage Logging</p> <p>EPA is concerned about the potential effects on surface water quality in the project area. As required by Section 303(d) of the Clean Water Act (CWA), the State of Oregon must identify those waterbodies which are not meeting or not likely to meet State water quality standards. The list of those identified waterbodies is known as the CWA 303(d) list. Section 303(d) of the CWA also requires the State of Oregon to develop a load limit, or TMDL, for each pollutant for each stream and water body identified on the list as impaired. Compliance with the CWA is also a requirement of NEPA (40 CFR 1500.2(c)).</p> <p>The EIS notes that the Malheur National Forest is consistent with the State of Oregon’s schedule for completing TMDLs. The EIS, however, should also clarify whether TMDLs for streams in the project area would be done before work on the proposed action begins. The draft EIS also states that several streams either within the project area or downstream of it (Clear Creek, Dry Fork Clear Creek, Lunch Creek), are on the State of Oregon’s 303(d) list as being water quality limited for temperature for the beneficial uses of bull trout and salmonid rearing habitat. North Reynolds Creek, downstream of the project area, is listed as a water body of potential concern by the State of Oregon.</p> <p>The Draft EIS presents a thorough characterization of present surface stream conditions in the project area. Bridge Creek, Reynolds Creek and particularly Clear Creek appear to be at the highest risk for erosion from fire-caused openings in the canopy (Table FW-11 on Page 180). Present in-stream conditions for large wood, pools, and channel substrate are also less than ideal for these streams.</p>	<p align="center">10-3</p> <p align="center">10-4</p>

<p align="center">Letter #10, Judith Leckrone Lee, U.S. Environmental Protection Agency Comment</p>	<p align="center">Response</p>
<p>The EIS appears to consider impacts from salvage on water quality together with impacts from the fire event. We recommend that the impacts of salvage be considered separately from fire impacts. The existing conditions now include the fire event; thus in order to properly measure the impacts of the proposed action, the EIS should be measured as the change from the existing condition in the project area, a post-fire landscape.</p>	<p align="center">10-5</p>
<p>The EIS describes the short term effects of salvage logging in detail. Those effects include soil disturbance during salvage operations which would result in short-term acceleration of erosion and sediment delivery to surface waters. Salvage would also cause soil compaction, displacement of vegetation, exposure of soil, decreased infiltration, channeled overland flow and increased erosion.</p>	<p align="center">10-6</p>
<p>The water quality analysis predicts no measurable change to surface water temperatures, citing expected minimal reductions in shade from the fire. However, no quantitative data is presented to support these conclusions. The analysis should consider the potential for sediment delivery and salvage to raise stream temperatures throughout the project area. Salvage logging could cause long-term impacts to water quality by reducing the delivery of large wood to project area streams and increasing sediment delivery to these streams, particularly because of the abundance of moderately to severely steep slopes within the fire perimeter. Decreases in the amount of large wood in stream channels, together with increased sediment delivery, may impact pool formation, simplify channel morphology, and can make streams shallower and slower. This may raise already elevated stream temperatures in 303(d) waters. We recommend that the EIS present and discuss the Water Erosion Prediction Project (WEPP) sediment modeling results to support the EIS’s conclusion that no measurable change to surface water temperatures would occur and describe what factors the model considered, so that a stronger basis for this conclusion is provided.</p>	<p align="center">10-7</p>
<p>As an added note, regarding the practice of leaving coarse woody debris on salvage sites for reducing surface erosion and improving soil productivity, this office has received anecdotal reports from Forest Service staff in Oregon that this practice is most effective at preventing erosion when placed in a cross-slope position to maximize soil interception, rather than being left in a downslope position.</p>	<p align="center">10-8</p>
<p>Buffer Widths</p> <p>The EIS states that standard buffer widths recommended in Interim Strategies for Managing Anadromous Fish Producing Watersheds on Federal Lands (PACFISH) standard buffer widths (Page 162) would be exceeded in some situations. The EIS should clarify whether all alternatives will apply buffer width standards equally, and in what locations and under which alternatives PACFISH standards might be exceeded.</p>	<p align="center">10-9</p>
<p>Road Densities</p> <p>The EIS states that road densities exceeding 2 or 3 miles per square mile strongly correlate with increased effects on fish habitat and reduced populations of salmonids. Other foreseeable actions cited in the EIS include road closures (approved in the Mossy and Punch Timber Sale EISs; 1991 and 1997) which would reduce sedimentation impacts from roads. Road densities, however, still remain above 2 or 3 miles/per square mile in many locations. None of the action alternatives propose new permanent roads and the action alternatives include proposed closure of 5.2 miles of existing road in the Clear Creek subwatershed, but none of the alternatives would decommission any permanent roads and therefore road density would not change. EPA recommends that the EIS consider decommissioning the north-south road paralleling Clear Creek, a portion of it, or the roads already shown as closed (EIS; Figures 27-29) to lower road densities and reduce sediment delivery in the project area.</p>	<p align="center">10-10</p>
<p>Impacts to the Pileated Woodpecker and Pine Marten</p> <p>The EIS describes pileated woodpecker habitat as old growth forest habitats of at least 150</p>	<p align="center">10-11</p>

<p align="center">Letter #10, Judith Leckrone Lee, U.S. Environmental Protection Agency</p> <p align="center">Comment</p>	<p align="center">Response</p>																												
<p>acres (by Forest Plan direction) with canopy cover, abundant large dead wood and snags. Pine marten habitat is described as old growth forest with a well developed canopy with abundant snags. Since the Easy Fire eliminated all old growth areas, all alternatives propose designation of a new 547-acre area outside the burn perimeter to replace the 264-acre Dedicated Old Growth habitat in the fire area. The EIS states that this new area is presently being used by pileated woodpeckers but does not meet the Forest Plan definition of Dedicated Old Growth. The EIS should also estimate whether the newly designated area would immediately provide habitat functions that would replace the functions of the habitat lost in the fire for both species, or whether habitat functions would suffer a temporal loss.</p> <p>Consultation with Native American Tribes</p> <p>The EIS should document that treaty rights and privileges are addressed appropriately. If the proposed project may have impacts on Tribes, the EIS should be developed in consultation with all affected tribal governments, consistent with Executive Order (EO) 13175 (Consultation and Coordination with Indian Tribal Governments). EO 13175 states that the U.S. government will continue “to work with Indian tribes on a government-to-government basis to address issues concerning Indian tribal self-government, trust resources, and Indian tribal treaty and other rights.”</p> <p>The EIS states that the Forest Service consulted with the Confederated Tribes of Warm Springs, the Confederated Tribes of the Umatilla Indian Reservation, and the Burns Paiute Tribe. However, the EIS does not provide any further information on these consultations. The EIS should provide the reader with a clear understanding of how tribes were involved in decisions made to address Native American concerns such as the presence of the one archeological site considered eligible for inclusion on the National Register of Historic Places (discussed in the same Section as the above statement regarding consultations with area tribes). The EIS should include a description of any issues and concerns raised by the tribes about the proposed project, should summarize any consultation or correspondence between the Forest Service and potentially impacted Indian tribes, and discuss how tribal issues and concerns are being considered in decision making for the project.</p>	<p align="center">10-12</p>																												
<p align="center">CONCURRENCE PAGE</p>																													
<p>Subject: Easy Fire Recovery Project Draft Environmental Impact Statement</p> <p>bcc: Reading File Official File GEO Unit Mgr Reading File</p> <p align="center">Christine Kelly, EPA-LaGrande Dan Opalski, EPA-OOO</p>																													
<p>Date: May 14, 2004 WordPerfect 9 File Name: g:\nepa\afs\03-027-AFSEasy Fire Recovery DEIS Review Letter</p>																													
<p>New Addresses:</p>																													
<table border="1"> <thead> <tr> <th colspan="7">CONCURRENCES</th> </tr> </thead> <tbody> <tr> <td>Initials:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Name:</td> <td>J. Freedman</td> <td>T. Fournier</td> <td>J. Lee /s/</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Date:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		CONCURRENCES							Initials:							Name:	J. Freedman	T. Fournier	J. Lee /s/				Date:						
CONCURRENCES																													
Initials:																													
Name:	J. Freedman	T. Fournier	J. Lee /s/																										
Date:																													
<p align="center">KEEP WITH OFFICIAL FILE COPY</p>																													

<p align="center">Letter #10, Judith Leckrone Lee, U.S. Environmental Protection Agency Comment</p>	<p align="center">Response</p>
<p align="center">U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements Definitions and Follow-Up Action*</p> <p align="center"><u>Environmental Impact of the Action</u></p> <p>LO – Lack of Objections The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.</p> <p>EC – Environmental Concerns EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.</p> <p>EO – Environmental Objections EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.</p> <p>EU – Environmentally Unsatisfactory EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).</p> <p align="center"><u>Adequacy of the Impact Statement</u></p> <p>Category 1 – Adequate EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.</p> <p>Category 2 – Insufficient Information The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.</p> <p>Category 3 – Inadequate EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.</p>	

Letter #10, Judith Leckrone Lee, U.S. Environmental Protection Agency Comment	Response
<p>* From EPA <u>Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment</u>. February, 1987.</p>	

DEIS Responses

#1 – Dan Becker

Response #	Letter #1 - Dan Becker Response
1-1	<p>Project will increase fuel loadings Most if not all fine fuels (0.0 – 0.25 inches diameter) have been consumed, including fine fuels on fire-killed trees in severely burned areas of the fire. Fine fuels have the greatest effect on rate of spread and fire intensity of a wildfire. Fine fuels at this time and during harvest operations do not pose a wildfire hazard. While it is true that there is increased activity during harvest operations, Forest records indicate fire starts due to this activity are not common. Harvest activities may increase the fuels (0 to 3 inches) immediately after harvest, but an overall decrease in fire hazard is expected after full implementation. See DEIS and FEIS, Chapter 3, Fire/Fuel Effects.</p>
1-2	<p>Fuel load increase and next wildland fire The desired future condition of the project area is a return to a high fire frequency, low severity fire regime. Salvage harvest proposed in alternatives would lower potential fuel loadings to a level that will reduce the fire severity of future wildfires, or management ignited prescribed fires. The fire and fuels effects did analyze the effects of the increase of all fuel components, including “mid-size” fuels in all alternatives in the DEIS and FEIS.</p>
1-3	<p>Basis for predicting fire in 20-30 years See Response 1-2.</p>
1-4	<p>Progression of fuel models Cumulative effects analysis can be found throughout Chapter 3 of the DEIS and FEIS. Past, present, and reasonably foreseeable future actions are listed at the beginning of Chapter 3 of the FEIS. The discussion of fuel models has been updated in Chapter 3 of the FEIS.</p>
1-5	<p>Harvest units intensified the fire The DEIS and FEIS, Chapter 3, Fuels section, states that the fire spread the next day and night (after the first day) consisted of surface fire through recently harvested Rain and Sun Demo units where fuels treatment had not yet occurred, and from torching, active and independent crown fire in stands that have never been actively managed. The fire’s growth was slowed down in stands with past fuels treatment, resulting in low severity effects. The fire was halted at the top of a ridge where past harvest and fuels treatment had been applied.</p>
1-6	<p>Native grass/brush species and flame length See Response 1-2.</p>
1-7	<p>Economics of fuel treatments Future cost of treatment will continue to rise with inflation. A cost as low as \$2.50 for prescribed burning would be highly unlikely. Average forest treatment cost today is about \$86 to \$375 or more per acre. See Response 7-62.</p>
1-8	<p>Short-term desired fuel condition The scope here was limited to the planning area in a 2-20 year span of time. See Chapter 1, page 17 of DEIS.</p>

Response #	Letter #1 - Dan Becker Response
1-9	<p>Insects and disease in live trees</p> <p>There have been instances on the Malheur National Forests and also the Umatilla and the Wallowa-Whitman National Forests where there has been a “spillover” effect of bark beetles (including <i>Ips pini</i>, western pine beetle, and the mountain pine beetle). Monitoring on the 1996 Summit Fire on the Long Creek Ranger District of the Malheur National Forest found instances of heavy western pine beetle mortality about three to five years after the fire. This outbreak was also accompanied by <i>Ips</i> and mountain pine beetle population increases. The population of bark beetles builds up inside the fire area and mortality spreads to the fringe areas and even outside the fire area. The level of mortality was substantial and included several hundred acres. <i>Ips</i>, mountain pine beetle and western pine beetle occur in the Easy Fire area, both now and pre-fire.</p>
1-10	<p>Ponderosa pine mortality</p> <p>This statement has been deleted from the FEIS. Probability of tree mortality and survival will be estimated using the most current scientific literature available, Scott et al, which was published in November, 2002 and builds on past fire research efforts (Scott 1996). It is titled “<i>Factors Affecting Survival of Fire Injured Trees: A rating System for Determining Relative Probability of Survival of Conifers in the Blue and Wallowa Mountains</i>”. This publication is the best available science at this time.</p>
1-11	<p>Fire hazard to live trees</p> <p>Higher fuels will relate to higher fire effects and higher probability of mortality to surviving and planted conifers. It is difficult to assign a probability to this due to varying factors such as the amount of fuel loading, timing of next fire event, weather conditions, etc. We do know that with no action there will be a higher fuel loading and this can increase the severity of the next fire event. This is not characteristic of the high frequency, low-severity fire regime in warm dry biophysical environments.</p> <p>As stated in the Fuels section of Chapter 3, page 292, in the No Action alternative, untreated fuel levels in 10 years would be above threshold fire behavior flame lengths under mid-summer weather conditions. A low severity prescribed fire would not be possible with the high amounts of down woody debris left in the untreated forest. Severity to soils and vegetation from future wildland fire will be extreme in this alternative.</p>
1-12	<p>Harvest does not reduce fire hazard</p> <p>See Response 7-56.</p>
1-13	<p>Lightning starts</p> <p>The statement reads more than 50% and it is closer to 81% for the subwatersheds affected by the Easy Fire. See DEIS, p.287, and the Fuels Section in Chapter 3 of the FEIS. This has been corrected in the Other Disclosures Section of Chapter 3 of the FEIS.</p>
1-14	<p>Plantations and fire hazard</p> <p>See Responses 1-2 and 1-5.</p>
1-15	<p>Sedimentation in streams</p> <p>The application of Management Requirements, Constraints, and Mitigation Measures in Chapter 2 are expected to control sediment transport from units, and from roads to within acceptable levels.</p> <p>The mitigation measures include, among others, no timber harvest in RHCAs, extended RHCA buffers of 150 feet slope distance, instead of the standard 100 feet distance, along three of the intermittent stream channels that underwent high BAER burn severity above Clear Creek and along Easy Creek; helicopter logging of units above</p>

Response #	Letter #1 - Dan Becker Response
	<p>Clear Creek and along Easy Creek; the PACFISH RHCA buffers for Category 1 and 2 streams; limitations for dry or frozen ground road haul; and dust abatement during summer months. See the chart of soil, fish and watershed mitigation measures in Chapter 2.</p> <p>Haul road maintenance may produce short term impacts from sediment during and immediately after implementation from re-grading roads, cleaning plugged culverts, and cleaning blocked ditch lines, which may be indirect needs from post-fire runoff, but is a long-term benefit thereafter by improving drainage, reducing road failure potential at stream crossings, and reducing chronic sediment input to streams. See Page 226 of the DEIS. The maintenance of 0.30 miles of Road 2600026 will further improve the road system and reduce sedimentation risks from roads. See Page 207 of the DEIS. Temporary roads opened during fire suppression activities and to be utilized for the Easy Fire Recovery Project will be obliterated after use. See Page 226 of the DEIS. The entire length of Road 2600391, 5.2 miles, will be closed as well. See Page 216 of the DEIS. All these project activities will work towards reducing sedimentation to nearby streams and improve watershed condition.</p> <p>Exported sediments from units are expected to be minimal from tractor logged areas. Tractor units are located away from all perennial streams (except for one unit that underwent mainly low BAER burn severity), and away from the majority of the intermittent stream channel network, which reduces the likelihood of any sediment routing. The two units closest to intermittent streams are located on 0-30% ground slope. A map showing the location of the tractor units along with the stream channels will be included in the soils report in the FEIS.</p>
1-16	<p>Forest Plan direction and fire suppression</p> <p>The Forest Plan states that “fire management direction in this Forest Plan shall guide the fire management analysis and resulting Fire Management Action Plan. The fire management action plan will give specific fire management direction for each management area and will be incorporated into this Forest Plan as an amendment.” (See Forest Plan IV-44, Standard #178). The Fire Management Program is based on achieving the resource objectives defined in the Land Management and Resource Management Plans for the Forest. The Fire Management Plan is not an Environmental Analysis, and does not address recovery activities after a high intensity wildland fire has occurred.</p> <p>Issues relating to the Beschta Report (1995) and their applicability to the Easy Fire Recovery Project are addressed in the DEIS on pages 361 through 368. The IDT considered resource concerns raised by the public, including the Beschta Report. The IDT considered concerns in the context of the post fire conditions of the Easy Fire Recovery Project area, and the goals and objectives of the Forest Plan, while consulting the scientific literature on the post-fire logging.</p>
1-17	<p>Natural ignitions</p> <p>Natural ignitions are expected to be developed further with Forest Plan revision and Fire Management Plan revision.</p>
1-18	<p>Snag fall down rates</p> <p>Raphael and White 1984 have been added to the reference list. Various factors affect the longevity of snags including; tree species, size class, slope aspect, and micro-topographic position. Multiple research articles were reviewed on snag longevity; estimates on fall down rates vary widely (Knotts, 1988; Parks et. al., 1999; Everett et. al., 1999). See the snag and down wood discussion in the FEIS, Chapter 3, Terrestrial Wildlife has been updated in the FEIS.</p>

Response #	Letter #1 - Dan Becker Response
1-19	<p>Fire mortality model Marking trees for harvest will be done with a marking plan based on the most current scientific literature available, Scott et al, which was published in November, 2002 and builds on past fire research efforts (Scott 1996). It is titled "<i>Factors Affecting Survival of Fire Injured Trees: A rating System for Determining Relative Probability of Survival of Conifers in the Blue and Wallowa Mountains</i>", and is the best and latest science available. This rating system was used to determine which trees are predicted to survive the effects of the Easy Fire (DEIS, page24). See also Response # 9-91.</p>
1-20	<p>Fire salvage and soils effects, plantations See Response 6-49.</p>
1-21	<p>Cumulative effects of suppression Cumulative effects analysis can be found throughout Chapter 3. Past, present, and reasonably foreseeable future actions are listed at the beginning of Chapter 3 in the final FEIS.</p>
1-22	<p>Fuel treatment as a primary reason for project The fuels section of Chapter 3 of the DEIS and FEIS discloses how the alternatives are meeting the fuels objectives (purpose and need).</p>
1-23	<p>Copy of DEIS not received We apologize for this oversight. We will be sure to mail you a copy of the FEIS when it is completed.</p>

#2– Ronald S. Yockim, Grant County Court

Response #	Letter #2 - Ronald S. Yockim - Grant County Court Response
2-1	<p>Preferred option is salvage as proposed</p> <p>The DEIS presents three alternatives that salvage a range of acres of dead and dying trees. The range is from 2,820 acres (Alternative 3) to 3,562 acres (Alternative 2). See table 2-8, DEIS. Using the calculation of 50% of the moderate burn acres and 100% of the severe burn acres, the range is from 2,102 acres (Alternative 4) to 2,830 acres (Alternative 2).</p>
2-2	<p>Remove dead material to facilitate reforestation</p> <p>The Purpose and Need for Action in the Easy EIS includes capturing the economic value of dead and dying trees (DEIS Page 2). Our goal is to remove timber in a timely manner to capture the value and quality prior to deterioration. If this were accomplished, then the safety issues would also be addressed.</p>
2-3	<p>Fuel loads and repeat burns</p> <p>Several of these scientific studies were considered in the DEIS. The other studies were reviewed but do not change the analysis of this project.</p> <p>The DEIS discusses coarse woody debris with reference and the DEIS Fire and Fuels Section of the Environmental Consequences Chapter 3 discloses fuel loading and fire severity. The Purpose and Need of this project also includes capturing economic value, which involves removing tree boles.</p>
2-4	<p>Remove dead quickly for prompt reforestation</p> <p>See Response 2-5. The Forest Vegetation and Structure Section in Chapter 3, Reforestation of Burned Forestland, has been updated in the FEIS and further addresses this issue. In addition, approximately 394 acres of lodgepole pine forest is expected to regenerate naturally and is not planned for planting in any of the alternatives.</p>
2-5	<p>Malheur NF should expedite project</p> <p>We recognize there are time constraints involved in restoring lands. Two broad categories expressed in the underlying purpose and need statements in the DEIS, page 2 are the acceleration of ecosystem restoration, and timely commodity extraction.</p>
2-6	<p>Consider potential dead trees in snag calculations</p> <p>Identifying potentially dying trees for inclusion in snag density calculations would be similar to identifying potentially dying trees for salvage; both have a degree of uncertainty. Dead and dying trees were identified using ‘descriptions’ from Scott et. al. 2002. DecAID was used to analyze potential snag densities. DecAID gives you a snapshot in time look at possible snag densities.</p> <p>Primary cavity excavators need snags spread across the landscape in varying densities from clumped to scattered, and of various size classes (Saab et. al., 2002, Hutto, 1995, Mellen et. al., 2003) see FEIS, Chapter 3, Terrestrial Wildlife</p>
2-7	<p>Consultation with range permittees</p> <p>The DEIS was distributed to individuals who specifically requested a copy of the document. In addition, copies were also sent to other individuals, organizations, industry and local agencies, state and local governments that represent a wide range of views regarding the proposed actions. This includes Mike Emmel, the grazing permittee for the Reynolds Creek Allotment. Approximately 1372 acres of the Reynolds Creek Allotment burned in the Easy Fire. The Sullens C&H allotment was also impacted by the Easy Fire. This allotment is currently vacant. See DEIS, Chapter 4, Consultation and Coordination, pages 369 through 374. See Rangeland Resources Section in the DEIS on pages 328 through 334.</p>

Response #	Letter #2 - Ronald S. Yockim - Grant County Court Response
2-8	Benefits of salvaging We have considered Summit Fire Recovery project, and we also recognize the benefits of salvaging listed in your comment, which are also listed in the Purpose and Need section of the DEIS, pages 1 and 2.
2-9	Delays in reforestation increase planting costs See Response 2-4.
2-10	Remove dead timber expeditiously See Responses 2-3, 2-4, 2-5, and 2-9.

#3– Judge Steven E. Grasty, Harney County Court

Response #	Letter #3 - Judge Steven Grasty - Harney County Court Response
3-1	Preferred option is salvage as proposed See response 2-1
3-2	Remove dead material to facilitate reforestation See response 2-2
3-3	Fuel loads and repeat burns See response 2-3
3-4	Remove dead quickly for prompt reforestation See response 2-4
3-5	Malheur NF should expedite recovery project See response 2-5
3-6	Consider potential dead trees in snag calculations See response 2-6
3-7	Consult with range permittees See response 2-7

#4– Preston Sleeper, U.S. Department of the Interior

Response #	Letter #4 - Preston Sleeper, US Department of the Interior Response
	No response needed

#5 – Stephen J. Courtney, Malheur Lumber Co.

Response #	Letter #5 - Stephen J. Courtney, Malheur Lumber Company Response
5-1	<p>Salvage soon to capture value of killed trees The purpose and need for action in the Easy DEIS includes capturing economic value of dead/dying trees (DEIS, Page 1 & 2). We understand the important role timber plays in the economic stability of the local area. Our goal is to remove the timber in a manner to ensure the highest value and quality possible.</p> <p>Economics was identified as a key public issue. This issue recognized that delays in implementation would affect timber quality and value (DEIS, Key Issue # 5, page 32).</p>
5-2	<p>Elevated snag levels in Alternative 3 DEIS and FEIS consider multiple sources of information on dead wood habitats, including DecAID (Mellen 2003). The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section, and the Chapter 5 Bibliography cite additional dead wood research considered. The DecAID tool is currently one of the best sources of information on dead wood habitats because it synthesizes published literature, research data, wildlife databases, inventory data, and expert judgment and experience. DecAID identifies assumptions, caveats and cautions that need to be addressed when using the tool; these aspects were considered when developing snag strategies in the DEIS and FEIS.</p> <p>Chapter 3, Terrestrial Wildlife section, of the DEIS and FEIS discusses the needs of Primary Cavity Excavators concerning the distribution, densities, and size classes each species prefers. Chapter 3, discloses the effects of snag retention on wildlife species and socio-economics. The Decision Maker will discuss the tradeoffs between alternatives in the Record of Decision.</p>
5-3	<p>Helicopter logging and stumpage value See Response 5-1</p>

#6 – Doug Heiken, Oregon Natural Resources Council (ONRC)

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
6-1	<p>Road closures</p> <p>Road 2635-793 was closed before the Easy Fire, but re-opened for fire suppression efforts. All roads that were closed prior to the fire and opened for fire suppression will be re-closed. This road would be temporarily opened again for timber hauling and re-closed after the Easy Fire Recovery project is completed.</p> <p>Road 2635-329 is currently closed from Clear Creek to the west end of the road. The portion of the road from the junction with Rd. 2635 to Clear Creek will remain open because Clear Creek is used as a water source for engines during fire suppression activities. This road is not rutted, not eroding, and therefore not a concern as a source of sediment for Clear Creek.</p> <p>Road 2635 is a main collector road that is used for timber hauling, and recreation travel, including snowmobile use. The first 12 miles of Rd. 2635, which parallels Clear Creek, has been rated by the Malheur National Forest roads analysis as a low watershed risk due to the distance between the stream and the road (see DEIS and FEIS, Chapter 1). Also, there are no culverts on Clear Creek in this section of the road. The forest level roads analysis recommends that this road remain open. Management requirements and mitigation measures for timber hauling and road maintenance are listed in the tables near the end of Chapter 2 in the DEIS and FEIS. The first 11.8 miles of the road distance from the stream and no culverts on the stream.</p>
6-2	<p>Retain trees with green needles</p> <p>Live trees do help beneficial soil organisms hold over until vegetation cover is re-established. The focus of the tree removal is for trees already killed by the fire, or likely to die as a result of fire injury. The benefit of leaving all trees with any green needles that are likely to die would depend on the expected remaining life expectancy of these fire-injured trees. This benefit will be added to the discussion of effects in the soils and plant recovery rates sections in the FEIS.</p> <p>In a change from the DEIS to the FEIS, in Alternatives 2 and 3, approximately 497 acres within the project area were deferred from salvage due to low mortality. In Alternative 4, approximately 368 acres were deferred due to low mortality.</p> <p>The reduction in shade due to salvage has no ecologically significant effect on soil moisture or soil recovery. Reduction in shade possibly could have detrimental temperature and moisture stress effects on planted seedlings, but shade cards will be used if needed to relieve these stresses. Salvaged areas of the Reed and Summit Fires had no significant difference in seedling survival compared to non-salvaged areas.</p>
6-3	<p>Snags – long term habitat</p> <p>The alternatives put forth in the DEIS and FEIS propose a wide range of prescriptions for snag retention. Retaining all large snags could provide for higher levels of large snags for a longer period. Primary cavity excavators and other dead wood dependent species utilize a range of snags sizes. Focusing on retaining all large snags may have a temporary benefit for those species that utilize large snags, but would not benefit those species that rely on smaller sized snags.</p> <p>Fall down rates and references were disclosed in the DEIS (Chapter 3, Fire and Fuels, Introduction, and Terrestrial Wildlife, Primary Cavity Excavator Species-same location in this FEIS). Many variables factor into the longevity of snags: condition of</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	<p>the tree before it died, cause of death, soil type, climate, extreme weather conditions, protection of snags by topography or other vegetation type, tree species, snag height, and snag diameter. In response to this comment, snag longevity assumptions in the DEIS were reviewed again for this FEIS; resource specialists concluded that the original assumptions were valid given the wide range of fall down rates reported in the literature. Indeed, some snags are expected to remain standing beyond 30 years, but the majority are expected to fall within 10 to 30 years post-fire, with most of the smaller snags falling first.</p> <p>These fall-down rates assumptions were used in the environmental consequences for all alternatives (with and without post-fire logging). See DEIS and FEIS Chapter 2, Alternatives Considered in Detail, and Chapter 3 Fire and Fuels section for descriptions of treatments of fuels. See the Purpose and Need (Chapter 1), as larger trees were proposed for removal to also capture economic value</p> <p>Monitoring of planted tree seedlings on previous fires on the Prairie City Ranger District has shown survival at or slightly below the District average. Seedling survival generally ranges from 60 to 80 percent on the District. The DEIS states that natural regeneration, without planting, can delay reforestation by 10 to 40 years depending on the availability of live tree seed source. This has been observed on past large fires on the Prairie City Ranger District.</p> <p>Snag gap discussions have been updated in the FEIS in Chapter 3, Terrestrial Wildlife. The DEIS and FEIS disclose that <i>some</i> snags may persist longer than 30 years. The FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators, has been updated to reflect this point.</p>
<p>6-4</p>	<p>DecAID not used properly The DEIS and FEIS discloses the effects of retaining various dead wood levels over time. Analysis does not rely solely on DecAID. See Chapter 3 the primary cavity excavator species (PCE) – Snags – Down Logs section provides the most discussions on dead wood habitat. In the FEIS, Chapter 3 the wildlife Existing Condition and environmental effects section, includes updates to the discussions on dead wood dependent/primary cavity excavator species.</p>
<p>6-5</p>	<p>Snags should not be clumped Primary cavity excavators need snags spread across the landscape in varying densities from clumped to scattered, and of various size classes. See Response 2-6.</p>
<p>6-5a</p>	<p>Cover for deer, elk and other wildlife The Easy fire had the most effects on big game cover. The alternatives have little effect on remaining cover because only an incidental number of live trees are removed, and dead wood habitats provide little cover habitat. The DEIS and FEIS disclose the effects of the Easy fire on cover habitat (DEIS and FEIS, Chapter 3, Terrestrial Wildlife).</p>
<p>6-5b</p>	<p>Shade and microclimate for seeds/ seedlings There will be a loss of shade after salvage harvest due to the removal of dead tree boles. (DEIS, page 92) Planted seedling survival is expected to be at or slightly below the District average. Planting in the shade of logs, stumps, and rocks (micrositing) will increase the chance of seedling survival. The Forest Vegetation & Structure section of Chapter 3 of the FEIS has been updated to show that shade cards may be used to shade seedlings on south and west facing slopes where heat desiccation is predicted to be problematic.</p> <p>Prairie City RD has had several large fires that we have reforested with about average District success such as the Glacier, Snowshoe, Sheep, and Wildcat Fires. Micrositing</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	and shade cards have been used with success in areas where they were needed.
6-5c	<p>Loss of disturbance processes - snags thinning of seedlings/saplings</p> <p>Experience with helicopter salvaging of fire killed timber in planted units (Reed and Summit Fires) is that tree felling and yarding by helicopter damaged or killed very few seedlings that were planted before the harvesting took place. By extension, it would seem that natural falling of snags would also have little effect on the young trees that have become established in a burned area. Planting is prescribed at wider than normal spacing to reduce the need for thinning, whether by natural processes or by precommercial thinning.</p> <p>The successional pathways are not altered, just the timing of stand initiation (accelerated by planting) and the time to reach each larger structural stage. The differences between the alternatives of planting (Alts. 2, 3, 4, and 5) and natural reforestation (Alt. 1) are shown in the DEIS and FEIS, Chapter 3, Forest Vegetation, Stand Structural Stage. Assumptions used for stand development are shown in Chapter 3, Forest Vegetation, Analysis Methods, Stand Development, page 79.</p>
6-5d	<p>Soil functions – From well-dispersed snags</p> <p>Soil – Erosion Control</p> <p>Leaving well-dispersed snags would eventually help in slowing down surface runoff, and help trap sediments as the snags fall to the ground. The more immediate factor would be the resprouting vegetation, litter fall, and the growth of mosses, lichens, forbs and other herbaceous vegetation, along with the current down wood, as discussed in the DEIS, sections “Recovery of Protective Ground Cover” and “Plant Recovery,” pp. 253-256. The longer-term effect of leaving well-dispersed snags for large down wood will be added to the FEIS. See also response to Comment 6-5e.</p> <p>Harvest areas would produce small diameter materials on the ground, such as treetops, branches, and boles remaining on site. This material can help trap sediment retaining it on slope. Ground cover is expected to increase 10% or more from logging slash. However, this increase in ground cover would be a trade off for increased ground disturbance from the yarding of felled trees, depending on the yarding method. This trade off will be added to the FEIS. The ground disturbance effects are discussed in the DEIS for tractor, skyline and helicopter logging, pp. 260-262.</p> <p>Soil Nutrients & Down Wood</p> <p>The DEIS discusses woody material and its relationship to soil productivity and soil organisms in section “Soil Organic Matter, Litter, Soil Wood & Nutrient Status” (pp. 257-258 and in “Nutrients” (p. 264).</p> <p>Within the harvest units, many dead and dying trees in smaller size classes within the harvest units will be retained to provide beneficial soil nutrients. Also, all live trees will be left to provide a future source of down wood (i.e. needle cast, limbs, and large logs).</p>
6-5e	<p>Hydrologic effects – From well-dispersed snags (for soil, surface flow dissipation)</p> <p>Snow Dynamics</p> <p>The DEIS discusses the current conditions and the expected changes in created</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	<p>openings and snow accumulation and snow melt, as related to peak flows in section “Fire Vegetation Severity, Created Openings and Peak Flows,” (pp. 179-184), and in “Environmental Consequences/Water Quantity,” (pp. 234-239). The issue of clumping snags versus well-dispersed snags is not likely to change the snow dynamics in the created openings on a watershed or subwatershed basis.</p> <p>Water Retention The concern over water retention in both wood and soil, and dissipation of surface flow energy will be added to the discussion in the FEIS. See also the response to Comments 6-5d and 6-6.</p>
6-5f	<p>Microsites for seeds and seedlings See Response 6-5b.</p>
6-5g	<p>Habitat for small mammals, amphibians – Connectivity corridors Snag habitat for dead-forest-dependent species was an issue identified during public scoping. To address this issue, a range of snag prescriptions was considered in the alternatives (DEIS and FEIS, Chapter 2). Design measures for each alternative identify these prescriptions (DEIS and FEIS,). The DEIS and FEIS discloses the effects of retaining various dead wood levels over time. See DEIS and FEIS, Chapter 3. The primary cavity excavator species (PCE) – Snags – Down Logs section provides the most discussions on dead wood habitat. In the FEIS, Chapter 3 the wildlife Existing Condition and environmental effects section has an updated discussion on dead wood dependent/primary cavity excavator species. The MIS concept suggests that if you leave enough habitat to meet the needs of PCE species, than you have also provided sufficient habitat for other species that use deadwood habitats.</p>
6-6h	<p>Connectivity corridors The old-growth discussion in Chapter 3 of the FEIS discusses the effects of the fire and salvage harvest on connectivity.</p>
6-6	<p>Soil development processes – Well-dispersed versus clumped snags Effects of organic matter and nutrient removal on nutrient cycling and soil fertility are discussed on p.264 of the DEIS. Removal of nutrients and organic matter would likely move many sites back toward their fertility status before European-Americans arrived. For the drier forest conditions in the project area, before fire suppression became effective, down and decaying wood burned frequently, so there were few or no large accumulations of decaying wood. Thus, large wood was not an ample source of nutrients throughout secondary succession.</p> <p>Large wood was not a major ground cover for reducing erosion historically; ground cover was mostly supplied by ground vegetation, by forest floor that the low intensity fires missed, and by needles cast from trees within a few years after a fire. Most soil organic matter in the drier forests comes from roots or fine above ground organic matter, not coarse aboveground organic matter, especially under historic conditions where the above ground organic matter periodically burned off.</p>
6-7	<p>Deer and elk use burned trees as cover The referenced DEIS (WWNF Monument Fire Salvage Project, 2003) does contain a personal observation statement concerning big game use of burned trees for cover. The preceding paragraph and further in the same paragraph contain statements about burned trees providing minimal cover. The DEIS and FEIS disclose the effects of the Easy fire on cover habitat (DEIS and FEIS, Chapter 3, Terrestrial Wildlife). Proposed salvage units, especially in stands that burned with moderate vegetation severity, may have trees that still appear healthy but are slowly dying. These trees may still provide</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	canopy closure, and some amount of cover; for the near future. However, as these trees slowly decline losing their needles, and reducing canopy closure; the habitat they provided will disappear. As stated in the FEIS, Terrestrial Wildlife, Analysis Methods section, the existing condition section for each wildlife species or group of species describes conditions expected after all trees expected to die have lost their green needles. Although trees may still provide cover or canopy habitat today, the condition is expected to be short-lived, only up to 5 years, even under the No Action Alternative. Projecting existing conditions to year 5 better reflects the expected habitat conditions and provides a more realistic way to compare alternatives. This approach applies the short-term definition (2-10 years) described in Chapter 1. Additionally, the needles and smaller branches will drop to the ground increasing the loading of fine fuels on the forest floor. These fine fuels would help carry fire through the stand and helping ignite larger fuels potentially increasing the risk and severity of a reburn.
6-8	Plan amendment for snags inappropriate The site specific Forest Plan Amendment referenced concerns the distribution of snags and not their overall densities. Other studies (Rose et. al., 2001; Saab et. al., 2002; Kotlier, 2002) have suggested that larger patches of snags are more appropriate for species such as the black-backed woodpecker. A wide range of snag densities is provided for by the different alternatives. In the FEIS, Chapter 3 the wildlife Existing Condition and environmental effects section includes an updated discussion on dead wood dependent/primary cavity excavator species.
6-9	Proposed plan amendment is significant The discussion of snag retention and DecAID in the Terrestrial Wildlife section in Chapter 3 of the FEIS has been updated. Cumulative effects of post-fire salvage were discussed in Chapter 3 of the DEIS and FEIS.
6-10	East-side screens – cavity dependent species Snag habitat for dead-forest-dependent species was an issue identified during public scoping. To address this issue, a range of snag prescriptions was considered in the alternatives (DEIS and FEIS, Chapter 2). Design measures for each alternative identify these prescriptions (DEIS and FEIS). The DEIS and FEIS disclose the effects of retaining various dead wood levels over time, see DEIS and FEIS, Chapter 3. Both the primary cavity excavator species (PCE) – Snags – Down Logs section as well as the section concerning old growth provide discussions on dead wood habitat. In the FEIS, Chapter 3 the wildlife Existing Condition and environmental effects section include updated discussions on dead wood dependent/primary cavity excavator species.
6-11	East-side screens – DecAID must be used Eastside screens do not require that we use DecAID, but June 11, 2003 update letter does reference it as good science to use. See also response 6-10
6-12	Removal of dead wood See response 6-24.
6-13	Salvage logging without fuel treatment The desired future condition of the project area is a return to a high fire frequency, low severity fire regime. Salvage harvest proposed in alternatives would lower potential fuel loadings to a level that would reduce the fire severity of future wildfires or management ignited prescribed fires. See Chapter 3, FEIS Fire/Fuel Effects, pages 292 through 300.
6-14	Sedimentation in streams

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	<p>The application of Management Requirements, Constraints, and Mitigation Measures in Chapter 2 are expected to control sediment transport from units, and from roads to within acceptable levels.</p> <p>The mitigation measures include, among others, no timber harvest in RHCAs, extended RHCA buffers of 150 feet slope distance, instead of the standard 100 feet distance, along three of the intermittent stream channels that underwent high BAER burn severity above Clear Creek and along Easy Creek; helicopter logging of units above Clear Creek and along Easy Creek; the PACFISH RHCA buffers for Category 1 and 2 streams; limitations for dry or frozen ground road haul; and dust abatement during summer months. See the chart of soil, fish and watershed mitigation measures in Chapter 2.</p> <p>Haul road maintenance may produce short term impacts from sediment during and immediately after implementation from re-grading roads, cleaning plugged culverts, and cleaning blocked ditch lines, which may be indirect needs from post-fire runoff, but is a long-term benefit thereafter by improving drainage, reducing road failure potential at stream crossings, and reducing chronic sediment input to streams. See Page 226 of the DEIS. The maintenance of 0.30 miles of Road 2600026 will further improve the road system and reduce sedimentation risks from roads. See Page 207 of the DEIS. Temporary roads opened during fire suppression activities and to be utilized for the Easy Fire Recovery Project will be obliterated after use. See Page 226 of the DEIS. The entire length of Road 2600391, 5.2 miles, will be closed as well. See Page 216 of the DEIS. All these project activities will work towards reducing sedimentation to nearby streams and improve watershed condition.</p> <p>Exported sediments from units are expected to be minimal from tractor logged areas. Tractor units are located away from all perennial streams (except for one unit that underwent mainly low BAER burn severity), and away from the majority of the intermittent stream channel network, which reduces the likelihood of any sediment routing. The two units closest to intermittent streams are located on 0-30% ground slope. Maps showing the location of the tractor units along with the stream channels will be included in the Soils Appendix (Appendix C) in the FEIS.</p>
<p>6-15</p>	<p>Soil - productivity / ground skidding</p> <p>The direct, indirect and cumulative effects on the soil resource from ground based logging and roads is discussed in the DEIS on Pages 259-271. The majority of ground based acres is on slopes of less than 30% (Table S-10, DEIS, page 266). Low slope gradients in tractor units will reduce the amount of soil disturbance.</p> <p>Best Management Practices and the table of mitigation measures detailed in Chapter 2 of the DEIS are proposed to minimize the amount (aerial extent) and number of skid trails, the detrimental soil disturbance, and the effects within RHCAs and the resulting water quality (See Page 229 of the DEIS).</p> <p>There will be effects on the soil resource, but these effects will be minimized to acceptable levels. There is a level of risk involved in managing the moderate to severe BAER burn severity acres, as discussed in the DEIS sections “Proposed Ground Based Activity and BAER Burn Severity” (pp. 263-264); “Cumulative Effects”; and “Consistency with Direction and Regulation” (pp. 266-271).</p> <p>Clear Creek – Clean Water Act</p> <p>The fire only burned in a few places to the water’s edge at moderate or high BAER burn severity along Clear Creek or along the other perennial streams (See Figure 5 in</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	<p>the DEIS). Clear Creek was minimally impacted by fire. Thus the buffering capacity of the RHCAs along Clear Creek is intact. Also, no harvest activities are proposed in any of the RHCAs.</p> <p>For further protection of stream courses, no project activities will be conducted within RHCAs. Also, helicopter logging is proposed in areas adjacent to RHCAs that burned at a moderate to high BAER fire severity and ground slopes are greater than 30%. The DEIS discloses the effects of logging to Clear Creek on Pages 211-239.</p> <p>The proposed mitigation measures include, among others, extended RHCA buffers of 150 feet slope distance, instead of the standard 100 feet distance, along three of the intermittent stream channels that underwent high BAER burn severity above Clear Creek and along Easy Creek; a buffer along a burned ephemeral channel; helicopter logging of units above Clear Creek and along Easy Creek; the PACFISH RHCA buffers for Category 1 and 2 streams; limitations for dry or frozen ground road haul; and dust abatement during summer months. See the chart of soil, fish and watershed mitigation measures in Chapter 2.</p> <p>All roads to be constructed with the Easy Fire Recovery project are temporary. The majority of this mileage (1.2) is located on existing decommissioned roads or fire lines. Consequently, limited additional clearing and ground disturbance will be required for temporary road construction.</p> <p>Road 2635000 is a well-maintained rocked road in good condition. Haul activities and any associated dust movement are not expected to have significant impacts to the aquatic environment.</p>
6-16	<p>Bull trout, summer steelhead, redband trout</p> <p>Habitat conditions for resident and anadromous fish populations are expected to realize only a short term degraded condition due to sediment inputs into streams, resulting not only from harvest activities but also from overall fire conditions. That portion of sediment produced from harvest is predicted to be minimal. No impacts to aquatic organisms or their habitat is expected. Effects of harvest activities to sediment delivery and wood recruitment to streams is discussed on Pages 211 to 234 of DEIS</p>
6-17	<p>Impacts on unroaded areas greater than 1,000 acres</p> <p>For the Forest Service, the definition of roadless areas is, “those areas identified in a set of inventoried roadless area maps, contained in the Forest Service Roadless Area Conservation Final Environmental Impact Statement, Volume 2, dated November 2000, which is held at the National headquarters of the Forest Service, or any update, correction, or revision of those maps” (66 FR 65802). These areas were identified in the FEIS Land and Resource Management Plan, Malheur National Forest Appendix C. The Malheur National Forest is not proposing boundary changes to those identified in the Roadless Area Conservation FEIS. The request to make these units “roadless” is therefore out of the scope of this project FEIS.</p> <p>The IDT evaluated the planning area and found no contiguous 1000 acre unroaded areas adjacent to identified roadless areas (see FEIS, Chapter 3, Roads/Access). The nearest inventoried roadless area is approximately three miles to the south.</p> <p>ONRC provided a map during the DEIS comment period of two “uninventoried roadless” areas (unroaded areas) over 1000 acres that are partially within the Easy Fire project area. NEDC identified the general location of two unroaded areas in their comment letter. The NEDC areas were further clarified by sending them a map with an approximation of their unroaded areas drawn on it. NEDC agreed that these areas</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	<p>accurately represented the areas they described in their comment letter. We addressed both the ONRC and the NEDC unroaded areas in the FEIS, Chapter 3.</p> <p>The IDT also evaluated the planning area for 1000-acre low-density roaded areas and found no contiguous areas over 1000 acres. The largest such area was 65 acres (see FEIS, Chapter 3, Roads/Access).</p>
<p>6-19</p>	<p>Complex forests, not tree farms</p> <p>Planting will increase stocking levels more quickly (see DEIS, pages 94-95) compared to natural regeneration. On the average, stands are expected to be regenerated 20 to 50 years sooner with artificial regeneration as compared to natural regeneration (see DEIS, page 94-95). The reasons why it is desirable to achieve faster reforestation include: 1) the need to restore wildlife habitat, 2) revegetation with species that are more resistant to Armillaria root disease, and 3) to ensure a future supply of timber (Purpose and Need section, DEIS pages 2 and 3). Several different species of conifers are proposed for planting which will provide diversity of species throughout the fire area. These include; ponderosa pine, Douglas-fir, western larch, and western white pine (the FEIS Forest Vegetation/Structure, Reforestation of Burned Forestland section has been updated to display the diversity of spacing and species to be used in the planting mix).</p>
<p>6-20</p>	<p>Impacts to lynx habitat</p> <p>The draft DEIS discloses effects to the Canada lynx. See DEIS and FEIS, Chapter 3, Threatened and Endangered Species – Canada Lynx (Threatened). See Appendix D, Wildlife Biological Evaluation. A “no effect” determination was reached for Canada Lynx for activities proposed in the DEIS.</p> <p>The project area and adjacent subwatersheds do not provide sufficient amounts of primary and secondary vegetation types to delineate lynx habitat. Information from several sources, which represent the latest science information about lynx habitat and ecology, were utilized in the identification of the lynx analysis unit (LAU) and lynx habitat. Those sources of information include the Lynx Conservation Assessment and Strategy (LCAS) (Ruediger et al., 2000) and the Ecology and Conservation of Lynx in the United States (Ruggerio et al., 1999).</p>
<p>6-21</p>	<p>Overland transport of sediment</p> <p>As discussed in the response to Comment 6-14, the fire only burned in a few places to the water’s edge at moderate or high BAER burn severity along Clear Creek or along the other perennial streams (See Figure 5 in the DEIS). Thus the buffering capacity of the RHCA’s along the majority of the perennial streams has not been seriously affected. Along low BAER burn severity areas, the riparian areas are likely fully recovered after two years, through litter fall, re-sprouting vegetation, and the growth of forbs and other vegetation.</p> <p>Also, the RHCA buffers have been extended to 150 feet slope distance, instead of the standard 100 feet distance, along three of the intermittent stream channels that underwent high BAER burn severity above Clear Creek and along Easy Creek. A buffer is also proposed along a burned ephemeral channel along the upper slopes above Clear Creek. Where the fire did remove the ground cover, there also has been some recovery from litter fall, re-sprouting vegetation, and growth of forbs and other vegetation.</p> <p>The likelihood of overland flow is discussed in the DEIS, sections “Fire Vegetation Severity, Created Openings and Peak Flows” and “Increased Runoff,” Pages 179-184,</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	DEIS.
6-22	<p>Sediment export from salvage logging</p> <p>The information from the report “Sediment Export from Logging Units During Summit Fire Salvage” was used because of the proximity of the study area to the Easy Fire Project. The section on “Erosion and Sediment” (p. 262) in the DEIS does state that “McIver & Starr (2000) report field studies in the West that indicate sediment can be produced by logging after wildfire. Of the five studies reviewed, two produced sediment (one of these had three studies), two did not produce sediment, and one had mixed results. Reasons for the varying results include variation in details of operations, in study methods, in ground cover, in weather, and in soils.”</p> <p>The concerns expressing a preference for studies with larger sample sizes and very long time periods will be included in the FEIS.</p>
6-23	<p>Large woody debris in streams</p> <p>All streams within the Easy Fire Recovery Project area will be protected by riparian buffers and RHCAs, as specified by PACFISH (1995) (See page 162). Perennial stream RHCA habitat areas within the Easy Fire Project area were minimally affected by fire (Page 182). Consequently, wood recruitment from these RHCAs is not expected to change significantly. Also, historical wood recruitment to streams from landslide activity in the area is rare due to highly stable soil components in the landscape. This condition is not expected to change with harvest activities. Finally, in alternatives 2 and 4, stream buffers on intermittent channels are extended along high severity burned sections, which will further protect recruitment opportunities. In Alternative 3, large areas of harvest are excluded along these sections of stream.</p>
6-24	<p>Snags – New direction/DecAID</p> <p>DecAID was used to assess effects to primary cavity excavator (PCE) species with changes to snag habitat conditions and densities as a result of implementation of the different alternatives (DEIS and FEIS, Chapter 3).</p> <p>The Rose et. al., 2001) article was considered by resource specialists when analyzing the effects of the proposed activities, and John and O’Neil’s recommendations used, where feasible and appropriate. In this publication, Chapter 24 describes a broad area (Oregon and Washington), and a variety of forest types (ranging from coastal rain forest to drier forests as found in the Easy area), some of the information described is relevant to the Easy project area, and some of it is not. For example, Chapter 24 states “The ecological importance of decaying wood is especially evident in coniferous forests of the Pacific Northwest. In this region, the abundance of large decaying wood is a defining feature of forest ecosystems, and a key factor in ecosystem diversity and productivity. ...Large accumulations of decaying wood provide wildlife habitat and influence basic ecosystem processes such as soil development and productivity, nutrient immobilization and mineralization, and nitrogen fixation.” This statement applies to moister forest types than those in the Easy fire area.</p> <p>For example, only small amounts of large wood would fall before ground cover recovers to Forest Plan standards (especially small amounts would fall on the contour, controlling creeping and raveling), so erosion would not differ between alternatives due to presence or absence of large wood. Large wood was not a major ground cover for reducing erosion historically. Ground cover was mostly supplied by ground vegetation, by a forest floor which the low intensity fires missed, and by needles cast</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	<p>from trees within a few years after a fire.</p> <p>The value of snags and down wood for wildlife was considered in the DEIS in Chapter 3. This section has been updated in the FEIS.</p> <p>As discussed in section “Soil Organic Matter, Litter, Soil Wood & Nutrient Status, “compared to historical conditions where fires were more frequent, fire suppression since the beginning of the 1800’s has allowed increased accumulation of woody debris, organic matter and soil wood within the forested areas. This increase in woody material results in increased levels of nitrogen, phosphorus, sulfur and other nutrients in the surface biomass, forest floor and surface soil. Fire reduces the amount of woody biomass, but releases stored nutrients (as gases or in ash), making a portion of the nutrients available to the plants for the first several years.” (DEIS and FEIS, Chapter 3). In section “Fire Effects on Soil Productivity” the long-term soil productivity was not at risk from this fire event.” (DEIS and FEIS, Chapter 3).</p> <p>As disclosed in Chapter 3, Soil, Environmental Consequences, Alternatives 2, 3, and 4, in section “Nutrients,” “Logging and fuel control would remove nutrients and organic matter. This removal, especially removal of nitrogen, may decrease site productivity a few percent on some sites. Removing organic matter and nutrients by logging and fuel control would likely move many sites back toward their fertility status before European-Americans arrived” (DEIS and FEIS, Chapter 3).</p> <p>“In high and moderate burn severity areas, removing varying number of burned trees is not expected to have long term effects on nutrient cycling, since adequate amounts of coarse woody debris would be left on site. Also, a relatively small percentage of nutrients would likely be removed, because wood has a lower concentration of nutrients, compared to foliage, small branches, and the remaining forest floor; and because non-merchantable trees would be left on site. In addition, organic materials and nutrients remain in the surface mineral soil. Even in the high severity burn areas, small plant roots were not charred in the upper 1-2 inches of soil (TenPas and McNeil 2002).”</p>
<p>6-25</p>	<p>No reduction of snags and down wood</p> <p>It has been recognized that the Forest Plan level of snags may not be adequate for providing habitat for cavity dependent species (DEIS and FEIS Chapter 3). Snag habitat for dead-forest-dependent species was an issue identified during public scoping. Also see response 6-27.</p>
<p>6-26</p>	<p>Current science – woodpecker snag needs</p> <p>Snag habitat for dead-forest-dependent species was an issue identified during public scoping. To address this issue, a range of snag prescriptions was considered in the alternatives (DEIS and FEIS, Chapter 2). Design measures for each alternative identify these prescriptions (DEIS and FEIS Chapter 2). Also, Chapter 3 discusses the effects on snag habitats.</p>
<p>6-27</p>	<p>Snags – protection of designated snags</p> <p>Snag habitat for dead-forest-dependent species was an issue identified during public scoping. To address this issue, a range of snag prescriptions was considered in the alternatives (DEIS and FEIS, Chapter 2). Design measures for each alternative identify these prescriptions (DEIS and FEIS Chapter 2).</p> <p>We acknowledge that some snags would be lost during harvest activities for safety reasons. OSHA requires a safe working environment for all workers. Standing trees (live or dead) that pose a threat must be cut. If designated snags are identified as a hazard to logging operations within harvest units or along haul roads, they will be cut but not removed (FEIS, Design Measures, Wildlife Snags). In all action alternatives,</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	<p>the optimum distribution of wildlife snags is clumps or leave islands. Distributing snags in clumps will help separate or buffer workers from snag hazards, thereby reducing the potential that snags will be felled for safety reasons (FEIS, Chapter 3, Wildlife Effects). In all alternatives (including no action) it is foreseeable that the felling of hazard trees will be necessary along roads that will remain open for public use.</p> <p>It would be very difficult to catalogue and inventory all snags by species, size, decay status, quality and location. Thousands of acres of forested habitat that were at or exceeding expected stocking levels were burned at severe intensities resulting in the creation of perhaps millions of snags. Chapter 3 of the FEIS and DEIS discusses current and future snag levels.</p>
6-28	<p>Snags - viable populations Post fire snag surveys and stand exams were conducted for most of the project area. The DEIS and FEIS, Chapter 3, MIS - Primary Cavity Excavator Species section describes the post-fire snag and downed wood conditions, and the importance of these habitat components to various wildlife species. The Primary Cavity Excavator Species section of the FEIS has been substantially update.</p>
6-29	<p>Snags – reduction due to safety hazard See Response 6-27.</p>
6-30	<p>Livestock grazing – impacts on forest health A draft review of the Belsky and Blumenthal paper cited in your response was written by Michael M. Borman, Professor, Department of Rangeland Resources, Oregon State University, September 29, 2003. In this draft review, Borman argues that the contention by Belsky and Blumenthal (that livestock grazing contributes to increasingly dense western forests and changes in tree species composition) would have been at least partially correct in a historical context, but is not likely valid in the managed-grazing context of today. Borman further notes that a variety of factors have been implicated in the conversion of open ponderosa pine stands to dense, young, even-aged stands. Borman contends that fire-suppression policies, high-grading logging operations, and especially favorable climate years coincided with exceptionally heavy, unregulated, unmanaged grazing by very large numbers of horses, cattle, and sheep during the late 19th and early 20th centuries in most of the West.</p> <p>The discussion on the range resources is on pages 328-334, and as stated in Chapter 2 “Monitoring Plans” (p. 69, paragraph 4) the ground conditions would be monitored, and grazing “would not resume prior to two growing seasons after the fire, even if monitoring verified that the percent ground cover was the same as the pre-fire condition, to allow for plants to set seed” (Post-Fire Interim Grazing Guidelines). Cumulative effects of grazing are addressed in the DEIS and FEIS, Chapter 3. See cumulative effects of grazing on water quality and soils (pages 169, 182, 184-186, and 219-234), noxious weeds (page 344), and effects of grazing on seedling survival (page 99) in the DEIS.</p> <p>The effects of past grazing were discussed in the DEIS on pages 168-169; 182; and 184-186; and cumulative effects of grazing were discussed for the alternatives on pages 219, 228, 231 and 233. The riparian area along Clear Creek, the only fish-bearing stream within the project area, and its tributaries show few impacts from livestock grazing and are considered to be in an improving trend. Streams within the project area have been minimally used by livestock, due to steeper slopes and high</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	levels of down wood (See Page 169, 184-185 of the DEIS).
6-31	<p>Water Quality – BMP’s In addition to the use of BMPs for mitigation of sediment inputs related to harvest activities, the use of helicopter yarding (Alternatives 2 and 4) along steeper areas that burned with high fire severity (Cable logging on moderate burns) or exclusion from harvest (Alternative 3) adjacent to Clear Creek, the only fish bearing stream within the project area, and the use of helicopter logging along the portion of Easy Creek (intermittent channel) that burned with high fire severity (Alternatives 2 and 4) or exclusion from harvest (Alternative 3) will minimize sediment input as well.</p>
6-32	<p>Mitigation measures – water quality The use of helicopter and cable logging techniques, avoidance of soil disturbing activities in PACFISH RHCAs, avoidance of harvest on steeper areas that experienced high severity fire behavior, minimizing soil disturbance in salvage units, and controlling erosion from disturbed areas are all accepted methods for reducing soil erosion and protecting water quality in accordance with the Clean Water Act. The proposed design elements and mitigation measures for reducing the potential for soil disturbance and erosion will be monitored as stated in the monitoring plan (Chapter 2 of the DEIS).</p>
6-33	<p>Water quality - TMDLs The DEIS and FEIS are consistent with the “Forest Service and BLM Protocol for addressing Clean Water Act Section 303(d) listed waters”. In addition to the “Protocol”, the May 2002 Clean Water Act Memorandum of Understanding between the Forest Service, PNW Region, and Oregon DEQ states: “WQRP’s should be completed where management activities have the potential to affect impaired waters 303(d) listed and a TMDL in not in place” (page 6). For this the Easy Fire Recovery EIS, the decision framework was not initiated because the project was not likely to affect the parameter (temperature) for which the potentially affected streams (Clear Creek within the project area, Lunch Creek and Reynolds Creek adjacent to the project area) were listed and therefore a WQRP was not required for the project.</p> <p>Also, implementation of the above mentioned Protocol requires a collaborative approach with the State and Tribes with the Forest assisting in the development of a TMDL. The John Day basin is scheduled for 2006, see ODEQ schedule for TMDLs. Along this same timeline the Forest will undertake the development and implementation of a WQRP for the John Day basin in order to provide the specific actions needed in order for the Forest to meet TMDL requirements. Thus the FEIS (DEIS) for this project is consistent with the direction and regulations of the Clean Water Act and 303(d) listed streams.</p>
6-34	<p>Impacts to 303(d) listed streams See response to Comment 6-33.</p>
6-35	<p>Cumulative effects on water quality The cumulative effects of logging are disclosed on Pages 211 to 239 of the DEIS. The riparian area along Clear Creek, the only fish-bearing stream within the project area, and its tributaries show few impacts from livestock grazing and are considered to be in an improving trend. Streams within the project area have been minimally used by livestock, due to steeper slopes and high levels of down wood (See Page 169, 184-185 of the DEIS).</p>
6-36	<p>Obtain a stormwater runoff permit Consistency with the Clean Water Act is disclosed in the DEIS on 243 through 244. This section has been updated in the FEIS.</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
6-37	<p>Soil – meet guidelines</p> <p>Forest Service Manual R6 Supplement No. 2500.98-1, section 2520.3 states that "In areas where less than 20 percent detrimental soil conditions exist from prior activities, the cumulative detrimental effect of the current activity following project implementation and restoration must not exceed 20 percent." Following project implementation and restoration, the project area and all units will meet this direction.</p>
6-38	<p>Soil - mitigation measures</p> <p>We agree that scarification, ripping and subsoiling do not completely mitigate soil impacts. The DEIS states that skid trails would occupy 9-14 percent of ground based areas based on the skid trail spacing, with 60-80 percent of the skid trails detrimentally compacted (pp. 260-261). Detrimental impacts (compaction) would be less than the total area occupied by skid trails, because the total area of skid trails is not detrimentally compacted. The DEIS also states that "subsoiling in ash soils would reduce compaction in 60-80 percent of the skid trails." Thus, subsoiling would not alleviate all of the soil impacts.</p> <p>Further effects from ground based yarding is discussed in sections "Decrease in Ground Cover," "Erosion and Sediment Risk," "Subsoiling," and "Fuels Control – Grapple Piling" (pp. 261-263). Specifically regarding subsoiling, the DEIS states that "subsoiling bares soil, forms channels, makes soils particles more easily detachable, and disrupts roots, thus raising the risk of erosion for a few years. However, subsoiling also increases infiltration, which decreases the risk of erosion." (p.263).</p> <p>The effects on soil biota from subsoiling will be included in the FEIS.</p>
6-39	<p>Soil – productivity/ground skidding</p> <p>Forest Service Manual R6 Supplement No. 2500.98-1, section 2520.2 says two objectives of soil management are "To manage National Forest System lands ... without permanent impairment of land productivity and to maintain soil quality. Soil quality is maintained when soil compaction, displacement, puddling, burning, erosion, loss of organic matter and altered soil moisture regimes are maintained within defined standards and guidelines."</p> <p>Tables S-11 and S-12 in the DEIS (pp. 268-269) show the expected cumulative effects to the soil from the proposed ground based operations. The second table (Table S-12) lists the harvest areas that would approach or reach the threshold limit of soil impacts, if activities are implemented. The higher risk of ground based management of the moderate to high BAER burn severity areas is stated in the DEIS in sections "Proposed Ground Based Activity and BAER Burn Severity" (pp. 263-264); "Cumulative Effects" (p. 269 after Table S-12; and p. 270, paragraph #2); and in section "Consistency with Direction and Regulation" (p. 271).</p> <p>Best Management Practices and the mitigation measures for the soil resource in Chapter 2 of the DEIS (pp. 62-63) are proposed to limit the amount of soil disturbance and the export of sediment out of units. The measures include designated spaced skid trails; limiting tractor skidding to slopes of less than 35%; allowing operations on dry, frozen or snow-covered soil; subsoiling of skid trails; installing cross drains; and seeding disturbed areas with a native or non-persistent, certified weed-free seed mixture.</p> <p>See also the response to Comment 6-38.</p>
6-40	<p>Live trees - damage from skidding</p> <p>You are correct, ground –based logging can cause damage to live trees. However, a</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	<p>large percentage of the trees in salvage units are already dead. Between 43% and 52% of the salvage area, depending on alternative, would utilize helicopters or skyline for log removal. Pre-designated skid trails are to be used in all tractor units and by controlling the number and density of skid trails, damage to living trees will be within acceptable levels (see Management Requirements/Mitigation Measures, Chapter 2 DEIS, pages 62-63). Damage to live trees would be controlled by provisions in the timber sale contract and administration of harvest operations. For these reasons, root damage and scarring of residual trees by ground skidding is expected be of minor consequence on the whole.</p>
<p>6-41</p>	<p>Soil – erosion/cumulative effects</p> <p>Quantifiable soil disturbance assessments (transect or walk-through field reconnaissance) were completed during the fall of 2002 throughout the analysis area, with a District Soil Scientist working with the survey crew to provide quality control on the collected data. All proposed activity areas were field assessed, with the exception of a portion of the proposed tractor harvest units (about 170 acres – low to moderate burn severity). Results from these field assessments, which show that 51 of the 58 areas surveyed had less than 10% detrimental impacts and no areas had more than 15% detrimental impacts (Table S-8, Page 259 of DEIS, Soils section of FEIS Chapter 3), were used to estimate the percent detrimental impacts for the non-inventoried areas. These estimates were based on representative field assessments from areas of similar soils, slopes, and previous land management activities (information from GIS data and photos). The portion of proposed tractor harvest units was estimated at 13% detrimental soil conditions.</p> <p>As discussed in response to Comment 6-39, the Tables S-11 and S-12 in the DEIS (pp. 268-269) show the expected cumulative effects to the soil from the proposed ground based operations. The second table (Table S-12) lists the harvest areas that would approach or reach the threshold limit of soil impacts, if activities are implemented. The higher risk of ground based management of the moderate to high BAER burn severity areas is stated in the DEIS in sections “Proposed Ground Based Activity and BAER Burn Severity” (pp. 263-264); “Cumulative Effects” (p. 269 after Table S-12; and p. 270, paragraph #2); and in section “Consistency with Direction and Regulation” (p. 271).</p>
<p>6-42</p>	<p>Soil – slow recovery/cumulative effects</p> <p>The slow recovery of impacted soils from past activities such as logging and roading were discussed in the DEIS, section “Soil Condition in Light of Past Management Activities (pp. 258-259). The direct, indirect and cumulative effects from the proposed alternatives were discussed in the DEIS on pages 259-271. Specifically, Tables S-11 and S-12 in the DEIS (pp. 268-269) show the expected cumulative effects to the soil from the proposed ground based operations. The second table (Table S-12) lists the harvest areas that would approach or reach the threshold limit of soil impacts, if activities are implemented.</p> <p>See also the response to Comments 6-38 and 6-39. The discussion on the range resources is on pages 328-334, and as stated in Chapter 2 “Monitoring Plans” (p. 69, paragraph 4) the ground conditions would be monitored, and grazing “would not resume prior to two growing seasons after the fire, even if monitoring verified that the percent ground cover was the same as the pre-fire condition, to allow for plants to set seed” (Post-Fire Interim Grazing Guidelines).</p>
<p>6-43</p>	<p>Soil – food web influence Supply of photosynthates from fine roots of trees</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	<p>As stated in the DEIS for all action alternatives, the focus for tree removal would be for “fire-killed trees or trees expected to die as a result of fire injury.... Incidental green trees will only be removed to construct roads and landings to eliminate safety hazards during logging operations.” However, the role of the fine tree roots supplying photosynthates to soil organisms will be added to the FEIS.</p> <p>Soil Food web Information regarding the importance and effects on soil food webs will be added to the FEIS.</p>
6-44	<p>Slash piles</p> <p>Soil – slash burning</p> <p>We agree that burning piles can damage soils. In the skyline yarded units, the landings would be located primarily on the road system, so no additional ground would be affected by the burned slash piles. For the helicopter units, the proposed fuels treatment is to lop and scatter the slash.</p> <p>For the tractor skidding units, slash would be grapple piled and the piles burned, or whole tree yarded with the piles burned at the landings. The Fuels Specialist Report states that pile burning can cause soil damage underneath the piles. The amount of damage depends on soil type, soil moisture at the time of burning, the amount of large fuel in a pile, and the amount of dirt in a pile. Damage is more likely under landing piles since these piles are much larger and contain more large fuels. All piling tends to occur when soils are relatively dry. Pile burning on the Malheur takes place during late fall when fire season has ended and when a significant amount of moisture in the form of heavy rain or snow has occurred (1+” of moisture). Since pile burning would be done when the soil is wet, impacts to soil from burning piles are expected to be low.</p> <p>The hand piles and grapple piles are estimated to cover 1-2 percent of the areas, based on the following:</p> <p style="padding-left: 40px;">Handpiling 10-30 piles per acre (6ft by 6ft)</p> <p style="padding-left: 40px;">Grapple Piling 1-3 piles per acre (18ft by 18ft)</p> <p>In some stands, the hand piling would occur mainly within 100 feet along open roads (Fuels Specialist Report).</p> <p>Soil - productivity / ground skidding</p> <p>We agree that compaction from roads and heavy equipment can be detrimental to the soil resource. See response to Comments 6-38 and 6-39.</p>
6-45	<p>Soil foodweb significance See Response 6-43.</p>
6-47	<p>Soil - mycorrhizal fungi</p> <p>Planted seedling survival has been comparable in both salvaged and unsalvaged areas. While leaving snags and down logs may provide for increased moisture, mycorrhizal fungi, and nitrogen fixing bacteria, there has been no observable effect on reforestation survival based on actual experience on this forest. Micrositing near logs and stumps is required by the tree planting contract and is considered a standard practice. In rare cases, tree regeneration has failed in clearcuts of live trees west of the Cascade Mountains because of a deficiency of mycorrhizal fungi. However, on</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	<p>Malheur National Forest, no such regeneration failures have been reported, even after harvest of live trees.</p> <p>See response to Comment 6-52. Additional information will be added to the FEIS regarding the effects of logging on mycorrhizal fungi.</p>
<p>6-48</p>	<p>Salvage and replanting simplifies landscape Replanting would include several tree species and would restore wildlife habitat sooner (see Response 6-19). Planted seedlings would come from seed collected from the same breeding zone and elevation as the Easy Fire. Natural regeneration will play a role in foresting burned areas where an available seed source exists. Regional Forester’s direction letter of November 19, 2002, directs that severely burned areas be reforested as soon as possible. Consistency with this letter, the National Forest Management Act, and Forest Plan direction are disclosed in the Forest Vegetation Effects section of the DEIS. Varying levels for snags and down logs to be left on site are discussed in each alternative in Chapter 2 of the DEIS and FEIS. Effects of snag salvage on wildlife species are discussed in Chapter 3, Terrestrial Wildlife.</p>
<p>6-49</p>	<p>Soil – harvest effects and reasons not to post-fire harvest In general, for comments 6-49 through 6-52, the benefits to the soil resource from not harvesting will be expanded in the discussion of the No Action Alternative.</p> <p>For the Action Alternatives, the potential effects to the soil from post-fire harvest are discussed in the DEIS in sections “Tractor Harvest,” “Expected Ground Effects from Ground-Based Yarding,” “Decrease in Ground Cover,” “Erosion and Sediment Risk,” “Subsoiling,” “Fuels Control – Grapple Piling,” “Proposed Ground Based Activity and BAER Burn Severity,” “Skyline and Helicopter Harvest,” “Nutrients,” “Comparison of Action Alternatives,” “Tractor Harvest Units and BAER Burn Severity,” and lastly in “Cumulative Effects” (pp. 259-270).</p> <p>The higher risk of ground based management of the moderate to high BAER burn severity areas is stated in the DEIS in sections “Proposed Ground Based Activity and BAER Burn Severity” (pp. 263-264); “Cumulative Effects” (p. 269 after Table S-12; and p. 270, paragraph #2); and in section “Consistency with Direction and Regulation” (p. 271).</p> <p>Effects on mass wasting: Slope stability and mass wasting are not serious issues as stated in the DEIS (pp. 8 and 249): “ Most of the Easy Fire area has silt loam surface soils derived from volcanic ash over subsoils derived from volcanic rock, mostly basaltic andesite. The andesitic rock types are fine-grained, generally hard and competent, and moderately to highly fractured. These rock types are stable, with a strong resistance to mass movement (SRI, Malheur N.F. 1974).”</p> <p>Reduction of nitrogen fixing plants Snowbrush ceanothus can be a serious hardwood competitor to conifer seedlings. The presence of competing vegetation, in particular Snowbush ceanothus, is discussed in the DEIS on pages 97-98. Ceanothus has both beneficial and negative effects on conifer seedlings. The positive effects of nitrogen fixing, etc. are can be outweighed by competition for water, nutrients, and sunlight. Nevertheless, this project does not plan for ceanothus control. As stated in the DEIS, “No manual, mechanical, or herbicide control methods are planned for control of either sod forming grasses or ceanothus” (p. 98).</p> <p>Under the No Action Alternative 1, loss of mycorrhizal fungi (as well as herbaceous</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	plant and <i>Ceanothus</i> competition) possibly could inhibit tree regeneration in later years.
6-50	<p>Soil - down wood: trapping sediment and aiding water infiltration Harvest areas would produce small diameter materials on the ground, such as treetops, branches, and boles remaining on site. This material can help trap sediment retaining it on slope. Ground cover is expected to increase 10% or more from logging slash. However, this increase in ground cover would be a trade off for increased ground disturbance from the yarding of felled trees, depending on the yarding method. This trade off will be added to the FEIS. The ground disturbance effects are discussed in the DEIS for tractor, skyline and helicopter logging, pp. 260-262.</p>
6-51	<p>Nutrients – dead trees Within the harvest units, many dead and dying trees in smaller size classes within the harvest units will be retained to provide beneficial soil nutrients. Also, all live trees will be left to provide a future source of down wood (i.e. needle cast, limbs, and large logs).</p> <p>The DEIS discusses woody material and its relationship to soil productivity and soil organisms in section “Soil Organic Matter, Litter, Soil Wood & Nutrient Status” (pp. 257-258 and in “Nutrients” (p. 264). Removal of nutrients and organic matter from logging and fuel control would likely move many sites back toward their fertility status before European-Americans arrived. This removal, especially removal of nitrogen, may decrease site productivity a few percent on some sites. For the drier forest conditions in the project area, before fire suppression became effective, down and decaying wood burned frequently, so there were few or no large accumulations of decaying wood. Thus, large wood was not an ample source of nutrients throughout secondary succession.</p>
6-52	<p>Nutrients – dying trees Live trees do help beneficial soil organisms hold over until vegetation cover is re-established. The focus of the tree removal is for trees already killed by the fire, or likely to die as a result of fire injury. The benefit of leaving “dying” trees would depend on the expected remaining life expectancy of these fire-injured trees.</p> <p>Also, within the harvest units, many dead and dying trees in smaller size classes within the harvest units will be retained to provide beneficial soil nutrients. All live trees will be left to provide a future source of down wood (i.e. needle cast, limbs, and large logs).</p>
6-53	<p>Soil chemistry There is no evidence that loss of chemical buffering would be significant. See response to Comment 6-51.</p>
6-54	<p>Water quality degradation Effects to water quality parameters are disclosed on Pages 209 to 234 of the DEIS.</p>
6-55	<p>Down logs – water quality Your concern over water storage capacity in down logs is noted. This issue will be addressed in the FEIS.</p>
6-56	<p>Water quality – peak flows Effects to peak flows and increased runoff is discussed on Pages 234-239 of the DEIS.</p>
6-57	<p>Vegetation recovery – Delay and Diversity See Response 6-19</p>
6-58	<p>Noxious Weeds See Management Requirements, Constraints, and Mitigation Measures, Noxious Weeds Mitigation, DEIS, page 66; and Chapter 3, Environmental</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	Consequences/Invasive Species – Noxious Weeds, DEIS, pages 341-344.
6-59	Stand structure The Easy Fire destroyed the legacy stand structures; often reverting older forest structures to younger forest structures such as stand initiation, or understory re-initiation. Stand structures will not be changed with salvage treatments (see FEIS, Chapter 3, Vegetation Section).
6-60	Snags/down logs – Wildlife habitat Snag habitat for dead-forest-dependent species was an issue identified during public scoping. To address this issue, a range of snag prescriptions was considered in the alternatives (DEIS, Chapter 2). Design measures for each alternative identify these prescriptions (DEIS, Chapter 2). The DEIS discloses the effects of retaining various dead wood levels over time. See DEIS, Chapter 3. The primary cavity excavator species (PCE) – Snags – Down Logs section provides the most discussions on dead wood habitat. In the FEIS, Chapter 3 the wildlife existing condition and environmental effects sections include updates to the discussions on dead wood dependent/primary cavity excavator species. Discussion concerning impacts to thermal and hiding cover as well as travel corridors can be found in the FEIS, Chapter 3, Terrestrial Wildlife, sections on big game and old growth.
6-61	Large wood - streams No harvest will occur in RHCAs. Additionally buffer widths will be extended along severely burned intermittent channels in Alternatives 2 and 4. See Page 220. Wood recruitment levels will not be lowered further than the background levels associated with the Easy Fire. Large wood structures within streams will not be affected by harvest activities.
6-62	Large snags loss – Wildlife The DEIS documents the importance of larger, dead wood structures. See response 6-60.
6-63	Biodiversity loss – Wildlife See response 6-5g
6-64	Snags/ down wood habitat – Diversity See response 6-5g
6-65	Shade See Response 6-5b
6-66	Big game habitat The Easy Fire caused most of the effects on forest structures and big game cover. The alternatives have little effect on remaining cover because dead wood habitats provide little cover habitat. The DEIS discloses the effects of the Easy fire on cover habitat (see DEIS, Chapter 3, MIS – Rocky Mountain Elk, Cover, Habitat Effectiveness Index). The DEIS and FEIS disclose the effects of the Easy fire on cover habitat (DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Big Game Habitat). This FEIS has been updated to disclose the effects of alternatives on fawning habitat.
6-67	Loss of disturbance processes - snags thinning of seedlings/saplings See Response 6-5c
6-68	Fire risk – Human Activity/Logging Slash Most if not all fine fuels (0.0 – 0.25 inches diameter) have been consumed in the Fire area, including fine fuels on fire-killed trees in severely burned areas of the fire. Fine fuels have the greatest effect on rate of spread and fire intensity of a wildfire. Fine

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	fuels at this time and during harvest operations do not pose a wildfire hazard. While it is true that there is increased activity during harvest operations, Forest records indicate fire starts due to this activity are not common. Harvest activities may increase the fuels (0 to 3 inches) immediately after harvest but an overall decrease in fire hazard is expected after full implementation.
6-69	<p>Seed source</p> <p>The Easy Fire removed much of the potential seed source. Lack of reliable seed sources in areas that burned with moderate or high severity is the major limiting factor for natural regeneration (See DEIS, pages 93-95). This section has been updated in the FEIS. Proposed activities will not remove live trees in harvest units.</p>
6-70	<p>Vegetation diversity</p> <p>Diversity - See response 6-19 Microsite conditions - see response 6-5b.</p>
6-71	<p>Snags/down wood – Wildlife</p> <p>A range of alternatives was developed to retain snag and down wood. New studies were used to determine the levels of snags retained including the use of DecAID analysis tool and the science that DecAID was based on.</p> <p>See response 6-24 under nutrient cycling and soil fertility.</p>
6-72	<p>Reburn risk</p> <p>The desired future condition of the project area is a return to a high fire frequency, low severity fire regime. Salvage harvest proposed in alternatives 2, 3, and 4 would lower potential fuel loadings to a level that will reduce the fire severity of future wildfires or management ignited prescribed fires. The fire and fuels effects did analyze the effects of the increase of all fuel components, including “mid-size” fuels in all alternatives in the DEIS.</p>
6-73	<p>Uncertainty of Effects</p> <p>Proposed timber harvest in Alternatives 2, 3, and 4 will meet most resource protection standards of the Malheur Forest Plan; and all Federal Laws including Threatened and Endangered Species Act and Clean Water Act (See DEIS, Chapter 3).</p>
6-74	<p>Restoration Alternative</p> <p>The FEIS includes a restoration alternative, Alternative 5, with no commercial timber harvest. This alternative was initially considered but eliminated from detailed study in the DEIS. It has been fully analyzed in the FEIS. Alternative 5 proposes restoration activities such as small fuels reduction, reforestation in severely burned areas, and road closures. This alternative does not include commercial harvest of timber.</p>
6-75	<p>Beschta Alternative</p> <p>The DEIS considers a wide range of alternatives that includes Beschta Report recommendations for post-fire recovery appropriate for the site, such as helicopter logging on steep, severely burned slopes above fish bearing streams, and reduction of open roads. Two alternatives were developed that follow the “custodial/no salvage harvest” approach included in many of the recommendations. These alternatives are Alternative 1 (No Action) and Alternative 5. See also Response 6-74.</p> <p>This comment suggests prohibiting post-fire logging in the following areas:</p> <ul style="list-style-type: none"> -Sensitive sites – see Response 9-77. -Severely burned areas – see Responses 6-79, 6-104, 7-51, 8-6, 9-1, 9-71. -Roadless/unroaded areas – see Responses 6-17 and 9-42. -Riparian areas – there is no harvest proposed within RHCA’s in any alternative. -Steep slopes – see Responses 7-1, 6-111, and 8-6. -Late-successional and Riparian Reserves – these are terms that only apply to National

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	<p>Forests that are under the Northwest Forest Plan. The Malheur NF is not. However for discussions of ROGs and DOGs– see Responses 7-35, 9-6, 9-22, 9-26, 9-38, 9-69, 9-70, 9-92, 9-98. There is no harvest proposed in RHCA’s.</p> <p>-Protective land allocations – there are no protective land allocations in the project area including Botanical and Scenic River Areas.</p> <p>-All live trees – there is no proposal to harvest live trees in any of the alternatives, other than incidental live trees for temporary road construction, landings, and safety concerns.</p> <p>- Snags – see Responses 6-27, 6-100, 7-27, 7-38, 7-58, 8-5, 8-8, 9-57, 9-61, 9-63, and 9-65.</p>
<p>6-75b</p>	<p>Effects of compound disturbances – fire followed by logging</p> <p>We have found several abstracts and a number of news articles relating to the study by Rumbaitis-del Rio. However, we have not been able to obtain a copy of the study. While there are some applications from the study that would apply to the Easy Fire project, there are also differences in the climatic, plant and soil regimes in the study and the Easy Fire area.</p> <p>According to the abstracts and related articles, the study was conducted in northwestern Colorado, in windblown areas of subalpine fir (spruce) forests. In the Easy Fire area, subalpine fir and Engelmann spruce make up a small portion of the forest vegetation, but the majority of the fire is in a lower elevation forest regime. The soils and geology are also likely different between the two areas. The related articles state that heavy or significant amounts of soil erosion occurred in the study areas to create the current conditions of low tree density and hotter, drier soils, with low soil organic matter content.</p> <p>In Chapter 3 of the Easy Fire FEIS, the Soils section does state that in the burned areas with opened canopies (or loss of the forest canopy), the ground temperatures and soil moisture would be increased, which accelerates the decomposition rate of the remaining organic matter, humus and soil wood (depending on the available/remaining microorganisms, bacteria, and fungi). The increased soil moisture would be from the reduced plant transpiration. However, this increase in moisture would be short-term, and would decrease as the vegetation becomes re-established. Chapter 3 also states that logging and fuels control would remove nutrients and organic matter, to levels comparable to the era before fire suppression, before European-Americans arrived. Soil erosion is expected to occur in disturbed areas; however, the amounts would be minimized through the mitigation measures in Chapter 2 of the FEIS. Removing the varying amounts of standing dead and dying trees from the fire area can increase the surface temperatures by reducing the shade. However, the tree seedling survival is expected to be sufficient to re-establish the coniferous vegetation.</p>
<p>6-75c</p>	<p>Dead and down wood are key elements See Responses 6-5d, 6-25, 6-50, 6-51, 6-52, 6-60, 6-71, and 6-98.</p>
<p>6-76</p>	<p>Salvage should treat small diameter trees (not large) See comment 6-68</p>
<p>6-77</p>	<p>Dead trees provide shade See response 6-5b</p>
<p>6-78</p>	<p>Pile burning and invasives</p> <p>The DEIS discloses the effects of activities on noxious weed (invasive species) on pages 340 through 344. Additional effects disclosure on pile burning has been added to noxious weed section of the FEIS. Because we would follow the mitigation measures identified for prevention of noxious weed spread in Chapter 2 of the FEIS, the risk of spreading weeds within the project area would be reduced.</p>
<p>6-79</p>	<p>Salvage retards watershed, aquatic recovery</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	<p>The extent of effects on soil and natural vegetative recovery depends upon a variety of factors, including the methods used, the timing of these activities, and their duration. Vegetative recovery of the burned areas and in the stream channel side slopes is discussed in the DEIS, sections “Stream Temperature,” (pp. 211-215); “Recovery of Protective Ground Cover” and “Plant Recovery,” pp. 253-256. The discussion on direct, indirect and cumulative effects on the soil resource is on Pages 259-270.</p> <p>No harvest activities will occur in RHCAs so there will be no sediment generation directly adjacent to streams. Also along Clear Creek, the only fish bearing stream within the project area, units are not located directly adjacent to the Clear Creek RHCA, providing an additional screen for sediment dissipation. Units are located well upslope to the east. To the west Units are located above Road 2635 or other roadways outside the Clear Creek RHCA. The use of lighter ground disturbance yarding methods such as helicopter and cable yarding methods will further minimize sediment introductions into nearby streams.</p> <p>The proposed mitigation measures include, among others, the PACFISH RHCA buffers of 300 feet and 150 feet slope distance for Category 1 and 2 streams; extended RHCA buffers of 150 feet slope distance, instead of the standard 100 feet distance, along three of the intermittent stream channels that underwent high BAER burn severity above Clear Creek and along Easy Creek; a buffer along a burned ephemeral channel; and helicopter logging of units above Clear Creek and along Easy Creek.</p> <p>With the extended buffer widths along the severely burned intermittent channels, wood recruitment levels will not be lowered further than the background levels associated with the Easy Fire. See Page 220. Soils are stable in the area. Contributions of wood to streams by landslides will not likely occur. Wood recruitment to stream will not be affected by project activities.</p> <p>See also response to Comments 6-14, 6-38 and 6-39.</p>
6-80	<p>Salvage logging, roads and sedimentation</p> <p>Road use for haul activities will occur only during dry weather or frozen conditions. Due to this season of use, road maintenance during hauling activities, and the good condition of roads within project area and along haul routes, increased sedimentation from haul routes is anticipated to be minimal. Also 5.2 miles of Road 2600391 will be closed with this project, further minimizing potential road impacts.</p> <p>Along Clear Creek, the only fish bearing stream within the project area, units are not located directly adjacent to the Clear Creek RHCA, providing an additional screen for sediment dissipation. Units are located well upslope to the west. To the east, units are located above Road 2635 or other roadways outside the Clear Creek RHCA.</p>
6-81	<p>BMP’s don’t eliminate erosional impacts</p> <p>BMPs alone may not eliminate erosion impacts of post-fire logging but when combined with proper unit location and design (harvest method, layout) and proper haul seasons BMPs are extremely important in minimizing impacts to the surrounding environments.</p>
6-82	<p>Loss of soil productivity</p> <p>We agree that logging effects can pose risks for increased erosion and sedimentation in the post-fire environment. The DEIS sections “Recovery of Protective Ground Cover,” “Plant Recovery” and “Soil Conditions” (pp. 253-259) discuss the current conditions of the soil resource. The potential consequences are discussed in sections on pages 259-270. The potential risks are discussed in sections “Proposed Ground Based Activity and BAER Burn Severity” (pp. 263-264); “Cumulative Effects”; and “Consistency with Direction and Regulation” (pp. 266-271). The mitigation measures</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	<p>listed in Chapter 2 are proposed to reduce the soil and water effects to acceptable levels.</p> <p>Regarding the removal of coarse woody debris, the Forest Plan Standard will be met for all alternatives. The chart of Management Requirements, Constraints and Mitigation Measures (Chapter 2, p. 61) lists the varying amounts of down logs to be left on site. However, the differences between the alternatives relating to the amount of future recruitment of large woody debris will be discussed in the soils section.</p> <p>Also see response to Comments 6-5d and 6-6.</p>
6-83	<p>Noxious weeds can increase erosion</p> <p>The cumulative effects of the fire, elevated road use, and logging were discussed in Chapter 3, Environmental Consequences/Invasive Species – Noxious Weeds, DEIS, pages 342-344. See also Response 6-58.</p>
6-84	<p>Road and landing construction and erosion</p> <p>No new specified roads will be constructed with this project and only 0.30 miles of road will be designated anything but routine haul maintenance. Road 2600026 will receive grid-rolled aggregate over 0.30 miles of its length.</p> <p>Additionally, road use for haul activities will occur only during dry weather or frozen conditions. Due to this season of use, road maintenance during hauling activities, and the good condition of roads within project area and along haul routes, increased sedimentation from haul routes to stream systems is anticipated to be minimal. Also 5.2 miles of Road 2600391 will be closed with this project, further minimizing potential road impacts. See Page 216 of the DEIS.</p> <p>Landings and temporary roads will be subsoiled and seeded with a weed-free seed mixture (Chapter 2 DEIS, mitigation measures).</p>
6-85	<p>Restoration Alternative</p> <p>See response 6-74.</p>
6-86	<p>Dying trees – uncertainty</p> <p>Predictions of tree mortality will be done using the most current scientific literature available, Scott et al, November, 2002. It is true that some trees that we say will survive will eventually die and some trees that we say will die (and are thus marked for salvage harvest) could survive. However, the Scott et al mortality rating system is the best and latest science available.</p> <p>See Responses 1-19, 6-2, and 9-91.</p>
6-87	<p>Importance of mycorrhiza formation</p> <p>Planted survival has been comparable in both salvaged and unsalvaged areas. While leaving snags and down logs may provide for increased moisture, mycorrhizal fungi, and nitrogen fixing bacteria, there has been no observable effect on reforestation survival based on actual experience on this forest. Micrositing near logs and stumps is required by the tree planting contract and is considered a standard practice. In rare cases, tree regeneration has failed in clearcuts of live trees west of the Cascade Mountains because of a deficiency of mycorrhizal fungi. However, on Malheur National Forest, no such regeneration failures have been reported, even after harvest of live trees.</p> <p>The DEIS discloses that conditions after logging would be sufficient for planted seedling regeneration (p. 96), so microsites provided by snags and logs are not necessary, mycorrhizal fungi are sufficient, and water holding capacity is sufficient.</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	Under the No Action Alternative 1, loss of mycorrhizal fungi (as well as herbaceous plant and <i>Ceanothus</i> competition) possibly could inhibit tree regeneration in later years.
6-88	Snags – Wildlife See responses 6-5a through h.
6-96	<p>Grazing – policy; cumulative effect</p> <p>The discussion on the range resources is on pages 328-334, and as stated in Chapter 2 “Monitoring Plans” (p. 69, paragraph 4) the ground conditions would be monitored, and grazing “would not resume prior to two growing seasons after the fire, even if monitoring verified that the percent ground cover was the same as the pre-fire condition, to allow for plants to set seed” (Post-Fire Interim Grazing Guidelines).</p> <p>The effects of past grazing were discussed in the DEIS on pages 168-169; 182; and 184-186; and cumulative effects of grazing were discussed for the alternatives on pages 219, 228, 231 and 233. The cumulative effects of logging are disclosed on Pages 211 to 239 of the DEIS. The riparian area along Clear Creek, the only fish-bearing stream within the project area, and its tributaries show few impacts from livestock grazing and are considered to be in an improving trend. Streams within the project area have been minimally used by livestock, due to steeper slopes and high levels of down wood (See Page 169, 184-185 of the DEIS).</p> <p>Developing alternatives to determine post fire grazing direction would require action outside the scope of this analysis (DEIS, page 29). The Malheur post fire grazing guidelines established by the Malheur Forest Supervisor will be followed.</p>
6-97	<p>Water quality/disturbance</p> <p>The extent of effects on soil and vegetative recovery depends upon a variety of factors, including the methods used, the timing of these activities, and their duration. Vegetative recovery of the burned areas and in the stream channel sideslopes is discussed in the DEIS, sections “Stream Temperature,” (pp. 211-215); “Recovery of Protective Ground Cover” and “Plant Recovery,” pp. 253-256.</p> <p>The direct, indirect and cumulative effects on the soil resource from ground based logging and roads is discussed in the DEIS on pages 259-271. The majority of ground-based acres are on slopes of less than 30% (Table S-10, DEIS, page 266). Best Management Practices and the table of mitigation measures detailed in Chapter 2 of the DEIS (pp. 62-63) are proposed to minimize the amount (areal extent) of detrimental soil disturbance and effects within RHCAs and the resulting water quality.</p> <p>The mitigation measures for the soil resource include designated spaced skid trails; limiting tractor skidding to slopes of less than 35%; allowing operations on dry, frozen or snow-covered soil; subsoiling of skid trails; installing cross drains; and seeding disturbed areas with a native or non-persistent, certified weed-free seed mixture.</p> <p>There is a level of risk involved in managing the moderate to severe BAER burn severity acres, as discussed in the DEIS sections “Proposed Ground Based Activity and BAER Burn Severity” (pp. 263-264); “Cumulative Effects”; and “Consistency with Direction and Regulation” (pp. 266-271).</p>
6-98	<p>Water quality – large wood</p> <p>Your comments about the importance of down wood as a reservoir for water storage were addressed in the response to your comment 6-55. The Forest Plan standard for down wood will be met under all alternatives. Current down wood volumes will actually be increased in helicopter areas. Additionally down wood will be created from harvest activities, especially in helicopter units where tops will be cut and left on</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	ground. This will benefit the area in retaining fine soils and dissipating water flow. Limbs will be left in units through breakage. See Page 293 of the DEIS.
6-99	<p>Water quality – Road construction No new roads will be constructed with this project and only 0.30 miles of road will be designated anything but routine haul maintenance. Road 2600026 will receive grid-rolled aggregate over 0.30 miles of its length.</p> <p>Additionally, road use for haul activities will occur only during dry weather or frozen conditions. Due to this season of use, road maintenance during hauling activities, and the good condition of roads within project area and along haul routes, increased sedimentation from haul routes to stream systems is anticipated to be minimal. Also 5.2 miles of Road 2600391 will be closed with this project, further minimizing potential road impacts. See Page 216 of the DEIS.</p>
6-100	<p>Beschta – live trees/snags Issues raised in the Beschta report (and their applicability to the Easy Fire Recovery Project), are addressed in the DEIS on pages 361 through 368. This issue is specifically addressed in the DEIS on page 366.</p>
6-101	<p>Beschta – Snags, safety See comment 6-27.</p>
6-102	<p>Beschta – Reburn There is no “immediate” threat of a “reburn” in the project area because fuels burned in the Easy Fire. However, in the future, as snag attrition occurs and fine fuel loadings accumulate with vegetative recovery, the potential fire severity will increase due to the accumulation of coarse woody debris greater than 3” diameter. It is acknowledged that fine fuels have the greatest effect on rate of spread and fire intensity. This has been discussed in the Fuels section of Chapter 3 in the DEIS and FEIS.</p>
6-103	<p>Beschta – vegetation recovery See response 6-5.</p>
6-104	<p>Beschta - soils For the remaining burned areas, the DEIS discloses mitigations (Chapter 2) to adequately protect severely burned or erosive sites, though it does not prohibit logging on these sites. Best Management Practices and the mitigation measures for the soil resource in Chapter 2 of the DEIS (pp. 62-63) are proposed to limit the amount of soil disturbance and the export of sediment out of units. For the ground-based units, the measures include designated spaced skid trails; limiting tractor skidding to slopes of less than 35%; allowing operations on dry, frozen or snow-covered soil; subsoiling of skid trails; installing cross drains; and seeding disturbed areas with a native or non-persistent, certified weed-free seed mixture.</p> <p>The direct, indirect and cumulative effects on the soil resource from ground based logging and roads is discussed in the DEIS on pages 259-271. Tables S-11 and S-12 in the DEIS (pp. 268-269) show the expected cumulative effects to the soil from the proposed ground based operations. The second table (Table S-12) lists the harvest areas that would approach or reach the threshold limit of soil impacts, if activities are implemented.</p> <p>There is a level of risk involved in ground based management of moderate to high BAER burn severity areas, as discussed in the DEIS sections “Proposed Ground Based Activity and BAER Burn Severity” (pp. 263-264); “Cumulative Effects” (p. 269 after Table S-12; and p. 270, paragraph #2); and “Consistency with Direction and Regulation” (pp. 266-271).</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	(Distance of Ground Based Units from Stream Channels – Reference Map to be Added to Soil Report)
6-105	Salvage logging – no public need See Response 6-107
6-106	PACFISH standards No harvest activities will occur within the RHCAs. Additionally, effects to PACFISH riparian management objectives (i.e., pool frequency, water temperatures, large woody debris, bank stability, and width to depth ratios) were analyzed in the DEIS.
6-107	Hazard tree removal – excuse for volume Actions were proposed to comply with the purpose and need for action and the goals and objectives outlined in the 1990 Malheur National Forest Land and Resource Management Plan. One of the stated goals in the Forest Plan is to “provide a sustained flow of timber for lumber, fiber, and/or associated wood products at a level that will contribute to economic stability, while providing for regional and national needs”.
6-108	Planting – low density; alternative The FEIS, Chapter 3 Forest Vegetation & Structure has been updated to address this concern. See also Response 6-19.
6-109	Fire risk from salvage alternatives The fire risk from salvage alternatives was addressed in comment response 6-68.
6-110	Reduced fire risk from not harvesting Snags do provide some shade, however, we disagree with the statement “falling snags over time tend to break up the continuity of fuels in the form of brush and reprod.” Falling snags contribute to the surface fuel loading of dead fuels that increase the fire severity to vegetation (brush, trees, grasses and forbs) and soils. Recent studies in North Central Washington have shown snag attrition can be as rapid as 53% of the second-growth pine falling down in the first five years following the fire (Hadfield and Magelson, 1996, 1997, 1998, 1999, and 2000). Limited moisture in the project area also limits decomposition, prolonging the fuel loadings from falling snags and branches.
6-111	Fire behavior The Malheur National Forest has ongoing and anticipated projects that are collaborative between the U.S. Forest Service, Oregon Department of Forestry and private landowners to address fire risk associated with the wildland-urban interface and is outside the scope of this document. A five-year strategy is presently under development to address the landscape and set priority treatment areas within Grant County. Regarding your statements concerning future wildfires, see comment Response 6-68. In the FEIS, Alternative 5 was fully developed and includes restoration activities such as small fuels reduction (non-commercial felling, hand piling, and burning piles on steeper ground, and grapple piling and burning piles on gentler slopes), reforestation in severely burned areas, and road closures. See Chapter 2, FEIS.
6-112	Young forest – fire risk In the Forest Vegetation & Structure section of the FEIS, the planting spacings average 11’ X 11’ in Cold Dry, Cool Dry, and Cool Moist biophysical environments. In the Warm Dry biophysical environments, the spacings average 13’ X 13’. The wider spacings would preclude the need for pre-commercial thinning. If reforestation success is similar to the Malheur NF average of 65%, then at least 35% of the

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	seedlings would die during the first five years, and the surviving trees would have low density and stand uniformity. Additionally, plantations created by past management activities in the project area generally suffered low to moderate fire severity due to previous fuel reduction activities. Residual fuel loading of pole size fuels in the plantations had little or no effect on fire intensity and severity. Additional information on fire severity of plantations in the Easy Fire project area is included in the Fuels section of Chapter 3 in the FEIS. See also Response 1-5.
6-113	Prescribed burning Prescribed fire planning will be designed to minimize effects on all resource areas. Underburning will take place in early spring when soil moisture and fuel moisture in large fuels (3"+) is still high, minimizing effects of heat from burning.
6-114	Pre-settlement forest conditions Pre-settlement Fuel loading analysis information and source is disclosed in the DEIS. Historic fuel loading cannot be determined in stands adjacent to the Easy Fire as adjacent stands are currently outside the historical range of variability.
6-115	Prescribed fire and loss of soil productivity As discussed in section "Soil Organic Matter, Litter, Soil Wood & Nutrient Status," "compared to historical conditions where fires were more frequent, fire suppression since the beginning of the 1800's has allowed increased accumulation of woody debris, organic matter and soil wood within the forested areas. This increase in woody material results in increased levels of nitrogen, phosphorus, sulfur and other nutrients in the surface biomass, forest floor and surface soil. Fire reduces the amount of woody biomass, but releases stored nutrients (as gases or in ash), making a portion of the nutrients available to the plants for the first several years." (p. 257 DEIS). In section "Fire Effects on Soil Productivity" the long-term soil productivity was not at risk from this fire event." (p. 252 DEIS). As disclosed in Chapter 3, Soil, Environmental Consequences, Alternatives 2, 3, and 4, in section "Nutrients," "Logging and fuel control would remove nutrients and organic matter. This removal, especially removal of nitrogen, may decrease site productivity a few percent on some sites. Removing organic matter and nutrients by logging and fuel control would likely move many sites back toward their fertility status before European-Americans arrived" (p. 264 DEIS). "In high and moderate burn severity areas, removing varying number of burned trees is not expected to have long term effects on nutrient cycling, since adequate amounts of coarse woody debris would be left on site. Also, a relatively small percentage of nutrients would likely be removed, because wood has a lower concentration of nutrients, compared to foliage, small branches, and the remaining forest floor; and because non-merchantable trees would be left on site. In addition, organic materials and nutrients remain in the surface mineral soil. Even in the high severity burn areas, small plant roots were not charred in the upper 1-2 inches of soil (TenPas and McNeil, 2002) (p. 264 DEIS)."
6-116	Prescribed fire and effects on wildlife Large-scale prescribed fire has not been proposed under any of the alternatives analyzed for the Easy Fire Recovery Project.
6-117	Wildlife – Road construction The DEIS and FEIS discloses road effects on soils. The direct, indirect and cumulative effects to fisheries of building temporary roads, road maintenance, and road decommissioning activities are disclosed in the Easy DEIS and FEIS. No new permanent roads are being constructed as part of the alternatives being considered in

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
	<p>the DEIS and FEIS. In a change from the DEIS to FEIS, the number of miles of temporary roads would be reduced in Alternatives 2, 3, and 4. A minimal amount of temporary road would be needed in Alternatives 2 (0.7 miles), Alternative 3 (0.5 miles) and in Alternative 4 (0.2 miles) to access landings. Temporary roads would be decommissioned after use. Additionally 5.2 miles of road are proposed for closure under all alternatives.</p>
6-118	<p>Soils/Water quality – temporary roads</p> <p>The temporary roads are not expected to have an effect on water quality due to their location on ridge tops or gentle slopes, away from streams. Also, most of the proposed temporary road segments consist of rehabilitated roads, or existing decommissioned roads. All miles of temporary road would be stabilized and decommissioned after harvest activities, through cross drains, subsoiling and seeding after harvest (p. 63 DEIS).</p> <p>In a change from the DEIS to FEIS, the number of miles of temporary roads would be reduced in Alternatives 2, 3, and 4.</p> <p>Alternatives 2 would construct about 0.7 miles of temporary road to allow access to harvest. Of these temporary road miles, about 0.2 miles are re-opening of rehabilitated temporary road and about 0.5 miles are decommissioned roads that would be re-opened as temporary roads (FEIS, Chapter 2, Description of Alternatives).</p> <p>Alternative 3 would construct about 0.5 miles of temporary road to allow access to harvest. This consists of decommissioned roads that would be re-opened as temporary roads (FEIS, Chapter 2, Description of Alternatives).</p> <p>Alternative 4 would construct about 0.2 miles of temporary road to allow access to harvest. This consists of re-opening a rehabilitated temporary road (FEIS, Chapter 2, Description of Alternatives).</p> <p>The effects of the temporary roads on water quality and fish are discussed on Pages 221, 226, 230, 232, and 240-242 of the DEIS. Adverse effects to aquatic habitat and species from construction, use, and decommissioning of temporary roads are not likely because these activities will take place outside of RHCAs. The effects of the temporary roads on the soil resource are also included in Tables S-11 and S-12, which show the expected cumulative effects to soils (pp. 268-269).</p>
6-119	<p>Lack of noxious weed surveys</p> <p>Mitigation to help control the spread of noxious weeds are listed in the DEIS on page 66 and in the FEIS in Table 2-5, Chapter 2. See DEIS, Effects of Noxious Weeds on page 341-344. This section was updated in the FEIS, and includes noxious weed survey information collected during the Summer/Fall of 2003.</p> <p>See also Response 6-58.</p>
6-120	<p>Global Warming - Forests - Carbon reservoirs</p> <p>Potential changes in the physical and chemical nature of the earth's climate are likely to have impacts on the nation's agriculture, forest, and related ecosystems. The extent and magnitude of these changes are uncertain at this time. There is a lack of information to predict and detect changes in health, diversity, and productivity of these systems due to global climate change. The Department of Agriculture and Forest Service are researching issues of global climate change, and the implications for forest management activities (USDA, Forest Service, PSRS 2003). NEPA disclosure documents at the regional or project level are not the appropriate means for addressing the global climate, change issues. .</p>

Response #	Letter #6 - Doug Heiken, Oregon Natural Resources Council Response
6-121	<p>Lynx – Disclosure of effects/ mapping The draft DEIS and FEIS disclose effects to the Canada lynx. See DEIS and FEIS Chapter 3, Threatened and Endangered Species – Canada Lynx (Threatened). See Appendix D, Wildlife Biological Evaluation. A “no effect” determination was reached for Canada Lynx for activities proposed in the DEIS.</p> <p>Information from several sources, which represent the latest science information about lynx habitat and ecology, were utilized in the identification of the lynx analysis unit (LAU) and lynx habitat. Those sources of information include the Lynx Conservation Assessment and Strategy (LCAS) (Ruediger et al., 2000) and the Ecology and Conservation of Lynx in the United States (Ruggerio et al., 1999).</p>
6-122	<p>Lynx – LCAS See response 6-121. LCAS being subject to NEPA is beyond the scope of this project.</p>
6-123	<p>Lynx – PDCs See 6-121 and 6-122.</p>
6-124	<p>Impacts on unroaded areas greater than 1000 acres See Response 6-17.</p>
6-125	<p>Road density analysis recommendations No new permanent road construction will occur with this project. 5.2 miles of Road 2600391 will be closed, decreasing the open road density in the area. Temporary roads will be decommissioned at the end of their use. See Pages 216, 221, and 226 of the DEIS.</p>
6-126	<p>Roadless – validate boundaries The DEIS and FEIS are following the direction and decisions made in the 1990 Malheur National Forest Land and Resource Management Plan which met the court ruled requirements identified in <i>California v. Block</i>.</p> <p>Roadless inventories were analyzed in the 1990 Malheur National Forest Land and Resource Management Plan. The areas you indicated were considered in that inventory and were not included in a roadless area. The Malheur Plan allocated these lands to MA 1/2 - General Forest, MA 4A – Big Game Winter Range, MA 10 – Semi-Primitive Non-Motorized Recreation Area, MA 13 – Old Growth, and MA 14M – Visual Corridors. The decision was made in the ROD for the Forest Plan; therefore, it is outside the scope of this project. It may be considered in the Forest Plan revision (see also Response 6-17).</p> <p>There are no inventoried roadless areas in the Easy Fire project area (DEIS and FEIS, Chapter 3, Roads & Access).</p>

#7 – Asante Riverwind – League of Wilderness Defenders – Blue Mountains Biodiversity Project (LOWD-BMBP)

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
7-1	<p>Logging on steep slopes – effect on fish</p> <p>Units for the Easy Fire recovery project are located almost exclusively on topography less than 61%. Also, along Clear Creek, the only fish bearing stream within the project area, units are not located directly adjacent to the Clear Creek RHCA, providing an additional screen for sediment dissipation. Units are located well upslope to the west. To the east, units are located above Road 2635 or other roadways outside the Clear Creek RHCA. The use of lighter ground disturbance yarding methods such as helicopter and cable yarding methods on steeper slopes (30-60%) will further minimize sediment introductions into nearby streams.</p>
7-2	<p>Logging live trees and burn severity</p> <p>Our plot data shows that the areas where we have proposed harvest units contain sufficient numbers of dead and dying trees to justify salvage in those areas. Trees will be marked for removal according to guidelines as presented in “Factors Affecting Survival of Fire Injured Trees...” (Scott et al., 2002) and it’s Amendment 1 (Scott et al, 2003). There will probably be some trees with green crowns that will be determined not likely to survive due to factors such as bole scorch or root damage. Some trees determined likely to survive may eventually die. Of the units that were mentioned in this comment, portions of units 5, 7, and 9 have been dropped due to low mortality levels. As for fire severity, our fieldwork has determined that these areas are mapped correctly. There is a difference between BAER severity mapping and vegetation severity mapping. The differences are explained on pages 5, 77-78, and 248 of the DEIS. See also Response 7-3.</p>
7-3	<p>Fire burned as an underburn in some units</p> <p>Many of the large Douglas-fir and ponderosa pine will not survive simply because duff depths were so deep around the base of these trees. Past fire exclusion has allowed needles and other organic matter to accumulate beneath trees. Because the duff was so deep, the duration of burning next to these trees was long, and damage to cambium and/or roots may have occurred on many of these trees. The crowns of such trees may look green, but the trees could still be classified as not likely to survive due to damage to cambium and/or roots. See also Response 7-2.</p>
7-4	<p>Disclose and conduct research regarding woodpeckers</p> <p>Various studies have been done relative to the use of burned areas by primary cavity excavators see the references section for studies utilized for analysis. The section on Primary Cavity Excavators in Chapter 3, Terrestrial Wildlife discusses the effects of the alternatives.</p>
7-5	<p>Cumulative effects of logging on wildlife</p> <p>Cumulative effects of past and future (reasonably foreseeable) actions are discussed in Chapter 3 of the DEIS. See Chapter 3 for the list of past, present, and reasonably foreseeable future actions.</p>
7-6	<p>Out-dated Forest Plan</p> <p>The Malheur LRMP (Forest Plan) has been updated for PACFISH, INFISH, and the East-side Screens (Amendment 2). The Malheur LRMP is scheduled for a revision in 2007. Until the revision is completed non-significant amendments may be required to vary from our current standards. These non-significant amendments are often based on new research recommendations.</p>

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
7-7	<p>Purpose and need statements The need for the project is derived from the differences between current conditions and desired conditions. Desired conditions are based on Forest Plan direction and management objectives. The proposed action is designed to move resource conditions closer to the desired conditions (DEIS and FEIS, Chapter 1, Purpose of and Need for Action). See Response 6-1.</p>
7-8	<p>Restoration alternative See Response 6-74.</p>
7-9	<p>Reduction of fire risk Comments 7-9, 7-56, 7-57, 8-2 and 9-13 all refer to the studies that indicate that large logs are a moisture reservoir during drought and imply they are not fuel that will be consumed in a fire. In 7-9, 7-56 and 7-57, studies by Mike Amaranthus are specifically sited. Those studies were done on the westside and do not reflect the drier moisture regimes present in the Easy Fire area.</p> <p>The removal of potential fuel through salvage harvest is modeled with “Behave Plus”, a fire behavior prediction model. This model was utilized to project future fire behavior and mortality on vegetation. See Chapter 3 DEIS and FEIS. The desired fuel levels were taken from Rocky Mountain Research Station General Technical Report-105 [July 2003]; “Course Woody Debris: Managing Benefits and Fire Hazard in the Recovering Forest.”</p> <p>Course woody debris (>3inches) has little influence on spread and intensity of the initiating fire; however, it can contribute to development of large fires and high fire severity. Fire persistence, resistance-to-control, and burnout time (effects to firefighter and public safety, soil heating and tree mortality) are significantly influenced by loading, size, and decay state of course woody debris (Brown et al. 2001)</p>
7-10	<p>Restoration alternative See Response 6-74.</p>
7-11	<p>Water temperature data No measurable change in water temperature is predicted in any perennial stream as a result of any proposed alternative. See Pages 211 and 212 of the DEIS. Also see response to Comment 6-33.</p>
7-12	<p>Biological Evaluation calls The fisheries Biological Evaluation (BE) meets the standards of analysis developed by Region 6, USDA Forest Service.</p> <p>The fisheries Biological Assessment (BA) was prepared pursuant to the Endangered Species Act of 1973, as amended, to evaluate and describe the effects of land management projects on summer steelhead (<i>Onchorhynchus mykiss</i>) and bull trout (<i>Salvelinus confluentus</i>). The BA was prepared in accordance with the National Marine Fisheries Service (NMFS) guidelines found in their 1996 publication: <i>Making Endangered Species Act Determinations of Effects for Individual or Grouped Actions at the Watershed Scale</i> and similar guidance from the US Fish and Wildlife Service (USFWS) found in their 1998 publication: <i>A Framework to Assist in Making Endangered Species Act Determinations of Effects for Individual or Grouped Actions at the Bull Trout Subpopulation Watershed Scale</i>.</p>
7-13	<p>Sedimentation effects The BE meets the standards of analysis developed by Region 6, USDA Forest Service. See response to Comments 1-15, 6-16, 6-31, 6-32, 6-80, 8-9, 9-31, 9-69, 9-84, 10-1, and 10-6 which address sedimentation effects from project activities.</p>

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
7-14	<p>Fish population data</p> <p>Bull trout are present in the Upper Middle Fork John Day River and Upper John Day River Watersheds. The conditions in these watersheds and the status of populations are fully analyzed in the DEIS, BE, and BA as per the standards developed by Region 6, USDA, and the United States Fish and Wildlife Service. It has been determined that the Easy Fire Recovery Project, including road maintenance, temporary road work, and harvest activities may effect but is not likely to adversely affect bull trout or their habitat with the implementation of the no action or any action alternative. See Pages 239 and 240 of the DEIS.</p>
7-15	<p>Strategy for viable fish populations</p> <p>The conditions in these watersheds, status of populations, and analysis of effects to threatened and sensitive fish species in the project area, or outside the area but potentially affected by project activities, are fully analyzed in the DEIS, BE, and BA as per the standards developed by Region 6, USDA, the United States Fish and Wildlife Service, and National Marine Fisheries Service. It has been determined that the Easy Fire Recovery Project, including road maintenance, temporary road work, and harvest activities may effect but is not likely to adversely affect threatened bull trout (or their habitat) or threatened summer steelhead and their habitat with the implementation of the no action or any action alternative. Further, it has been determined that the Easy Fire Recovery Projects may impact individuals or habitat but will not likely contribute towards a trend towards federal listing or cause a loss of viability to the population or species of sensitive fish residing in the area which include redband trout, cutthroat trout, and spring chinook salmon. See Pages 239 and 240 of the DEIS.</p> <p>Several projects within the Easy Fire Recovery project area, but outside of the Easy Fire Recovery EIS, are described on Pages 28 and 29 of the DEIS. These actions are identified as measures needed help move the area towards desired conditions. They include watershed restoration projects completed under separate decisions by Categorical Exclusions and Environmental Assessments. Other projects will be implemented through administration decisions outside of the EIS. It is predicted that none of these activities will negatively impact aquatic species or their habitat.</p>
7-16	<p>Roads - sedimentation</p> <p>We agree that the road densities are too high. Under all action alternatives work will be accomplished which will help to lower these densities. This will be accomplished through seasonal or year-round closures or decommissioning those roads not needed for future management activities.</p> <p>No new roads will be constructed with the Easy Fire Recovery Project. The road density will be lowered with the closing of 5.2 miles of Road 2600391. See Page 216 of the DEIS. Sedimentation impacts to nearby streams, from roads, is minimized due to the current good conditions of roads to be used for haul activities. Maintenance will be performed on roads used for haul to maintain their good condition.</p> <p>Unclassified roads (jeep trails and skid trails) are not included when calculating road densities. Roads that have been closed are included when calculating total road densities but then are subtracted when calculating open road densities.</p> <p>We will not meet the purpose and need if we don't have commercial logging because we will not capture the economic value of the dead and dying trees.</p>

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
7-17	<p>Roads - densities Skid trails are not considered roads under the definitions listed in the Federal Register and therefore are not included when calculating road densities. See also Response 7-16.</p>
7-18	<p>Roads – big game Road densities and road status are being updated and verified and will be displayed in Chapter 3 of the FEIS. Discussion of the effects of roads on wildlife will be found in Chapter 3, Terrestrial Wildlife.</p>
7-19	<p>Roads – effects There is no system road construction proposed in any alternative.</p> <p>Approximately 0.3 miles of rocking is proposed in Alternatives 2, 3 and 4. The 0.3 miles of rocking involves only the placement of grid-rolled aggregate. This work will be done during dry weather conditions and will not impact nearby fishery resources. The FEIS will be updated to reflect this.</p> <p>Temporary roads are needed to implement harvest activities and to avoid the construction of permanent roads that would require ongoing maintenance and be permanently located on the landscape.</p> <p>In a change from the DEIS to FEIS, the number of miles of temporary roads would be reduced in Alternatives 2, 3, and 4.</p> <p>Alternatives 2 would construct about 0.7 miles of temporary road to allow access to harvest. Of these temporary road miles, about 0.2 miles are re-opening of rehabilitated temporary road and about 0.5 miles are decommissioned roads that would be re-opened as temporary roads (FEIS, Chapter 3, Description of Alternatives).</p> <p>Alternative 3 would construct about 0.5 miles of temporary road to allow access to harvest. These temporary road miles consist of decommissioned road that would be re-opened as temporary roads. (FEIS, Chapter 2, Description of Alternatives).</p> <p>Alternatives 4 would construct about 0.2 miles of temporary road to allow access to harvest. This road is a rehabilitated temporary road that would be re-opened as temporary roads (FEIS, Chapter 3, Description of Alternatives).</p> <p>There is no new, reconstruction, or temporary road construction proposed for Alternative 1 and 5.</p> <p>The temporary roads are not expected to have an effect on water quality due to their location on ridge tops or gentle slopes, away from streams. Also, most of the proposed temporary road segments are made up of rehabilitated roads or existing decommissioned roads. All miles of temporary road would be stabilized and decommissioned after harvest activities, through cross drains, subsoiling and seeding after harvest (p. 63 DEIS).</p> <p>The effects of the temporary roads on water quality and fish are discussed on pages 221, 226, 230, 232, and 240-242 (DEIS). Adverse effects to aquatic habitat and species from construction, use, and decommissioning of temporary roads are not likely because these activities will take place outside of RHCAs. The effects of the temporary roads on the soil resource are also included in Tables S-11 and S-12, which show the expected cumulative effects to soils (pp. 268-269).</p>

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
7-20	<p>Roadless</p> <p>There are no ecologically “de facto” roadless areas that exist between adjacent RARE II or inventoried roadless area boundaries and adjacent area roads because there are no adjacent RARE II areas or inventoried roadless areas. As stated in the DEIS, page 11, the closest inventoried roadless area, Baldy Mountain, is approximately three miles to the south. However, an analysis has been conducted to assess un-inventoried roadless areas greater than 1000 acres within the project area and is included in the FEIS. See also Responses 6-17 and 6-124.</p>
7-21	<p>Region wide EIS</p> <p>Your call for a Regional wide EIS is outside the scope of the analysis. The IDT did consider and use the recommendations and science in the Beschta report. However, based on the team’s analysis of field conditions, past experience with similar fire events, and more recent scientific studies, we developed a proposed action that met the purpose and need for the project. This project is developed on more site-specific analysis than what is found in the Beschta Report (DEIS, page 361).</p>
7-22	<p>Credible science and research</p> <p>We acknowledge that there are conflicting studies regarding salvage of fire-killed timber and we have considered them in this analysis (see FEIS, References Cited and References Analyzed). The Beschta Report and the Sessions Report on the Biscuit Fire are two examples of conflicting studies. As for the credentials of the preparers of this document, they are listed in Chapter 4, DEIS and FEIS.</p>
7-23	<p>Restoration alternative</p> <p>See responses 7-8, 7-10. The Beschta report was addressed in the DEIS, pages 361-368.</p>
7-24	<p>Restoration needs</p> <p>Direct, indirect, and cumulative effects of all alternatives on vegetation, fish, and wildlife, as well as social and economic effects are disclosed in Chapter 3 of the DEIS. Chapter 3 has been expanded in the FEIS.</p>
7-25	<p>Ecological value in relation to economic value</p> <p>Nancy Langston’s book, “Forest Dreams, Forest Nightmares” was considered in the analysis. (see FEIS, References Cited and References Analyzed). See also Response 7-22. See Response 7-64 for discussion of ecological value in relation to economic value.</p>
7-26	<p>Soil Damage, Snag Habitat, Beschta Report</p> <p>Comments related to logging and soil impacts are noted. Not all studies relate to the specific soil conditions in the Easy project area. Site-specific information was used to assess the effects of logging on soils, including soil survey information collected the fall of 2002. See Responses 6-37, 6-38, 6-39, 6-41, and 6-42.</p> <p>Snag habitat for dead-forest-dependent species such as some primary cavity excavators was an issue identified during public scoping. To address this issue, a wide range of snag prescriptions was considered in the alternatives (DEIS, Chapter 2). The alternative descriptions identify these prescriptions (DEIS, pages 46-57). The effects of each alternative upon cavity excavators and other species are disclosed in the DEIS, Chapter 3, Wildlife, pages 131-143. This section has been updated in the FEIS.</p> <p>The IDT did consider and use the recommendations and science in the Beschta report. However, based on the team’s analysis of field conditions, past experience with similar fire events, and more recent scientific studies, we developed a proposed action that met the purpose and need for the project. This project is developed on more site-specific analysis than what is found in the Beschta Report (DEIS, page 361).</p>

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
7-27	<p>DecAID</p> <p>The DEIS and FEIS consider multiple sources of information on dead wood habitats, including DecAID (Mellen 2003). The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section, and the Chapter 5 Bibliography cite additional dead wood research considered. The DecAID tool is currently one of the best sources of information on dead wood habitats because it synthesizes published literature, research data, wildlife databases, inventory data, and expert judgment and experience. DecAID identifies assumptions, caveats and cautions that need to be addressed when using the tool; these aspects were considered when developing snag strategies in the DEIS and FEIS. The Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators section was updated in this FEIS to better disclose the assumptions used.</p>
7-28	<p>Wildlife surveys</p> <p>The DEIS, Chapter 3, Wildlife section, identifies the management indicator species (MIS) – elk, marten, primary cavity excavator species, landbird species, species of concern, and threatened and endangered species known or suspected to be within the project area. Species that did not have habitat within the project area, or are present but would not be affected by the activities proposed, were not included in the analysis. Where possible, as with the management indicator species, representative species were selected to describe effects to a wider cohort of species with similar habitat needs. A variety of sources were used to determine presence of individuals, populations and/or habitat for the different wildlife species. These information sources include wildlife and other resource habitat surveys, Geographic Information System databases, District and Forest species databases, field observations, and past professional experience in dealing with species and their habitats (see DEIS, Chapter 3). Population surveys were not undertaken for any wildlife species. Rather, assessments of relative populations were made based upon availability of suitable habitat, and changes to those habitats with the activities proposed. This is based on science that demonstrates connections between species populations and viability and the quality and condition of habitat at appropriate scales of analysis. The FEIS will disclose where and when formal surveys have been conducted. In the FEIS, Chapter 3, the Management Indicator Species discussions have been updated with population status/trend and source habitat trend information.</p>
7-29	<p>Botanical Survey disclosures</p> <p>Sensitive plant surveys were conducted in portions of the project area prior to the fire. Surveys completed before the 1999 Region 6 Sensitive Plant List was released are now incomplete because the species on the list have changed (DEIS page 345).</p> <p>Sensitive plant habitat surveys were conducted in the project area in November 2002. Additional sensitive plant surveys were conducted in Clear Creek and Mossy Gulch in July 2003. A pre-field review and field survey identified potential habitat in Clear Creek and Mossy Gulch for 11 plant species listed as Sensitive by Region 6. Field surveys were completed July 2003 in areas identified during the 2002 habitat surveys as potential habitat for 11 species. One new population of Botrychium manganese was located in Mossy Gulch (DEIS, Appendix E). The Plant Biological Evaluation for the Easy Fire area is included in the FEIS in Appendix E.</p>
7-30	<p>Recovery plans - Species Surveys</p> <p>The DEIS and FEIS are consistent with the 1973 Endangered Species Act. See Chapter 3, Sensitive Plants, Threatened and Endangered Aquatic Species, and Threatened and Endangered Wildlife Species sections in the FEIS. See Appendix F – Biological Evaluation – Aquatic Species; Appendix D – Biological Evaluation for Threatened, Endangered, and Sensitive Wildlife Species; and Appendix E – Biological Evaluation – Plant Species.</p>

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
	See responses 7-28 and 7-29.
7-31	<p>Effect calls See responses 7-28, 7-29, and 7-30.</p>
7-32	<p>Wildlife cumulative effects Wildlife cumulative effects The FEIS updates the cumulative effects discussions for wildlife species (see FEIS, Chapter 3, Wildlife; and the Wildlife Biological Evaluation for Threatened, Endangered, and Sensitive Wildlife Species in Appendix D).</p>
7-33	<p>Wildlife short and mid-term impacts The DEIS discloses effects to wildlife species, see Chapter 3, Terrestrial Wildlife. The FEIS, Chapter 3, further updates discussions for wildlife species.</p>
7-34	<p>Non listed species</p> <p>Most of the species listed in your comment have been addressed in the DEIS, either in Chapter 3, Wildlife or the Wildlife Biological Evaluation for Threatened, Endangered, and Sensitive Wildlife Species in Appendix D.</p> <p>Black-backed woodpecker, white-headed woodpecker, and Pileated woodpecker are primary excavator species identified in the Forest Plan as management indicator species. These species are addressed in the MIS – Primary Cavity Excavator Species section of the DEIS. These sections have been updated in the FEIS.</p> <p>Through the amended Forest Plan, the Northern Goshawk was identified as a species of concern in eastside forest. Northern Goshawk is addressed in the DEIS and FEIS, Chapter 3.</p> <p>Pine marten are a management indicator species identified in the Forest Plan (see DEIS and FEIS, Chapter 3).</p> <p>Canada lynx (threatened) and California Wolverine are addressed in the Threatened and Endangered Species section for wildlife species (see DEIS and FEIS, Chapter 3). These species are also addressed in the Wildlife Biological Evaluation for Threatened, Endangered, and Sensitive Wildlife Species in Appendix D.</p> <p>Several avian species listed in your comment were not specifically addressed in the DEIS. Chapter 3, the Landbird section, which includes neotropical migrants, discusses avian species in terms of habitat types and associated focal species. Focal species are used much like management indicator species. Habitat requirements are presumed to represent those of a larger group of wildlife species, and act as a barometer for the health of various habitats. In the FEIS, effects to these “other” species have been assessed in the context of priority habitats. The Landbird section Terrestrial Wildlife in Chapter 3 of the FEIS has been updated to address the USFWS’s Birds of Conservation Concern (2002).</p>
7-35	<p>LOS-dependent species</p> <p>Analysis parameters were identified for different species and habitat. Three scales of analysis occur in the DEIS discussions of the Existing Condition and Environmental Effects for wildlife species. These include the project area, which is the area considered for possible management actions; fire area, or the burned area which includes the portion of the Easy Fire that burned on the Prairie City Ranger District; analysis area, which describes the largest area considered for analysis purposes and serves as the outer limits of measurable effects for actions and activities proposed. The analysis area includes the three subwatersheds affected by the Easy Fire (see DEIS). Direct, indirect, and cumulative effects are addressed at each of these scales as appropriate for the species and</p>

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
	<p>habitat types considered. In the FEIS management indicator species snag discussions have been expanded to include more analysis and effects discussions at the fire area scale.</p> <p>The DEIS identified the need to replace and updated dedicated old growth (Forest Plan Management Area 13) and associated designated habitats impacted by the Easy Fire. The Easy Fire impacted identified dedicated old growth (DOG) and replacement old growth (ROG) habitats within the fire parameter. All action alternatives propose re-delineation and designation of suitable late and old-structure (LOS) habitats to replace DOG and ROG consumed in the Easy Fire to comply with the management indicator species objectives in the Forest Plan (DEIS and FEIS).</p>
<p>7-36</p>	<p>Population-based analysis</p> <p>See response to Comment 7-15 and 28.</p> <p>The DEIS, Chapter 3, Wildlife section, identifies the management indicator species (MIS) – marten, elk, primary cavity excavator species, landbird species, species of concern, and threatened and endangered species known or suspected to be within the project area. Species that did not have habitat within the project area, or are present but would not be affected by the activities proposed, were not included in the analysis. Where possible, as with the management indicator species, representative species were selected to describe effects to a wider cohort of species with similar habitat needs. A variety of sources were used to determine presence of individuals, populations and/or habitat for the different wildlife species. These information sources include wildlife and other resource habitat surveys, Geographic Information System databases, District and Forest species databases, field observations, and past professional experience in dealing with species and their habitats (see DEIS, Chapter 3). Population surveys were not undertaken for any wildlife species. Rather, assessments of relative populations were made based upon availability of suitable habitat, and changes to those habitats with the activities proposed. This is based on science that demonstrates connections between species populations and viability and the quality and condition of habitat at appropriate scales of analysis.</p> <p>The Easy IDT discussed issues relating to listed species (Canada lynx, gray wolf, and bull trout) with the La Grande USFWS office during the development and analysis of the Easy DEIS.</p> <p>The FEIS will disclose where and when formal surveys have been conducted. In the FEIS, Chapter 3, the Management Indicator Species discussions have been updated with population status/trend and source habitat trend information.</p>
<p>7-37</p>	<p>MIS surveys</p> <p>The Easy analysis discloses whether or not surveys were conducted for the various wildlife species believed to be currently present or present prior to the fire (See DEIS, Chapter 3, Wildlife Section). In the FEIS, the management indicator species discussions have been updated with population status/trend and source habitat trend information. The MIS cumulative effects discussions have also been updated in the FEIS. See responses 6-28, 7-28 and 7-36.</p> <p>Species population and distributions are not discussed in depth, as little quantitative data is available for most species. Rather, effects on habitats are discussed, with the assumption that if appropriate habitat is available for a species, then that species occupies or could occupy the habitat. This strategy is based upon science that demonstrates connections between species populations and viability and the quantity and condition of habitat at appropriate scales of analysis (USDA Forest Service 2001).</p>

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
7-38	<p>Snags – 100% potential population Snag habitat for dead-forest-dependent species such as some primary cavity excavators was an issue identified during public scoping. To address this issue, a wide range of snag prescriptions was considered in the alternatives (DEIS and FEIS, Chapter 2). Design measures for each alternative identify these prescriptions (DEIS and FEIS). Only incidental removal of green trees will occur in any of the action alternatives. The effects of each alternative on Pileated woodpecker, black-backed woodpeckers, and other cavity excavators are disclosed in the DEIS, Chapter 3. This section has been updated in the FEIS.</p>
7-39	<p>Black-backed woodpecker The blacked-backed woodpecker is an indicator species for the Malheur National Forest and not a R6 sensitive species. The black-backed woodpecker is listed as a Critical Sensitive Species throughout its range by the State of Oregon. See response 7-34 and 7-38..</p>
7-40	<p>Lynx The DEIS and FEIS disclose effects to the Canada lynx. See DEIS and FEIS, Chapter 3, Threatened and Endangered Species – Canada Lynx (Threatened). See Wildlife Biological Evaluation for Threatened, Endangered, and Sensitive Wildlife Species in Appendix D. In the FEIS the Biological Evaluation has been updated for lynx. See response 6-121.</p>
7-41	<p>Lynx consultation See response 7-40. The proposed actions were discussed with U.S. Fish and Wildlife Service (USFWS) during several meetings and one field visit. Based on discussions with USFWS, a “No Effect” determination was reached because the proposed activities do not occur within identified, and activities proposed would not adversely modify or affect potential dispersal habitats or corridors. This would allow individual movements and dispersal between identified habitat areas and other lynx analysis units (LAU’s). A “No Effect” call does not require formal or informal consultation.</p>
7-42	<p>Gray Wolf The DEIS and FEIS disclose effects to the Gray Wolf. See DEIS, Chapter 3, Threatened and Endangered Species – Gray Wolf (Threatened). See also, Wildlife Biological Evaluation for Threatened, Endangered, and Sensitive Wildlife Species in Appendix D.</p>
7-43	<p>Wolverine The DEIS and FEIS disclosed effects to California wolverine. See DEIS and FEIS, Chapter 3, Threatened and Endangered Species – Wolverine. See Wildlife Biological Evaluation for Threatened, Endangered, and Sensitive Wildlife Species in Appendix D. The status of the wolverine in Oregon State is threatened; this status is disclosed in the Biological Evaluation. Oregon Department of Fish and Wildlife was consulted during preparation of the EIS, and ODFW received a copy of the DEIS for comment.</p>
7-44	<p>Goshawk The DEIS discloses effects to northern goshawks in Chapter 3, Wildlife. This section has been updated in the FEIS.</p>
7-45	<p>Neotropical birds See Response 7-34, 6-26 and 6-27.</p>
7-46	<p>Pine marten The DEIS discloses effects to pine marten in Chapter 3, Wildlife. Additional field surveys to better locate and identify the type of damage to forested vegetation were completed during the summer of 2003. These surveys found heavier tree mortality in some areas previously identified as suitable habitat for pine marten. This section has been updated in the FEIS to address increases in tree mortality and changes to forest</p>

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
	structures due to the effects of the Easy fire.
7-47	<p>Fisher The DEIS and FEIS disclose effects to Pacific fisher in Chapter 3, Terrestrial Wildlife. Effects to the Pacific Fisher are also addressed in the Wildlife BE, Appendix D. A few sightings of fisher have been recorded in other places in the Blue Mountains (Verts and Carraway, 1998). There are no records of fisher on the Malheur National Forest. The likelihood of presence within the project area is very low (DEIS and FEIS, Chapter 3).</p>
7-48	<p>Big game The DEIS discloses the effects of the Easy fire on cover habitat (see DEIS, Chapter 3, MIS – Rocky Mountain Elk, Cover, Habitat Effectiveness Index). These sections have been updated in the FEIS. Effects on Rocky Mountain Elk (Forest Plan management indicator species) were considered at the analysis area scale, which describes the largest area considered for analysis purposes and serves as the outer limits of measurable effects for actions and activities proposed. The analysis area includes the three subwatersheds affected by the Easy Fire (see DEIS). The effects on cover, habitat effectiveness, and roads are addressed at the subwatershed scale, which is consistent with the Forest Plan. The Easy Fire caused most of the effects on forest structures and big game cover. The alternatives have little effect on remaining cover because dead wood habitats provide little cover habitat.</p>
7-49	<p>Big game - cumulative effects The DEIS discloses cumulative effects for Rocky Mountain Elk in Chapter 3. See response 7-48.</p>
7-50	<p>Mycorrhizae, Armillaria Additional information will be added to the FEIS regarding the effects of logging on mycorrhizal fungi. However, the DEIS discloses that conditions after logging would be sufficient for planted seedling regeneration (p. 96). Planted seedling survival has been comparable in both salvaged and unsalvaged areas. While leaving snags and down logs may provide for increased moisture, mycorrhizal fungi, and nitrogen fixing bacteria, there has been no observable effect on reforestation survival based on actual experience on this forest. Micrositing near logs and stumps is required by the tree planting contract and is considered a standard practice. Under the No Action Alternative 1, loss of mycorrhizal fungi (as well as herbaceous plant and <i>Ceanothus</i> competition) possibly could inhibit tree regeneration in later years.</p>
7-51	<p>Soils & Watershed Conditions The extent of effects on soil and vegetative depends upon a variety of factors, including the methods used, the timing of these activities, and their duration. Vegetative recovery of the burned areas and in the stream channel sideslopes is discussed in the DEIS, sections “Stream Temperature,” (pp. 211-215); “Recovery of Protective Ground Cover” and “Plant Recovery,” pp. 253-256. For the Action Alternatives, the potential effects to the soil from post-fire harvest are discussed in the DEIS in sections “Tractor Harvest,” “Expected Ground Effects from Ground-Based Yarding,” “Decrease in Ground Cover,” “Erosion and Sediment Risk,” “Subsoiling,” “Fuels Control – Grapple Piling,” “Proposed Ground Based Activity and BAER Burn Severity,” “Skyline and Helicopter Harvest,” “Nutrients,” “Comparison of Action Alternatives,” “Tractor Harvest Units and BAER Burn Severity,” and lastly in “Cumulative Effects” (pp. 259-270).</p>

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
	<p>Tables S-11 and S-12 in the DEIS (pp. 268-269) show the expected cumulative effects to the soil from the proposed ground based operations. The second table (Table S-12) lists the harvest areas that would approach or reach the threshold limit of soil impacts, if activities are implemented. The higher risk of ground based management of the moderate to high BAER burn severity areas is stated in the DEIS in sections “Proposed Ground Based Activity and BAER Burn Severity” (pp. 263-264); “Cumulative Effects” (p. 269 after Table S-12; and p. 270, paragraph #2); and in section “Consistency with Direction and Regulation” (p. 271).</p> <p>The mitigation measures listed in Chapter 2 are proposed to reduce the soil and water effects to acceptable levels. The majority of ground based acres is on slopes of less than 30% (Table S-10, DEIS, page 266). Best Management Practices and the table of mitigation measures detailed in Chapter 2 of the DEIS (pp. 62-63) are proposed to minimize the amount (areal extent) of detrimental soil disturbance and effects within RHCAs and the resulting water quality.</p> <p>The mitigation measures for the soil resource include designated spaced skid trails; limiting tractor skidding to slopes of less than 35%; allowing operations on dry, frozen or snow-covered soil; subsoiling of skid trails; installing cross drains; and seeding disturbed areas with a native or non-persistent, certified weed-free seed mixture.</p> <p>Please note that from the field investigation of the severely burned areas in August 2002 (and also from later field checks the following May), the section “High Burn Severity Areas” (DEIS pp. 251-252) discloses, “the effects on the soil were not as severe as the effects on the vegetation. Hydrophobicity was predominantly in the ‘low’ or ‘no water repellency’ class... The soils were generally moist at 2 inches with unburned, uncharred roots.” This is to say that the fire did remove much of the litter layer in the high BAER burn severity areas; however, the soil itself was not damaged, such as by soil baking and fusion of the soil particles. And there is still a component of the plant organic matter in the surface soil</p> <p>Grazing</p> <p>The discussion on the range resources is on pages 328-334, and as stated in Chapter 2 “Monitoring Plans” (p. 69, paragraph 4) the ground conditions would be monitored, and grazing “would not resume prior to two growing seasons after the fire, even if monitoring verified that the percent ground cover was the same as the pre-fire condition, to allow for plants to set seed” (Post-Fire Interim Grazing Guidelines).</p> <p>The effects of past grazing was discussed in the DEIS on pages 168-169; 182; and 184-186; and cumulative effects of grazing were discussed for the alternatives on pages 219, 228, 231 and 233. The cumulative effects of logging are disclosed on Pages 211 to 239 of the DEIS. The riparian area along Clear Creek, the only fish-bearing stream within the project area, and its tributaries show few impacts from livestock grazing and are considered to be in an improving trend. Streams within the project area have been minimally used by livestock, due to steeper slopes and high levels of down wood (See Page 169, 184-185 of the DEIS).</p> <p>Creating alternatives to determine post fire grazing direction would require action outside the scope of this analysis (DEIS, page 29). The Malheur post fire grazing guidelines established by the Malheur Forest Supervisor will be followed.</p>
7-52	Summit Fire Recovery Project monitoring report

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
	<p>The availability of information documenting adverse effects of logging the Summit Fire will be included in the FEIS. The section on “Erosion and Sediment” (p. 262) in the DEIS does state the “McIver & Starr (2000) report field studies in the West that indicate sediment can be produced by logging after wildfire. Of the five studies reviewed, two produced sediment (one of these had three studies), two did not produce sediment, and one had mixed results. Reasons for the varying results include variation in details of operations, in study methods, in ground cover, in weather, and in soils.”</p>
<p>7-53</p>	<p>Cumulative impacts to soils</p> <p>The soil surveys completed in the fall of 2002 examined all impacts from past timber harvest activities, including landings and temporary roads within past harvest units, fire suppression and fuel treatments. Any effects from past grazing would also have been included in the surveys. The “Cumulative Effects” section (pp. 266-270 DEIS) discusses the expected soil conditions from the past and proposed activities resulting from the No Action and the action alternatives 2, 3 and 4.</p> <p>As disclosed on page 267 in the DEIS, the figures in Tables S-11 and S-12 include the existing and additional effects from the harvest activities and fuel treatments, and permanent and temporary roads. The second table (Table S-12) lists the harvest areas that would approach or reach the threshold limit of soil impacts, if activities are implemented.</p> <p>The only past and present impacts not covered in existing condition inspections are from the Roadside Hazard Tree Falling; these impacts are negligible since those trees cut down were not be removed. Existing conditions were used to evaluate cumulative effects from the alternatives and foreseeable future.</p> <p>Best Management Practices and the mitigation measures for the soil resource in Chapter 2 of the DEIS (pp. 62-63) are proposed to limit the amount of soil disturbance and the export of sediment out of units. The measures include designated spaced skid trails; limiting tractor skidding to slopes of less than 35%; allowing operations on dry, frozen or snow-covered soil; subsoiling of skid trails; installing cross drains; and seeding disturbed areas with a native or non-persistent, certified weed-free seed mixture.</p> <p>Exported sediments from units are expected to be minimal from tractor logged areas. Tractor units are located away from all perennial streams, and away from the majority of the intermittent stream channel network, which reduces the likelihood of any sediment routing. The two units closest to intermittent streams (Units 41 and 45) are located on 0-30% ground slope. See table labeled “WEPP Analysis” in Chapter 3 Soils section. Maps showing the location of the tractor units along with the stream channels are included in the Soils Appendix C.</p> <p>Cumulative effects analysis can be found throughout Chapter 3. Past, present, and reasonably foreseeable future actions are listed at the beginning of Chapter 3 in the FEIS. See Response 7-54.</p>
<p>7-54</p>	<p>Cumulative Effects to wildlife, fish and water</p> <p>See Response 7-53. The effects of proposed fire recovery actions on the watersheds in the Easy project area and adjacent watersheds are considered where they exist and at the appropriate scale. If cumulative effects were not discussed for a particular resource, then they were not considered to be important. The list of Past, Present, and Foreseeable Actions in the beginning of Chapter 3 in the FEIS was considered for potential cumulative effects for each resource in Chapter 3.</p>

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
7-55	<p>Fire suppression effects Fire suppression activities are described in the DEIS and FEIS in Chapter 1, Fire Suppression Activities. Descriptions include the estimated miles of fireline and type of fireline constructed; feet of dozer fireline within RHCA by stream type; and restoration activities completed including rehabilitation of firelines and Burned Area Emergency Rehabilitation measures. All fire lines were rehabilitated in late summer and fall of 2002. Rehabilitation consisted of waterbarring, creating cross ditches, knocking down berms, and spreading material over disturbed areas. These measures, plus the likely return of ground cover to near pre-fire levels by 2004 (the earliest date salvage activities could begin), should be sufficient to reduce erosion from fire lines below the levels where cumulative effects could occur. The FEIS has been updated to reflect this.</p> <p>As stated in the DEIS and the FEIS, Chapter 1, Fire Suppression Activities, six loads of retardant were dropped; there was no observable retardant residue in perennial streams, ephemeral draws, or RHCA's. During field review.</p>
7-56	<p>Fire risk Course woody debris (>3inches) has little influence on spread and intensity of the initiating fire; however, it can contribute to development of large fires and high fire severity. Fire persistence, resistance-to-control, and burnout time (effects to firefighter and public safety, soil heating and tree mortality) are significantly influenced by loading, size, and decay state of course woody debris (Brown et al. 2001), DEIS. Large down wood, including large rotten logs, were consumed in the Easy Fire. Large logs that have been described as moisture reservoirs against drought and wildfire were also consumed. The accumulation of large logs (especially partially decayed logs), contributed to fire growth and to the severity of the fire. See also Response 7-9.</p>
7-57	<p>Fire risk See Response 7-9 and 7-56.</p>
7-58	<p>Insects/disease Information on the potential impact of insect infestations in the Easy Fire Area can be found in the DEIS and FEIS, Forest Vegetation, Existing Condition and Effects Sections.</p> <p>Snag habitat for dead-forest-dependent species such as some primary cavity excavators was an issue identified during public scoping. To address this issue, a wide range of snag prescriptions was considered in the alternatives (DEIS and FEIS, Chapter 2). Design measures for each alternative identify these prescriptions (DEIS, and FEIS, Chapter 2). The effects of each alternative on black-backed woodpeckers, and other cavity excavators are disclosed in the DEIS and FEIS, Chapter 3, Wildlife. This section has been updated in the FEIS.</p>
7-59	<p>Economics – cost/benefit The economic efficiency analysis in the DEIS (pages 315 through 316) was based on dollar-quantified benefits and costs that were measurable and quantifiable at the project level including costs to administer the sale and other activities by alternative. Potential economic values of existing uses and functions of the area including hunting, fishing, and recreation use and potential external costs such as damage to soils from harvest operations in tractor units were acknowledged and addressed qualitatively in the analysis. These ecosystem services were not dollar quantified due to lack of well-defined production relationships between ecosystem functions and services needed at the project level to assess a relative change in economic value. Economic efficiency was not the sole criterion for comparison between alternatives.</p> <p>The qualitative and quantitative economic effects of the alternatives were assessed in</p>

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
	<p>conjunction with environmental effects to ecosystem values addressed in the effects to ecological resources such as vegetation, terrestrial, soils and for social aspects such as scenery and recreation.</p>
<p>7-60</p>	<p>Economics – include all costs The DEIS analysis (DEIS, page 314), of present net costs does include direct costs to the Forest Service for preparing and administering timber sales and implementing other restoration activities including reforestation, . Planning costs associated with the project such as administrative overhead, publication costs, and survey costs are treated as “sunk costs” which have already been incurred regardless of the alternative and are not included (see Social/Economic specialist report, Bill Jackson page 10).</p> <p>Restoration and mitigation costs were included in the analysis by alternative as displayed in Table SE-2 on page 314 of the DEIS. These costs include reforestation, road closure/decommissioning.</p> <p>The concern around the decision to prepare two NEPA documents and associated costs with appeals and litigation is outside the scope of the analysis. The analysis process for comparing alternatives used the TEA_ECON model (Social/Economic specialist report, Bill Jackson pg. 10) and does adequately account for direct quantifiable costs and revenues associated with the project on the Malheur National Forest.</p>
<p>7-61</p>	<p>Economics – local economy The DEIS (page 312-313) acknowledges that local government, retail trade, and services employ the most people in Grant and Baker Counties, and discusses the contribution of recreation-based industries.</p>
<p>7-62</p>	<p>Economics – positive PNV The DEIS analysis of the economic viability of timber harvest demonstrates that all alternatives that harvest timber would produce positive bid rates (\$/ccf) indicating that the project would provide a viable harvest proposal for potential purchasers (pg.310). The viability analysis is based on tentative advertised bid rates that reflect the most current volume, price, and cost estimates for the area. This estimate was based on estimates of volume, species, amount of sawtimber material, logging systems costs, haul costs, road maintenance costs, contractual costs, erosion control and other developmental costs, temporary road costs, and the value of timber proposed for removal. The preliminary value of the timber was based on the prices for the same species and material of all sales actually sold within Appraisal Zone 3 (primarily Blue Mountain forests) within the last 12 months (Social/Economic specialist report, Bill Jackson page 10). The DEIS does acknowledge (page 310) that changes in price would likely occur in the future depending on actual market conditions at the time of appraisal. In the FEIS, the economic analysis was modified to reflect changes in lumber values, deterioration of timber, and to correct an error in the analysis. In the FEIS, bid rates were updated to reflect changes in lumber value and updated information on the condition of the timber. Bid rates for all action alternatives were positive.</p>

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
7-63	<p>Economics – local use</p> <p>The DEIS acknowledges that the overall employment and income effects to communities would depend on the location of the timber purchaser awarded the sale, the availability of equipment, skills, and the location and availability of related wood processing facilities and infrastructure (page 313). The mills in the John Day/Prairie City area utilize larger diameter wood (greater than 12 inches diameter at breast height). This size class would be available in various amounts from the action alternatives (DEIS pages 312). As the DEIS points out, the effect would depend on where the purchaser is located, what mill receives the logs and the actual price at the time of harvesting (page 313). The action alternatives (Alternative 2, 3, and 4) would have the potential to benefit local communities in terms of supporting wood products manufacturing component of the economic base (page 313) depending on these factors.</p> <p>As previously stated in the response to comment 7-60, the costs for litigation are outside the scope of this analysis.</p>
7-64	<p>Economics – non timber values</p> <p>The economic analysis acknowledges the importance of the economic value of ecosystem services or environmental amenities in the overall effects analysis (DEIS pages 314 through 315). The costs or benefits of ecosystem services are not well defined at the project level in terms that provide comparison of commensurate dollar-quantified values (Social/Economic specialist report Bill Jackson page 12). Contingent valuation methods for determining economic values of ecosystem services consist of extensive primary data collection that is expensive and generally undertaken for broad-scale, landscape decisions such as basin-wide planning efforts. The economic analysis provides one aspect of the overall comparison of the direct, indirect and cumulative effects of the project (DEIS pages 310 through 315).</p> <p>Other natural resource benefits or environmental amenities are considered in the DEIS (pages 314 through 315) such as changes to the diversity, quality and quantity of wildlife habitat for both game and non-game terrestrial species. The economic value of big-game hunting would depend on changes in population levels, spatial distribution of game animals, or the quality or intensity of the hunting experience, which could change the corresponding economic impacts from hunting-related expenditures.</p> <p>Other opportunity or externalized costs are acknowledged in the DEIS (page 314 through 315) such as potential damage to soils from harvest operations and subsequent losses in long-term soil productivity. Because these costs are not well defined or measurable at the project level in terms that provide comparison of commensurate dollar values, the direct, indirect, and cumulative effects of the other environmental consequences sections in the DEIS provide a relative comparison between alternatives.</p> <p>The ecosystem benefits and environmental effects of No-Action (Alternative 1), are addressed in the environmental consequences section of the DEIS for ecological resources such as vegetation, wildlife, soils and for social aspects such as visuals and recreation.</p> <p>Detailed consideration is now given to an Alternative Considered but Eliminated from Detailed Study in the DEIS (#5 Restoration Only). Alternative 5 is developed from the restoration only theme in the DEIS and is now fully analyzed in the FEIS. (See also Responses 6-74, 6-75, and 9-21.)</p>

Response #	Letter #7 - Asante Riverwind – League of Wilderness Defenders Response
	This alternative includes restoration activities, but does not include commercial timber harvest; therefore a negative PNV is shown. The other ecosystem benefits and environmental and social effects of this alternative are addressed in the environmental consequences section of the FEIS.
7-65	<p>Economics – Maximizing return The economic analysis was conducted using Forest Service Handbook 2409.18 which provides direction to analyze financial efficiency and, if needed, economic efficiency to identify the most efficient alternative that achieves the desired objectives of the project. Consideration of the proposal that maximizes net public benefits is an important consideration of the decision-making process (Social/Economic specialist report, Bill Jackson page 10), however, NEPA does not require a monetary benefit-cost analysis. Such an analysis may be incorporated as an aid to evaluating environmental consequences, to weigh the merits and drawbacks of the alternatives, but should not be the sole criterion for decision making where there are important qualitative considerations (40 CFR 1502.23).</p> <p>Analysis of social and economic impacts to determine maximum net public benefits in an environmentally manner (36 CFR 219.12) was completed at the forest planning level where the mix of activities across a large landscape were assessed and measured, refer to the Malheur National Forest Land and Resource Management Plan, FEIS, Appendix B.</p> <p>An economic efficiency analysis was completed for the Easy Fire Recovery Project (DEIS page 314; and Social/Economic specialist report, Bill Jackson pg. 9) that focused on identifiable and quantifiable ecosystem benefits and costs for each alternative in terms of the present net value (benefits minus costs) to assess which alternative comes nearest to maximizing net public benefits (36 CFR 219.3). The project level economic analysis discloses the dollar-quantified benefits and costs that were measurable and quantifiable at the project level (DEIS page 314) and discloses the potential qualitative effects (DEIS page 314-315). These effects were considered in conjunction with other potential qualitative and quantitative impacts to forest vegetation, fuels/fire, sensitive plants, noxious weeds, soils, aquatics, wildlife, recreation, visuals, cultural resources, range, and roads/access in Chapter 3 of the DEIS.</p>
7-66	<p>Economics –Resource benefits, external costs See 7-65</p>
7-67	<p>Global warming See Response 6-120.</p>
7-68	<p>Economics – Rate of return The analysis of the decision to proceed with the Easy Fire Recovery Project is outside the scope of this EIS as previously stated in the response to comment 7-60. As described in the response to comment 7-66, the analysis was conducted in accordance with appropriate Forest Service direction in line with the references cited. The economic costs and benefits used in the economic efficiency analysis (DEIS page314) provides an adequate comparison of the relative differences between the alternatives based on the dollar-quantified benefits and costs that were measurable and quantifiable at the project level (DEIS page 314). The potential qualitative effects are acknowledged (DEIS pages 314=315) such as the value of standing forests and quantitatively and qualitatively disclosed in the DEIS (pages 85-90, 292-293).</p>
7-69	<p>Roadless See Response 7-20.</p>

Letter #8 – Josh Laughlin – Cascadia Wildlands Project

Response #	Letter #8 - Josh Laughlin - Cascadia Wildlands Project Response
8-1	<p>Salvage logging and road work not natural</p> <p>Soil effects For the post-fire environment, the DEIS sections “Recovery of Protective Ground Cover,” “Plant Recovery” and “Soil Conditions” (pp. 253-259) discuss the current conditions of the soil resource.</p> <p>For the Action Alternatives, the potential effects to the soil from post-fire harvest are discussed in the DEIS in sections “Tractor Harvest,” “Expected Ground Effects from Ground-Based Yarding,” “Decrease in Ground Cover,” “Erosion and Sediment Risk,” “Subsoiling,” “Fuels Control – Grapple Piling,” “Proposed Ground Based Activity and BAER Burn Severity,” “Skyline and Helicopter Harvest,” “Nutrients,” “Comparison of Action Alternatives,” “Tractor Harvest Units and BAER Burn Severity,” and lastly in “Cumulative Effects” (pp. 259-270).</p> <p>Tables S-11 and S-12 in the DEIS (pp. 268-269) show the expected cumulative effects to the soil from the proposed ground based operations. The second table (Table S-12) lists the harvest areas that would approach or reach the threshold limit of soil impacts, if activities are implemented. The higher risk of ground based management of the moderate to high BAER burn severity areas is stated in the DEIS in sections “Proposed Ground Based Activity and BAER Burn Severity” (pp. 263-264); “Cumulative Effects” (p. 269 after Table S-12; and p. 270, paragraph #2); and in section “Consistency with Direction and Regulation” (p. 271).</p> <p>Best Management Practices and the mitigation measures for the soil resource in Chapter 2 of the DEIS (pp. 62-63) are proposed to limit the amount of soil disturbance and the export of sediment out of units. The measures include designated spaced skid trails; limiting tractor skidding to slopes of less than 35%; allowing operations on dry, frozen or snow-covered soil; subsoiling of skid trails; installing cross drains; and seeding disturbed areas with a native or non-persistent, certified weed-free seed mixture.</p> <p>Soil organic matter and nutrients The DEIS discusses woody material and its relationship to soil productivity and soil organisms in section “Soil Organic Matter, Litter, Soil Wood & Nutrient Status” (pp. 257-258 and in “Nutrients” (p. 264). Removal of nutrients and organic matter from logging and fuel control would likely move many sites back toward their fertility status before European-Americans arrived. This removal, especially removal of nitrogen, may decrease site productivity a few percent on some sites. For the drier forest conditions in the project area, before fire suppression became effective, down and decaying wood burned frequently, so there were few or no large accumulations of decaying wood. Thus, large wood was not an ample source of nutrients throughout secondary succession.</p> <p>Large wood was not a major ground cover for reducing erosion historically; ground cover was mostly supplied by ground vegetation, by forest floor that the low intensity fires missed, and by needles cast from trees within a few years after a fire. Most soil organic matter in the drier forests comes from roots or fine above ground organic matter, not coarse aboveground organic matter, especially under historic conditions</p>

Response #	Letter #8 - Josh Laughlin - Cascadia Wildlands Project Response
	<p>where the above ground organic matter periodically burned off.</p> <p>Within the harvest units, many dead and dying trees in smaller size classes within the harvest units will be retained to provide beneficial soil nutrients. Also, all live trees will be left to provide a future source of down wood (i.e. needle cast, limbs, and large logs).</p> <p>Developmental pathways Developmental pathways to future forests will not be altered. See Response 6-59.</p>
8-2	<p>Fire risk - salvage & planting See Responses 1-2 and 7-9.</p>
8-3	<p>Dedicated and replacement Old Growth We recognize that you agree with the proposals for dedicated and replacement old growth.</p>
8-4	<p>Dedicated Old Growth – Salvage harvest The goal of Dedicated Old Growth is to provide “suitable” habitat for old growth dependent species. The existing burned old growth area no longer provides suitable old growth habitat. The Malheur Forest Plan states that when stands deteriorate beyond suitable old growth conditions, to manipulate replacement and dedicated stand boundaries (Forest Plan, page IV-106, Standard #7). An interdisciplinary team process was used to recommend the changes.</p>
8-5	<p>Amendment #2 - Harvest of 21” dying trees</p> <p>We are consistent with Amendment #2. All alternatives meet snag standards for 100% potential population levels in Forest Plan. Only dead and dying trees would be removed (DEIS pages 48-56).</p> <p>The Regional Forester’s Eastside Forest Plans Amendment #2 (1995) requires that snags and green tree replacements be maintained at levels that meet the 100% potential population levels of primary cavity excavators. All alternatives would meet or exceed this standard (see FEIS Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species).</p> <p>The DEIS and FEIS considered new research on dead wood habitats. The DecAID tool (Mellen 2003) synthesizes published literature, research data, wildlife databases, inventory data, and expert judgment and experience. Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section, and Chapter 5, Bibliography in this FEIS cite additional dead wood research considered. The DEIS developed a broad range of alternatives and snag retention levels (DEIS, Chapter 2, Alternatives Considered in Detail). This FEIS updates the effects discussion on dead wood habitats and associated wildlife species (see FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species).</p> <p>The Regional Forester’s Eastside Forest Plans Amendment #2 (1995) directs the Eastside Forests to manage mid-seral stands towards old growth. In the Easy fire area, stands that burned with low severity would be the first stands to provide old growth characteristics. Old growth development is expected to take about 50 years. The absence of large diameter live trees is considered the most limiting factor in these stands, not the level of snags (see FEIS, Chapter 3, Forest Vegetation, Stand Structural Stages, and Terrestrial Wildlife, Old Growth).</p>
8-6	<p>No literature in support of salvage logging The report titled “The Biscuit Fire: Management Options for Forest Regeneration, Fire and Insect Risk Reduction and Timber Salvage”, by John Sessions et al, July 8, 2003</p>

Response #	<p align="center">Letter #8 - Josh Laughlin - Cascadia Wildlands Project Response</p>
	<p>supports salvage logging as an ecologically beneficial activity. See also Response 9-76.</p> <p>Beschta The interdisciplinary team considered and used the recommendations and science in the Beschta report. This project was developed on more site-specific analysis than what is found in the Beschta Report (DEIS, page 361). The site-specific analysis is based on the scientific literature (see References Cited, DEIS and FEIS) and the environmental analysis experience of the IDT personnel.</p> <p>Severely burned sites The DEIS presented a range of alternatives, including alternatives that would not harvest timber on severely burned steep slopes above fish bearing streams (Alternatives 1, and 3), see DEIS, Chapter 2. Alternative 5, a restoration only alternative, was initially considered but eliminated from detailed study in the DEIS. It has been fully analyzed in the FEIS and also addresses the issue of severely burned sites. See Response 6-74.</p> <p>The slopes within the project area are predominantly gentle (0-30%) to moderate (31-60%), with very few acres of proposed activities on slopes greater than 60 percent (p. 250 and Table S-3). On moderate and high BAER burn severity, on slopes greater than 60 percent, Alternatives 2 and 3 propose 2 acres and Alternative 4 proposes 0 acres, using skyline logging. On low BAER burn severity or unburned areas, Alternatives 2, 3 and 4 propose 14, 6 and 0 acres respectively. The higher risk of ground based management of the moderate to high BAER burn severity areas is stated in the DEIS in sections “Proposed Ground Based Activity and BAER Burn Severity” (pp. 263-264); “Cumulative Effects” (p. 269 after Table S-12; and p. 270, paragraph #2); and in section “Consistency with Direction and Regulation” (p. 271).</p> <p>Please note that from the field investigation of the high BAER burn severity areas in August 2002 (and also from later field checks in May 2003), the section “High Burn Severity Areas” (DEIS pp. 251-252) discloses that “the effects on the soil were not as severe as the effects on the vegetation. Hydrophobicity was predominantly in the ‘low’ or ‘no water repellency’ class... The soils were generally moist at 2 inches with unburned, uncharred roots.” This is to say that the fire did remove much of the litter layer in the high BAER burn severity areas; however, the soil itself was not damaged, such as by soil baking and fusion of the soil particles. And there is still a component of the plant organic matter in the surface soil.</p> <p>For the remaining burned areas, the DEIS discloses mitigations (Chapter 2) to adequately protect severely burned or erosive sites, though it does not prohibit logging on these sites. Best Management Practices and the mitigation measures for the soil resource in Chapter 2 of the DEIS (pp. 62-63) are proposed to limit the amount of soil disturbance and the export of sediment out of units. For the ground-based units, the measures include designated spaced skid trails; limiting tractor skidding to slopes of less than 35%; allowing operations on dry, frozen or snow-covered soil; subsoiling of skid trails; installing cross drains; and seeding disturbed areas with a native or non-persistent, certified weed-free seed mixture.</p> <p>No tractors or skidders</p>

Response #	Letter #8 - Josh Laughlin - Cascadia Wildlands Project Response
	<p>Ground skidding is only proposed in areas where slopes are under 35%. The higher risk of ground based management of the moderate to high BAER burn severity areas is stated in the DEIS in sections “Proposed Ground Based Activity and BAER Burn Severity” (pp. 263-264); “Cumulative Effects” (p. 269 after Table S-12; and p. 270, paragraph #2); and in section “Consistency with Direction and Regulation” (p. 271).</p> <p>No road building See Response 7-19.</p> <p>Retention of snags Snag habitat for dead-forest-dependent species was an issue identified during public scoping. To address this issue, a range of snag prescriptions was considered in the alternatives (DEIS, Chapter 2). The alternative descriptions identify these prescriptions (DEIS, pages 46-57). See response 6-60.</p> <p>Allow natural recovery See first paragraph in this response (8-6).</p>
<p>8-7</p>	<p>Road closures Approximately 0.7 miles of temporary road would be constructed for salvage activities in Alternatives 2, approximately 0.5 miles of temporary road would be constructed in Alternative 3, and approximately 0.2 constructed in Alternative 4. Temporary roads would be ripped and seeded following completion of salvage activities. The effects of road activities including road closures are addressed in the wildlife section of the DEIS on pages 122-127.</p> <p>The DEIS acknowledges that the spread of noxious weeds are mainly due to vehicle traffic and ground disturbing activities (DEIS, page 340). Management Requirements/Mitigation Measures have been included as part of alternatives to reduce the potential for spread of noxious weeds (DEIS, page 66). The effects of activities on the noxious weed spread are disclosed in the DEIS on pages 343-344. The noxious weed effects section has been updated in the FEIS.</p>
<p>8-8</p>	<p>Snags The DEIS disclosed the effects of alternatives on snag habitats and associated species (DEIS Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species). This FEIS updates the primary cavity excavator effects section. The DEIS considered and discusses the Beschta Report in Chapter 3. This discussion was modified in this FEIS; the modified discussion is included in Chapter 3 under Other Disclosures. A range of alternatives, with varying levels of snag retention was considered. Snag retention levels of these alternatives bracket the snag retention levels recommended by Beschta.</p>
<p>8-9</p>	<p>Federally listed fish runs, bull trout recovery While it is assumed some sediment will reach fish bearing streams as a result of harvest activities it is predicted to be not measurable. It is anticipated there will only be a short term negative impact on fish habitat and these impacts will not result in a change in baseline values. No long-term impacts to aquatic organisms or their habitat is expected. No harvest activities will occur in RHCAs so there will be no sediment generation adjacent to streams. Also along Clear Creek, the only fish bearing stream within the project area, units are not located directly adjacent to the Clear Creek RHCA, providing an additional screen for sediment dissipation. Units are located well upslope to the east. To the west, Units are located above Road 2635 or other roadways outside the Clear Creek RHCA. The use of lighter ground disturbance yarding methods such as helicopter and cable yarding methods will further minimize the potential for sediment introductions into nearby streams</p>

Response #	Letter #8 - Josh Laughlin - Cascadia Wildlands Project Response
	<p>Haul road maintenance may have short term impacts from sediment during and immediately after implementation from re-grading roads, cleaning plugged culverts, and cleaning blocked ditch lines, but is a long-term benefit by improving drainage, reducing road failure potential at stream crossings and reducing chronic sediment input to streams. The potential to impact fish by haul and maintenance activities are minimal since culvert replacements and removals will not occur (Page 226). It has been determined that no measurable effects on fishery resources are anticipated from project activities. The bull trout population is not predicted to suffer any significant negative impacts from project activities.</p> <p>The 0.30 miles of maintenance on Road 2600026 involves only the placement of gridrolled aggregate. This work will be done during dry weather conditions and will not impact nearby fishery resources. The FEIS will be updated to reflect this.</p>
8-10	<p>Biological Evaluation – No effect: Lynx, bald eagle and wolf</p> <p>The DEIS discloses effects to the Gray Wolf. See DEIS and FEIS, Chapter 3, Threatened and Endangered Species – Gray Wolf (Threatened). See Wildlife Biological Evaluation for Threatened, Endangered, and Sensitive Wildlife Species in Appendix D.</p> <p>The proposed actions were discussed with U.S. Fish and Wildlife Service (USFWS) during several meetings and one field visit. Based on discussions with USFWS, a “No Effect” determination was reached because the proposed activities do not occur within identified lynx habitat, and activities proposed would not adversely modify or affect potential dispersal habitats or corridors. This would allow individual movements and dispersal between identified habitat areas and other lynx analysis units (LAU’s). The DEIS discloses effects to the Canada lynx. See DEIS and FEIS, Chapter 3, Threatened and Endangered Species – Canada Lynx (Threatened). See Wildlife Biological Evaluation for Threatened, Endangered, and Sensitive Wildlife Species in Appendix D. See response 7-41.</p>
8-11	<p>Wolf recovery</p> <p>Proposed activities would not affect wolves due to lack of effect to limiting factors (denning habitat, forage resource). This FEIS discloses effects to the gray wolf (see FEIS, Chapter 3, Terrestrial Wildlife, Threatened or Endangered Species – Gray Wolf, and Appendix D, Wildlife Biological Evaluation). See response 8-10.</p>
8-12	<p>Regeneration harvest – Effects on TES species</p> <p>The effects of activities on threatened, endangered, and sensitive species are disclosed in the DEIS and FEIS: in the Biological Evaluation for Threatened, Endangered, and Sensitive Fish Species in Appendix F; Biological Evaluation for Threatened, Endangered, and Sensitive Wildlife Species in Appendix D; Biological Evaluation for Threatened, Endangered, and Sensitive Plant Species in Appendix E..</p>
8-13	<p>Cumulative effects - past activities - Soils</p> <p>Wildlife cumulative effects are addressed in Chapter 3 of the DEIS and FEIS.</p> <p>The soil surveys completed in the fall of 2002 examined all impacts from past timber harvest activities, including landings and temporary roads within past harvest units, fire suppression and fuel treatments. Any effects from past grazing are included in the surveys. The “Cumulative Effects” section (pp. 266-270 DEIS) discusses the expected soil conditions from the past and proposed activities resulting from the No Action and the action alternatives 2, 3 and 4.</p>

Response #	<p align="center">Letter #8 - Josh Laughlin - Cascadia Wildlands Project</p> <p align="center">Response</p>
	<p>As disclosed on page 267 in the DEIS, the figures in Tables S-11 and S-12 include the existing and additional effects from the harvest activities and fuel treatments, and permanent and temporary roads. The second table (Table S-12) lists the harvest areas that would approach or reach the threshold limit of soil impacts, if activities are implemented.</p> <p>The only past and present impacts not covered in existing condition inspections are from the Roadside Hazard Tree Falling; these impacts are negligible since those trees cut down were not removed. Existing conditions were used to evaluate cumulative effects from the alternatives and foreseeable future.</p> <p>Best Management Practices and the mitigation measures for the soil resource in Chapter 2 of the DEIS (pp. 62-63) are proposed to limit the amount of soil disturbance and the export of sediment out of units. The measures include designated spaced skid trails; limiting tractor skidding to slopes of less than 35%; allowing operations on dry, frozen or snow-covered soil; subsoiling of skid trails; installing cross drains; and seeding disturbed areas with a native or non-persistent, certified weed-free seed mixture.</p> <p>Exported sediments from units are expected to be minimal from tractor logged areas. Tractor units are located away from all perennial streams (except for one unit that underwent mainly low BAER burn severity), and away from the majority of the intermittent stream channel network, which reduces the likelihood of any sediment routing. The two units closest to intermittent streams are located on 0-30% ground slope. A map showing the location of the tractor units along with the stream channels will be included in the soils report in the FEIS.</p> <p>Wildlife cumulative effects are addressed in Chapter 3 of the DEIS and FEIS.</p>

#9 – Kathleen Hitt – Northwest Environmental Defense Center

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
9-1	Fuels reduction – low fuel loading The DEIS does agree that the current fuel loading is low in most of the severely burned stands in the project area. The risk of a high severity wildfire will be low for the next 10 years. However, the fuel loading will become high, leading to the potential for a high severity fire after approximately 10 years. The benefit of salvaging merchantable timber now is that the value of the timber would pay for the fuel reduction. Any materials removed in salvage would result in a lower fuels load within the project area. If we wait 10 years until the fuel loading does become high, then any fuels reduction implemented at that time would be a cost with no economic value. A range of alternatives was developed in response to scoping comments on the purpose and need. The effects of all alternatives on watershed functions, wildlife habitat, fuels, catastrophic wildfire, and natural processes are displayed in Chapter 3 DEIS and FEIS.
9-2	Restoration Alternative See Response 6-74.
9-2b	Protect all existing DOG and ROG See Response 9-26
9-3	Short term need to reduce fuels See comment response 9-1.
9-4	Turn fuel reduction efforts elsewhere The Malheur National Forest has ongoing and anticipated projects that are collaborative between the U.S. Forest Service, Oregon Department of Forestry and private landowners to address fire risk associated with the wildland-urban interface and is outside the scope of this document.
9-5	Research and reduction of fire hazard Several of these scientific studies were considered in the DEIS. The other studies were reviewed but do not change the analysis of this project. The DEIS and FEIS discuss coarse woody debris with references and the Fuels Section of Chapter 3 in the DEIS and FEIS discloses fuel loading and fire severity. The Purpose and Need of this project in Chapter 1 of the DEIS and FEIS, also includes capturing economic value that involves removing tree boles. See also Response 9-76.
9-6	Wildlife habitat within the project area The DOG and ROG within the fire perimeter sustained enough damage from the fire to remove their functionality. The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, discuss habitat, DOGs, and ROGs within the project area..
9-7	Harvest of old growth See response 9-6.
9-8	Replacement of old growth habitat See response 9-6.
9-9	Harvest of wildlife habitat See response 9-6.
9-10	Fire hazard reduction Reburn results when fall down of the old forest contributes significantly to the fire behavior and fire effects of the next fire (Brown, 2003). Stand conditions within the hot-dry and warm-dry plant association groups were not within the historical ranges for stand densities or fuel loadings before the Easy fire. If no salvage or other fuel treatment occurred and a fire were to occur, the fall down contributing to the reburn would still be at much higher levels than fuel loadings under the historical fire regimes and the effects would be more severe. Chapter 5 of the DEIS listed references used in preparing the document. The DEIS acknowledges the controversy surrounding the use

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	of salvage harvest to reduce potential effects of future fires.
9-11	Beschta report – no need for salvage See comment 6-75, 6-100 to 6-104, 7-23, 8-6, 9-10.
9-12	Future fuel loads and threat of reburn We acknowledge that there are conflicting studies regarding salvage of fire-killed timber and the severity of future reburns and we have considered them in this analysis (see FEIS, References Cited and References Analyzed). The Sessions Report on the Biscuit Fire, pages 40-43 (Sessions et al, 2003), illustrates the potential for high severity fires if fuel reduction action is not taken. See Responses 7-22 and 9-10.
9-13	Value of large down logs The reduction in shade due to salvage of dead trees has no ecologically significant effect on soil moisture or soil recovery. Reduction in shade possibly could have detrimental temperature and moisture stress effects on planted seedling, but shade cards will be used if needed to relieve these stresses. Salvaged areas of the Reed and Summit Fires had no significant difference in seedling survival compared to non-salvaged areas. See also Response 7-9.
9-14	Standing burned trees – fall rate Fall down rates and references were disclosed in the DEIS (132-136). Many variables factor into the longevity of snags: condition of the tree before it died, cause of death, soil type, climate, extreme weather conditions, protection of snags by topography or other vegetation type, tree species, snag height, and snag diameter. Several scientific studies were considered in the DEIS. Each resource specialist reviewed all available literature and applied relevant science to the alternatives.
9-15	Factors other than fuels affect fire behavior The fact that the Easy fire burned under extreme fire weather conditions was disclosed in the DEIS on page 284. Additional weather information is described in the <i>Easy Fire/Fuels Specialist Report</i> . Drought conditions of 2000-2002 were not discussed, but we acknowledge that the area has been in a drought.
9-16	Purpose and Need The purposes and needs were derived from the differences between current and desired conditions (Chapter 1 of the DEIS and FEIS), and to comply with the goals and objectives outlined in the 1990 Malheur National Forest Land and Resource Management Plan as disclosed in the DEIS and FEIS, Chapter 1, Purpose of and Need for Action.
9-17	Purpose and need – fuels and large trees Several scientific studies were considered in the DEIS. Each resource specialist reviewed all available literature and applied relevant science to the alternatives. See Terrestrial Wildlife, Fuels, and Forest Vegetation & Structure sections of Chapter 3, DEIS and FEIS.
9-18	NEPA disclosures You are correct; through this EIS we are meeting the goals of NEPA.
9-19	Disclosure of information Each resource specialist reviewed all available literature and applied relevant science to the alternatives.
9-20	Range of Alternatives In the DEIS, the ID Team considered four alternatives in detail and considered two alternatives that were eliminated from detailed. In the FEIS, the IDT considered five alternatives in detail and considered two alternatives that were eliminated from detailed study. See Alternatives Considered but Eliminated from Detailed Study, and Alternatives Considered in Detail in Chapter 2, DEIS and FEIS.

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
9-21	<p>Restoration alternative</p> <p>As required by NEPA 40 CFR § 1502.16 the Easy DEIS, Chapter 3, discloses short- and long-term, positive and negative, direct, indirect and cumulative effects of Alternatives 1 through 4 on all resources. The FEIS includes a restoration alternative, Alternative 5, with no commercial timber harvest. The effects of Alternatives 1 through 5 were discussed in Chapter 3 FEIS. See also Responses 6-74.</p>
9-22	<p>Harvest in ROG/DOG</p> <p>The old growth discussion in Chapter 2 of the DEIS and FEIS describe the current condition of the existing DOG and ROG. Chapter 3, Terrestrial Wildlife, Old Growth section discusses the impacts of harvest in those portions of the DOG and ROG that were impacted by the fire.</p> <p>The selection of replacement stands for the DOG and ROG impacted by the fire was based on current stand condition and location on the landscape.</p>
9-23	<p>Restoration alternative</p> <p>See Responses 9-20 and 9-21.</p>
9-24	<p>Consideration of No Action alternative</p> <p>All alternatives are given equal consideration in the DEIS and FEIS; beneficial and detrimental effects of proposed activities, or the lack of proposed activities, on each resource are described by alternative in Chapter 3 of the DEIS and FEIS. When no effect or an effect that is not measurable is expected, this is also displayed or discussed.</p> <p>The No Action alternative was considered along with the action alternatives. Naming three alternative ways to manage land and resources in the DEIS on page 43 was in error, and has been corrected in the FEIS to five (Alternatives 1,2,3,4,and 5).</p>
9-25	<p>Restoration alternative</p> <p>See Responses 6-74, 6-75, and 9-21.</p>
9-26	<p>Nonsignificant amendment to Forest Plan</p> <p>Dedicated Old Growth (DOG) stand 04364, Replacement Old Growth (ROG) stand 04364, and part of DOG 04365 were severely impacted by the Easy Fire. The ROG and DOGs no longer function as Dedicated or Replacement Old Growth. Alternatives 2, 3, 4, and 5 change the designation of the ROG and DOGs from MA-13 to MA-1 and designate a new DOG 04364 and ROG 04364.</p> <p>This is a Non-significant Forest Plan Amendment due to the following factors (Forest Service Handbook 1909.2): Timing; location and size; goals, objectives, outputs, and management prescriptions.</p> <p>Timing - The proposed change is taking place after the first decade of the current 1990 plan; but will be enacted before the next schedule revision. The next scheduled revision of the Malheur Forest is to begin in 2004 with an anticipated completion date of 2008. Therefore, the timing of this amendment is non-significant because of how late this change is occurring under current Forest Plan direction.</p> <p>Location and Size – The re-delineation of old growth and replacement old growth to another area maintains about the same size as the previous area and would be located in the closest available LOS stand.</p> <p>Goals, Objectives, Outputs, and Management Prescriptions - The Easy Fire affected the function and character of two dedicated old growth habitats and one replacement old growth habitat within the fire perimeter. Dedicated old growth impacted by fire no longer provides habitat conditions to meet pileated woodpecker and pine marten habitat requirements. The associated replacement old growth also no</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	<p>longer functions as suitable habitat for those species.</p> <p>See also response 9-22.</p> <p>Your proposal to designate new DOGs but manage all the old growth areas affected by the fire as ROG rather than general forest was considered as an alternative in the FEIS, but eliminated from detailed study. See FEIS, Chapter 2.</p>
9-27	<p>Cumulative environmental impacts</p> <p>The Easy DEIS and FEIS disclose the impacts of Alternatives 1 through 4 on all resources in Chapter 3. Irreversible and irretrievable commitment of resources were discussed and summarized at the end of each resource section. Effects analyzed have been updated in this FEIS, and now include the effects of Alternative 5. The effects of proposed activities on plant diversity are discussed in Chapter 1, Other Analysis Issues, of this FEIS.</p>
9-28	<p>Water quality and fisheries effects</p> <p>The effects of the proposed activities on water quality were disclosed in the DEIS, Pages 211-234. All alternatives will maintain and protect beneficial uses of water and comply with all existing state and federal regulations regarding water quality. No measurable affect on fishery resources is anticipated from project activities. Most previous activities were conducted lower in the watersheds on private lands without the implementation of BMPS. The Forest Service is not responsible for whether or not activities on private land meet water quality standards, but we do consider private land effects under cumulative effects.</p>
9-29	<p>Water quantity effects</p> <p>The tree canopy can affect the precipitation interception and infiltration, snow accumulation, and the snowmelt and evaporation by affecting wind patterns and solar radiation (p. 179 DEIS). In areas where the existing trees have been killed, such as by fire, the loss of the tree foliage (needles and branches) through fire consumption and the later needle drop results in a tree stand that behaves like a hydrological opening, depending on the number of trees that have been killed.</p> <p>Harvest of dead trees does not create additional hydrologic openings nor affect water yield because dead trees would have little remaining tree canopy to affect the wind patterns and solar radiation. The dead trees are also no longer transpiring or taking up water. The existing condition also includes trees “likely to die” because, based on field sampling, root hairs and cambium of these trees were killed by the fire. The trees are no longer able to take up water and their function in the hydrologic cycle is the same as if they were dead. Thus, the removal of the fire-killed trees would not produce significant changes from the post-fire conditions in terms of water yield, peak flows, or minimum flows. This information will be added to the FEIS to clarify the reasoning.</p> <p>Using best available science to determine if trees are dead or alive should result in only a small amount of incorrect calls. The effect of harvesting only a small amount of trees that may be incorrectly classified on hydrologic conditions is expected to be minor. Removing incidental green trees would not substantially alter the percentages of subwatersheds in created hydrologic openings.</p>
9-30	<p>Mortality ratings</p> <p>See Response 9-91</p>
9-31	<p>Impacts from sedimentation</p> <p>While it is assumed some sediment will reach fish bearing streams as a result of harvest activities, it is anticipated there will only be a short term potential negative</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	<p>impact on fish habitat at a level not measurable and these impacts will not result in a change in baseline values (Page 228). Haul road maintenance may have short term impacts from sediment during and immediately after implementation from re-grading roads, cleaning plugged culverts, and cleaning blocked ditch lines, but is a long-term benefit by improving drainage, reducing road failure potential at stream crossings and reducing chronic sediment input to streams. The potential to impact fish by haul and maintenance activities are minimal since culvert replacements and removals will not occur (Page 226). It has been determined that no measurable effect on fishery resources is anticipated from project activities. Neither the bull trout population nor its habitat is predicted to suffer any significant negative impacts from project activities.</p> <p>The 0.30 miles of spot rocking maintenance on Road 2600026 involves only the placement of grid-rolled aggregate. This work will be done during dry weather conditions and will not impact nearby fishery resources. The FEIS will be updated to reflect this.</p> <p>Impacts from sedimentation – Compacted/disturbed soils</p> <p>The slow recovery of impacted soils from past activities such as logging and roading were discussed in the DEIS, section “Soil Condition in Light of Past Management Activities (pp. 258-259). The direct, indirect and cumulative effects from the proposed alternatives were discussed in the DEIS on Pages 259-271. Specifically, Tables S-11 and S-12 in the DEIS (pp. 268-269) show the expected cumulative effects to the soil from the proposed ground based operations. The second table (Table S-12) lists the harvest areas that would approach or reach the threshold limit of soil impacts, if activities are implemented.</p> <p>Best Management Practices and the mitigation measures for the soil resource in Chapter 2 of the DEIS (pp. 62-63) are proposed to limit the amount of soil disturbance and the export of sediment out of units. The measures include designated spaced skid trails; limiting tractor skidding to slopes of less than 35%; allowing operations on dry, frozen or snow-covered soil; subsoiling of skid trails; installing cross drains; and seeding disturbed areas with a native or non-persistent, certified weed-free seed mixture.</p> <p>Exported sediments from units are expected to be minimal from tractor logged areas. Tractor units are located away from all perennial streams (except for one unit that underwent mainly low BAER burn severity), and away from the majority of the intermittent stream channel network, which reduces the likelihood of any sediment routing. The two units closest to intermittent streams are located on 0-30% ground slope. A map showing the location of the tractor units along with the stream channels will be included in the soils report in the FEIS.</p>
9-32	<p>303(d) listed streams and bull trout</p> <p>No additional disturbance to the remaining shading vegetation within RHCAs will occur under any alternative on Category 1 and 2 streams. There are no anticipated measurable changes in stream temperature. 303d listed streams will not be at any increased temperature risk from project activities. See Pages 211 and 212 of the DEIS.</p>
9-33	<p>Road decommissioning and water quality</p> <p>The Forest Service recognizes that “short term” degradations of temperature, the parameter for which Clear Creek and Reynolds Creek are listed as impaired, are not permitted under the current temperature standard. However, there are no anticipated</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	<p>measurable changes in stream temperatures resulting from project activities. See response to Comment 9-32. Exemptions to the CWA Section 404 “Fill and Removal” permitting process allow the Forest Service to conduct work proposed in this EIS as long as BMPs are implemented.</p> <p>The analysis of effects of road closure was based on a reasonable belief that adequate funding would be available to implement these actions within the timeframes specified in the FEIS. The purchaser of the timber sale would implement some road closures; wildlife and fisheries would fund others.</p>
9-34	<p>Sediment increases and TMDL’s</p> <p>The situation in the Easy Fire Recovery area is not analogous to Austin. The project under consideration in Austin was occurring in an area where stream or river segments were included on the Montana Section 303(d) List of Water Quality Impaired Waterbodies for sediment among other parameters. Those streams potentially affected in the Easy Fire Recovery Projects, Clear Creek, Lunch, and Reynolds Creeks, are listed for temperature only, not sedimentation. Also the Forest Service is not required to establish a pre-disturbance baseline in order to analyze effects of Alternatives under NEPA. Pre-disturbance baseline conditions are incorporated into the Existing Condition and/or Cumulative Effects.</p> <p>The Easy Fire Recovery I DEIS does not state that fish are likely to be “threatened.” See the Fisheries BE in Appendix F for short and long term effects calls for fish for Alternatives 1-4. The FEIS will incorporate effects calls for Alternative 5.</p> <p>The Easy Fire Recovery DEIS does not state that an initial increase in sediment caused by the proposed action will be followed by a greater decrease over current levels after the project is completed. Sediment yield and turbidity are expected to increase above pre-fire levels due to the effects of the fire. This sediment yield will decrease over time. No measurable effects on fishery resources are anticipated from project activities. All action alternatives will maintain and protect beneficial uses of water and would comply with all existing state and federal regulations for water quality. See Page 220 of the DEIS.</p>
9-35	<p>Lack of information on water quality</p> <p>The baseline for streams included on the Oregon Section 303(d) List of Water Quality Impaired Waterbodies was disclosed for the Easy Fire Recovery Project area (Pages 174 and 175). All streams in the Easy Fire Recovery Project area are listed for temperature only. Clear Creek and Reynolds Creek are listed for bull trout and Lunch Creek is listed for summer rearing temperature needs. The report you brought to our attention does not currently provide direction for the Forest Service. Its conclusions are beyond the scope of this project.</p>
9-36	<p>Compliance with PACFISH</p> <p>There is a variety of documentation within the Easy Fire Recovery DEIS demonstrating adherence to PACFISH guidelines. See Pages 211-239.</p>
9-37	<p>Impacts of proposed road construction</p> <p>No new permanent road construction will occur with the Easy Fire Recovery Project. The majority of temporary roads to be used are existing disturbed areas including rehabilitated temporary roads, decommissioned roads, and existing fire lines. These roads do not cross streams or enter RHCAs and are located on flatter ground. A temporary road adjacent to Clear Creek is located on a flat bench and is 400-feet from a Category 2 stream that flows into Clear Creek. All temporary roads will be stabilized and decommissioned after use. Watershed conditions will be improved by closing roads opened previously for fire suppression activities. See Pages 221 and 226 of the</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	DEIS.
9-38	<p>Conversion of DOG to ROG</p> <p>In response to this comment, the FEIS, Chapter 3, Old Growth Forest was updated to better disclose the effects of converting DOG/ROG 364 from Management Area 13 (MA-13), Old Growth to Management Area 1 (MA-1), General Forest. See also Response 9-26.</p>
9-39	<p>Biological Evaluation – Species and habitat</p> <p>The Easy analysis discloses whether or not surveys were conducted for the various wildlife species believed to be currently present or present prior to the fire (DEIS and FEIS, Chapter 3, Terrestrial Wildlife and Appendix D, Wildlife Biological Evaluation for Threatened, Endangered, and Sensitive Species). The Biological Evaluation also discloses population status/trend and source habitat trend information documented for the Interior Columbia Basin (Wisdom et al. 2000). In this FEIS, the management indicator species discussions have been updated with population status/trend and source habitat trend information.</p> <p>Species populations and distributions are not discussed in depth, as little quantitative data is available for most species. Rather, effects on habitats are discussed, with the assumption that if appropriate habitat is available for a species, then that species occupies or could occupy the habitat (see DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Analysis Methods). This strategy is based upon science that demonstrates connections between species populations and viability and the quantity and condition of habitat at appropriate scales of analysis (USDA Forest Service 2001).</p>
9-40	<p>Effects from grazing</p> <p>The effects of the Easy project on the rangeland resource are displayed in the Rangeland Resources section of Chapter 3 of the DEIS and FEIS. The effects of historic and pre-fire grazing are disclosed in existing condition and cumulative effects sections of the DEIS by resource. Additionally, the effects of continued grazing are considered a cumulative effect on other resources (see Past, Present, and Foreseeable Actions list in Chapter 3, FEIS). The descriptions of cumulative effects of grazing, whenever reinitiated, were expanded in Chapter 3 of the FEIS.</p>
9-41	<p>Effects to roadless areas</p> <p>See Responses 6-124 and 6-126.</p>
9-42	<p>Effects to roadless areas</p> <p>NEDC identified two large areas without roads. This FEIS addresses these by incorporating a new section, Unroaded, under Other Disclosures. This section includes the specialists' assessments of roadless characteristics for these two areas. See also Responses 6-124 and 6-126.</p>
9-43	<p>Reasonably foreseeable actions</p> <p>A list had been added to the FEIS, at the beginning of Chapter 3, that displays past, ongoing, and reasonably foreseeable projects. Those projects, when combined with the activities proposed in this project, could have cumulative effects on resources. Resource specialists used this list to assure that all activities were considered and analyzed for cumulative effects. Cumulative effects of activities on resources are described by alternative in Chapter 3 of the DEIS, and have been expanded in this FEIS. The cumulative effects discussions include effects from activities on public and private land.</p> <p>The Monument and Flagtail fire areas lie in different river basins from the Easy project and are outside the area of influence for cumulative impacts for aquatic and other</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	resources.
9-44	<p>Effects of nearby fires and timber sales</p> <p>Other recent fires and green timber sales are in other watersheds (see Response 9-43) and the IDT determined that there were no measurable cumulative effects from them on the Easy project. Past, ongoing, and foreseeable future projects that could have cumulative effects, when combined with this project are listed at the beginning of Chapter 3 of the FEIS. There were no separate CE's prepared for hazard tree removal or roadside salvage in the Easy fire area.</p>
9-45	<p>Potential impacts to Sensitive and Management Indicator Species (MIS)</p> <p>The DEIS and FEIS disclose the direct, indirect and cumulative effects of alternatives on sensitive species and management indicator species (see DEIS and FEIS, Chapter 3, Terrestrial Wildlife and Appendix D, Wildlife Biological Evaluation for Threatened, Endangered, and Sensitive Species). In this FEIS, the wildlife effects discussions have been updated with population status/trend and source habitat trend information. The cumulative effects discussions have also been updated.</p>
9-46	<p>Cumulative impacts to watershed</p> <p>Cumulative impacts from past, present and foreseeable future actions are analyzed in the DEIS. See Existing Condition Pages 165-211 of the DEIS, in particular Pages 168-169, 180-187, and 205-208, and Environmental Consequences, specifically, Pages 218-223. Several watershed restoration projects to be completed under separate decisions by Categorical Exclusions or Environmental Assessments and with administrative decisions outside of this EIS are discussed on Pages 28 and 29 of the DEIS. The list of Past, Present, and Foreseeable Actions in the beginning of Chapter 3 in the FEIS was considered for potential cumulative effects for each resource in Chapter 3.</p>
9-47	<p>Cumulative impacts to soils</p> <p>The soil surveys completed in the fall of 2002 examined all impacts from past timber harvest activities, including landings and temporary roads within past harvest units, fire suppression and fuel treatments. Any effects from past grazing are included in the surveys. The "Cumulative Effects" section (pp. 266-270 DEIS) discusses the expected soil conditions from the past and proposed activities resulting from the No Action and the action alternatives 2, 3 and 4. As disclosed on page 267 in the DEIS, the figures in Tables S-11 and S-12 include the existing and additional effects from the harvest activities and fuel treatments, and permanent and temporary roads.</p> <p>The only past and present impacts not covered in existing condition inspections are from the Roadside Hazard Tree Falling; these impacts are negligible since those trees cut will not be removed. Existing conditions were used to evaluate cumulative effects from the alternatives and foreseeable future.</p> <p>Best Management Practices and the mitigation measures for the soil resource in Chapter 2 of the DEIS (pp. 62-63) are proposed to limit the amount of soil disturbance and the export of sediment out of units. The measures include designated spaced skid trails; limiting tractor skidding to slopes of less than 35%; allowing operations on dry, frozen or snow-covered soil; subsoiling of skid trails; installing cross drains; and seeding disturbed areas with a native or non-persistent, certified weed-free seed mixture.</p> <p>Exported sediments from units are expected to be minimal from tractor logged areas. Tractor units are located away from all perennial streams (except for one unit that underwent mainly low BAER burn severity), and away from the majority of the intermittent stream channel network, which reduces the likelihood of any sediment</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	routing. The two units closest to intermittent streams are located on 0-30% ground slope. A map showing the location of the tractor units along with the stream channels will be included in the soils report in the FEIS.
9-48	<p>Impacts of proposed road activities</p> <p>The effects of road use are discussed the Easy Fire Recovery DEIS. See Pages 216-219, 221, 226-234.</p> <p>The Easy Fire Recovery DEIS does <u>not</u> acknowledge extensive road degradation within the project area. Rather, the roads within the project area are in good condition. See Page 207.</p>
9-49	<p>Cumulative impacts of fire suppression, rehab</p> <p>Fire suppression and emergency rehabilitation did not reduce ground cover on thousands of acres below Forest Plan standards, and the area affected by suppression was relatively easily rehabilitated. Effects of burnouts are included in the BAER severity map. Effects of chemical retardants on soil are negligible. These actions were included in the watershed description of the Existing Condition and incorporated into cumulative effects as a result.</p>
9-50	<p>Roads and sedimentation</p> <p>See response to Comment 9-37.</p>
9-51	<p>Impacts of re-designating ROGS and DOGS</p> <p>See response 9-22 and 26</p>
9-52	<p>Cumulative effects from concurrent projects</p> <p>See Responses 9-43, and 9-44.</p>
9-53	<p>Salvage in areas not suited for timber harvest</p> <p>The decision for the Easy project will be documented in the Record of Decision (ROD), which will display reasons for the decision.</p> <p>The Easy DEIS and FEIS consider and disclose the direct, indirect, and cumulative impacts of Alternatives 1 through 4 on recreation, range, watershed, wildlife, and fish in Chapter 3. Irreversible and irretrievable commitment of resources were discussed and summarized at the end of each resource section. Effects analyses have been updated in this FEIS, and now include the effects of Alternative 5. The following responses (Responses 9-55 through 9-58) further discuss the effects on multiple uses of interest to the commenter.</p>
9-55	<p>Effects on recreation</p> <p>Recreation effects are addressed in the DEIS on pages 354 through 360. The recreational use of the Easy Fire project area is dispersed, at a low level.</p> <p>Scenery effects are addressed in the DEIS on pages 324 through 326. The scenic attractiveness of the landscape was altered by the natural event of the wildfire in the Easy project area. Most of the area proposed for salvage harvest is in Forest Plan Management Area 1 (MA 1), where timber harvest is scheduled and the visual quality objective is maximum modification. In MA 1, land management activities such as timber harvest may borrow from existing landscape features, but will be visually evident and may often dominate the natural landscape.</p> <p>Some of the Easy Fire project area can be seen from US Highway 26 and State Highway 7. Most of the view in the project area is background, with approximately 667 acres of visual middle ground where the visual quality objective is partial retention. To meet the partial retention visual quality objective, management activities may be evident to the viewer but must remain visually subordinate to the surrounding landscape. Proposed salvage harvest would alter the forested landscape as seen from middle ground views, but would still meet partial retention standards required by the</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	<p>Forest Plan (DEIS, page 326). Proposed tree planting will help improve the visual quality in the long term (DEIS, page 326).</p> <p>Direct human activity, such as timber removal can alter scenic integrity, but does not impede the ability to recreate. People have the ability to perceive landscape character and develop expected images. The wildfire that occurred in this area altered the natural-appearing landscape character and the associated scenic integrity. The appearance of tree stumps, skid trails, or a logged landscape would not alter the landscape character or scenic integrity any more than the wildfire already has. The wildfire caused the deviation from the existing landscape character, wholeness, or condition of the ecosystem. Logging can be used in a way to improve forest health; some dead trees will be left on site for a healthy ecosystem. The most effective way to repeat form, line, color, texture, pattern, and scale of the existing condition is to borrow and repeat it. However, it is difficult to borrow from outside the landscape being viewed because of the deviations caused by the wildfire. The timber activities will not cause more of a deviation than the fire has already caused.</p> <p>Since the area proposed for salvage is mostly in MA 1, the management standard is to achieve integrity level 1, which is to decrease the visual contrast of the deviation being viewed. In this case, the integrity is low, so the approach is to shape and blend only with the landforms. For example, harvest boundaries would follow draws where low-branched trees and brush exist over ridges or hilltops to avoid dominance of unnatural appearing edges, implemented in a manner consistent with PACFISH. Since this area has an altered landscape as a result of the wildfire, future management activities, such as tree planting after tree removal, are crucial to help heal the project area.</p>
<p>9-56</p>	<p>Effects on wildlife</p> <p>The DEIS and FEIS, Chapter 3, Terrestrial Wildlife section, discloses the effects of alternatives on post-fire dependent species.</p> <p>The DEIS and FEIS use a combination of surveys, observational data, population status/trend and source habitat trend information, and habitat assessments to evaluate effects to terrestrial wildlife. See Response 9-39.</p>
<p>9-57</p>	<p>Primary cavity excavators and snag retention</p> <p>DEIS and FEIS Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators discusses the effects of salvage logging on these species. This analysis has been updated in the FEIS. A range of snag densities and distributions were prescribed in the alternatives.</p>
<p>9-58</p>	<p>Soil health and water quality – (Soil health)</p> <p>The DEIS discusses woody material and its relationship to soil productivity and soil organisms in section “Soil Organic Matter, Litter, Soil Wood & Nutrient Status” (pp. 257-258 and in “Nutrients” (p. 264). Removal of nutrients and organic matter from logging and fuel control would likely move many sites back toward their fertility status before European-Americans arrived. This removal, especially removal of nitrogen, may decrease site productivity a few percent on some sites. For the drier forest conditions in the project area, before fire suppression became effective, down and decaying wood burned frequently, so there were few or no large accumulations of decaying wood. Thus, large wood was not an ample source of nutrients throughout secondary succession.</p> <p>Large wood was not a major ground cover for reducing erosion historically; ground cover was mostly supplied by ground vegetation, by forest floor that the low intensity fires missed, and by needles cast from trees within a few years after a fire. Most soil organic matter in the drier forests comes from roots or fine above ground organic</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	<p>matter, not coarse aboveground organic matter, especially under historic conditions where the above ground organic matter periodically burned off.</p> <p>Planted seedling survival has been comparable in both salvaged and unsalvaged areas. While leaving snags and down logs may provide for increased moisture, mycorrhizal fungi, and nitrogen fixing bacteria, there has been no observable effect on reforestation survival based on actual experience on this forest. Micrositing near logs and stumps is required by the tree planting contract and is considered a standard practice. In rare cases, tree regeneration has failed in clearcuts of live trees west of the Cascade Mountains because of a deficiency of mycorrhizal fungi. However, on Malheur National Forest, no such regeneration failures have been reported, even after harvest of live trees.</p> <p>Within the harvest units, many dead and dying trees in smaller size classes within the harvest units will be retained to provide beneficial soil nutrients. Also, all live trees will be left to provide a future source of down wood (i.e. needle cast, limbs, and large logs).</p> <p>The effects of salvage logging to watershed resources are thoroughly analyzed in the Easy Fire Recovery DEIS. See Pages 211- 243 for effects to fish and water quality and Pages 253-270 for effects to soil.</p>
9-59	<p>Data for populations of sensitive and MIS</p> <p>The EIS uses a combination of surveys, observational data, population status/trend and source habitat trend information, and habitat assessments to evaluate effects to terrestrial wildlife. See Response 9-39.</p>
9-60	<p>Maintain viable populations of cavity nesters</p> <p>See response 9-57</p>
9-61	<p>DecAID</p> <p>The DecAID tool is currently one of the best sources of information on dead wood habitats because it synthesizes published literature, research data, wildlife databases, inventory data, and expert judgment and experience. DecAID identifies assumptions, caveats and cautions that need to be addressed when using the tool; these aspects were considered when developing snag strategies in the DEIS and FEIS.</p> <p>DecAID was used to assess effects to primary cavity excavator (PCE) species with changes to snag habitat conditions and densities as a result of implementation of the different alternatives (DEIS and FEIS, Chapter 3).</p> <p>The FEIS has updated this analysis.</p>
9-62	<p>Fire can increase some wildlife habitats</p> <p>The benefits of wildfire and post-fire habitats to wildlife species are disclosed in the DEIS and FEIS (see Chapter 1, Existing Condition, Terrestrial Wildlife Habitat, and Chapter 3, Terrestrial Wildlife, Existing Condition discussions).</p>
9-63	<p>Larger-diameter trees used more by wildlife</p> <p>Habitats for primary cavity excavators vary by species. Some species, such as Lewis' woodpecker, prefer larger diameter snags and some species, such as black-backed woodpeckers, generally prefer smaller diameter snags. The DEIS and FEIS considered new research on dead wood habitats. The DecAID tool (Mellen 2003) synthesizes published literature, research data, wildlife databases, inventory data, and expert judgment and experience. The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section. The DEIS developed a broad range of alternatives and snag retention levels (DEIS and FEIS, Chapter 2, Alternatives Considered in Detail). This FEIS updates the effects discussion on dead wood habitats</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	and associated wildlife species (see FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species).
9-64	<p>Snags and decayed wood have many values Rose et al. (2001) was considered by resource specialists when analyzing effects of the proposed activities; see response 6-24 for an expanded discussion on Rose et al. In general, snag retention in the DEIS and FEIS purposefully focused on primary cavity excavators. The Forest Plan designated these species as management indicator species (MIS), representing dead wood habitats. The MIS concept as applied here assumes that by providing habitat for primary cavity excavators, habitat is provided for many other dead wood dependent species as well (see DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Analysis Methods and Primary Cavity Excavator Species, Old Growth Forest, Northern Goshawk, and Landbirds). While snags and downed wood provide other functions, in the Malheur National Forest Plan, predominantly addresses them through wildlife standards and guidelines.</p>
9-65	<p>Density and distribution of snags Post-fire snag levels were determined utilizing post-fire stand exams and photo interpreted data. The FEIS, Chapter 3, Terrestrial Wildlife discusses the data and how it was interpreted.</p> <p>The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator section describes the post-fire snag and downed wood conditions, and the importance of these habitat components to various wildlife species. The DEIS acknowledges that pre-fire management has influenced post-fire snag levels (see Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators, Cumulative Effects,). This FEIS has been updated to display snag density and size distributions; this existing snag distribution is compared to Regional snag data included in DecAID.</p>
9-66	<p>Fire promotes plant and animal diversity Many areas both burned and unburned would not be treated, providing a variety of habitat, both treated and untreated for a variety of plants. The benefits of wildfire and post-fire habitats to wildlife species are disclosed in the DEIS and FEIS (see Chapter 1, Existing Condition, Terrestrial Wildlife Habitat, and Chapter 3, Terrestrial Wildlife, Existing Condition discussions).</p>
9-67	<p>Large trees provide critical habitat Trees recruited as large wood for stream habitat will come from RHCAs. Soils are stable in the Easy Fire Recovery Project area. Wood recruited to streams from landslide activities would be rare. Since no harvest will occur in RHCAs, salvage logging will not affect recruitment of large wood to streams.</p> <p>Chapter 2 of the DEIS and FEIS disclose that treatment of smaller trees is also proposed. The DEIS and FEIS (Chapter 3, Fire and Fuels, Introduction) disclosed the influence coarse woody debris has on fire behavior. Capturing economic value is also a purpose and need of this project (Chapter 1, Purpose of and Need for Action). See also Response 6-24.</p>
9-68	<p>Maintaining habitat capability The DEIS and FEIS, Chapter 3, Terrestrial Wildlife section discloses the effects of alternatives on post-fire dependent species. Approximately 28% of the burned areas are outside the seed dispersal zone (farther than 800' from live trees) and it is estimated that it will take 20 to 50 years to be reforested. Planting these areas will start these stands growing sooner and will eventually grow into an old growth structural stage 20 to 50 years sooner than natural reforestation. This is documented in the DEIS and</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	FEIS, Chapter 3, Forest Vegetation, Stand Structural Stages and Chapter 3, Terrestrial Wildlife, Old Growth Forest.
9-69	<p>Salvage logging in DOGs Water quality will not be harmed in any measurable amount with the Easy Fire Recovery salvage activities. There will be no measurable changes in stream temperature or turbidity. See Pages 211 and 220 of the DEIS.</p> <p>The Easy Fire essentially destroyed all the old growth in the project area. The DEIS and FEIS discuss effects on Dedicated and Replacement Old Growth areas (DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Old Growth Forest, and Chapter 3, Forest Vegetation, Stand Structural Stages).</p>
9-70	<p>New DOG cannot replace the old DOG</p> <p>Forest Plan, Management Area 13 (MA-13) provides direction for designating, refining and managing Dedicated Old Growth (DOG) and Replacement Old Growth (ROG) areas (Forest Plan, pp. IV-105 to IV-107). The action alternatives are consistent with this direction. A new DOG would be established; the new ROG would be managed for future old growth (DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Old Growth Forest, and Consistency with Direction and Regulations).</p> <p>Converting MA-13 to MA-1 does not forgo opportunities to manage these areas for future old growth. Since 1993, the Forest Plan as amended, has directed the Malheur National Forest to conduct timber sales in a manner that moves stands towards OFMS and OFSS structural stages.</p>
9-71	<p>Impacts of logging on burned soils Vegetative recovery of the burned areas and in the stream channel sideslopes is discussed in the DEIS, sections “Stream Temperature,” (pp. 211-215); “Recovery of Protective Ground Cover” and “Plant Recovery,” pp. 253-256.</p> <p>The DEIS discloses mitigations (Chapter 2) to adequately protect severely burned or erosive sites, though it does not prohibit logging on these sites. The DEIS states that skid trails would occupy 9-14 percent of ground based areas based on the skid trail spacing, with 60-80 percent of the skid trails detrimentally compacted (pp. 260-261). Detrimental impacts (compaction) would be less than the total area occupied by skid trails, because not the total area of the skid trails is detrimentally compacted. The DEIS also states that “subsoiling in ash soils would reduce compaction in 60-80 percent of the skid trails.” Thus, subsoiling would not alleviate all of the soil impacts.</p> <p>Further effects from ground based yarding is discussed in sections “Decrease in Ground Cover,” Erosion and Sediment Risk,” “Subsoiling,” and “Fuels Control – Grapple Piling” (pp. 261-263). Specifically regarding subsoiling, the DEIS states that “subsoiling bares soil, forms channels, makes soils particles more easily detachable, and disrupts roots, thus raising the risk of erosion for a few years. However, subsoiling also increases infiltration, which decreases the risk of erosion.” (p.263).</p> <p>Tables S-11 and S-12 in the DEIS (pp. 268-269) show the expected cumulative effects to the soil from the proposed ground based operations. The second table (Table S-12) lists the harvest areas that would approach or reach the threshold limit of soil impacts, if activities are implemented. As disclosed on page 267 in the DEIS, the figures include the existing and additional effects from the harvest activities and fuel treatments, and permanent and temporary roads.</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	<p>Klock's (1975) study was included in McIver & Starr's (2000) review. Logging practices have changed since the early 1970s, so a much smaller percent of the area would be disturbed and eroded.</p> <p>The higher risk of ground based management of the moderate to high BAER burn severity areas is stated in the DEIS in sections "Proposed Ground Based Activity and BAER Burn Severity" (pp. 263-264); "Cumulative Effects" (p. 269 after Table S-12; and p. 270, paragraph #2); and in section "Consistency with Direction and Regulation" (p. 271).</p> <p>Best Management Practices and the mitigation measures for the soil resource in Chapter 2 of the DEIS (pp. 62-63) are proposed to limit the amount of soil disturbance and the export of sediment out of units. The measures include designated spaced skid trails; limiting tractor skidding to slopes of less than 35%; allowing operations on dry, frozen or snow-covered soil; subsoiling of skid trails; installing cross drains; and seeding disturbed areas with a native or non-persistent, certified weed-free seed mixture.</p> <p>Slope stability and mass wasting are not serious issues as stated in the DEIS (pp. 8 and 249): "Most of the Easy Fire area has silt loam surface soils derived from volcanic ash over subsoils derived from volcanic rock, mostly basaltic andesite. The andesitic rock types are fine-grained, generally hard and competent, and moderately to highly fractured. These rock types are stable, with a strong resistance to mass movement (SRI, Malheur N.F. 1974)."</p> <p>Regarding the input of large woody debris to streams or disturbance to riparian areas, no proposed tree removal within the RHCAs. No commercial logging activities are proposed in riparian areas. Felling of roadside hazard trees within Riparian Habitat Conservation Areas is proposed. Hazard trees would be felled, moved off the drivable road surface but left onsite in the RHCA or placed as Coarse Woody Debris in stream channels as part of Categorical Exclusion.</p> <p>The proposed mitigation measures for riparian areas include, among others, the PACFISH RHCA buffers of 300 feet and 150 feet slope distance for Category 1 and 2 streams; extended RHCA buffers of 150 feet slope distance, instead of the standard 100 feet distance along three of the intermittent stream channels that underwent high BAER burn severity above Clear Creek and along Easy Creek; a buffer along a burned ephemeral channel; and helicopter logging of units above Clear Creek and along Easy Creek.</p> <p>See also responses to Comments 9-31; 9-47 and 9-58.</p>
<p>9-72</p>	<p>Reliance on representative sampling</p> <p>Soil surveys were completed in the fall of 2002. As stated in the DEIS (p. 247), "Most of the areas were inventoried, to determine if detrimental impacts were clearly less than 10%. Areas were surveyed by walk-through field reconnaissance or by transects, where quantitative data was taken, except for a portion of proposed helicopter logging (about 180 acres – mainly low burn severity) and some proposed tractor harvest units (229 acres – low to moderate burn severity) in the northeast part of the project area. The percent existing impacts for these non-inventoried areas were estimated by information from nearby inventoried areas, GIS data, and photos."</p>
<p>9-73</p>	<p>Impacts on soils and long-term productivity</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	See responses to Comments 9-31; 9-58 and 9-71.
9-74	<p>Impacts to impaired watershed slopes</p> <p>Roads within the project are in good condition. To say harvest will occur in a watershed with eroding roads and cutbanks is not an accurate portrayal of road conditions in the area. Haul maintenance activities, and obliteration of fire lines and temporary roads used and left open after fire activities will actually improve the watershed condition. See Pages 207, 226, and 229 of the DEIS.</p>
9-75	<p>Importance of standing dead trees</p> <p>The Environmental Consequences section (Chapter 3) of this FEIS analyzes the effects of all alternatives on snags and down woody debris and how they affect all resources.</p>
9-76	<p>No scientific evidence that salvage reduces future fire intensity</p> <p>We agree that the removal of dead trees will not decrease the intensity of a future fire. However, future fire intensity is increased as the dead trees begin to fall down over time. The down dead trees would contribute significantly to the fire behavior and fire effects of the next fire (Brown, 2003). The beneficial and adverse effects of harvest are discussed in Chapter 3 of the DEIS. Recent scientific research conducted by Sessions et al, 2003 (The Biscuit Fire: Management Options for Forest Regeneration, Fire and Insect Risk Reduction and Timber Salvage) recommends salvage of merchantable timber to reduce the intensity of future fires. Removal of dead trees now also allows for prescribed burning in the future (20-30 years from now).</p>
9-77	<p>Beschta report - sensitive soils and riparian areas</p> <p>As disclosed in the DEIS (p. 171) the fire only burned in a few places to the water's edge at moderate or high BAER burn severity along Clear Creek or along the other perennial streams (See Figure 5 in the DEIS). Thus the buffering capacity of the RHCAs along the majority of the perennial streams has not been seriously affected. Along low BAER burn severity areas; the riparian areas are likely fully recovered after two years, through litter fall, resprouting vegetation, and the growth of forbs and other vegetation. The fire did burn at high BAER severity along several intermittent channels (see paragraphs below).</p> <p>Regarding the input of large woody debris to streams or disturbance to riparian areas, no commercial logging activities are proposed in riparian areas. Felling of roadside hazard trees within Riparian Habitat Conservation Areas is proposed. Hazard trees would be felled, moved off the drivable road surface but left onsite in the RHCA or placed as Coarse Woody Debris in stream channels as part of a Categorical Exclusion.</p> <p>The proposed mitigation measures for riparian areas include, among others, the PACFISH RHCA buffers of 300 feet and 150 feet slope distance for Category 1 and 2 streams; extended RHCA buffers of 150 feet slope distance, instead of the standard 100 feet distance along three of the intermittent stream channels that underwent high BAER burn severity above Clear Creek and along Easy Creek; a buffer along a burned ephemeral channel; and helicopter logging of units above Clear Creek and along Easy Creek.</p> <p>See also Responses 8-6 and 9-71.</p>
9-78	<p>No Action meets NFMA reforestation</p> <p>The Regional Foresters letter of Nov. 19, 2002, which was reviewed by the Washington Office, directs us "Where no salvage is done, deforested lands should be reforested as quickly as possible."</p> <p>The time needed to reforest the project area would be longer for the No Action</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	alternative and could take up to five decades longer for the portions of the project area that are not within natural seeding distance of live trees. The Forest Vegetation and Structure section of Chapter 3 in the FEIS has been updated to reflect this.
9-79	Salvage eliminates shade cast by dead trees See Response 6-5b.
9-80	<p>Logs provide enriched microsites Planted survival has been comparable in both salvaged and unsalvaged areas. While leaving snags and down logs may provide for increased moisture, mycorrhizal fungi, and nitrogen fixing bacteria, there has been no observable effect on reforestation survival based on actual experience on this forest.</p> <p>Micrositing near logs and stumps is required by the tree planting contract and is considered a standard practice. In rare cases, tree regeneration has failed in clearcuts of live trees west of the Cascade Mountains because of a deficiency of mycorrhizal fungi. However, on Malheur National Forest, no such regeneration failures have been reported, even after harvest of live trees.</p> <p>The DEIS discloses that conditions after logging would be sufficient for planted seedling regeneration (p. 96), so microsites provided by snags and logs are not necessary, mycorrhizal fungi are sufficient, and water holding capacity is sufficient. Under the No Action Alternative 1, loss of mycorrhizal fungi (as well as herbaceous plant and <i>Ceanothus</i> competition) possibly could inhibit tree regeneration in later years.</p>
9-81	<p>Salvage logging does not aid in reforestation Snowbush ceanothus is considered the only potentially serious hardwood competitor to conifer seedlings. Logging is not considered to have any effect on increasing or decreasing the germination or resprouting of ceanothus, therefore it was not discussed.</p> <p>Ceanothus has both beneficial and negative effects on conifer seedlings. On the drier southwest-facing sites in the Easy area the positive effects of nitrogen fixing, etc. are outweighed by competition for water, nutrients, and sunlight. Nevertheless, this project does not plan for ceanothus control.</p> <p>This FEIS discloses the effect of tree planting on nitrogen fixation by <i>Ceanothus</i>. In the Easy area, sprouting hardwood shrubs will be minor components of the post-fire vegetation under all alternatives, so they would not have significant effects on minimizing loss of soil carbon and nutrients, maintaining critical elements of soil structure, or providing critical habitats for soil organisms. In addition, even if sprouting shrubs were a major component of the vegetation, these effects would not be significant. Loss of nutrients to leaching would be negligible under all alternatives. Under Alternative 1, loss of mycorrhizal fungi (as well as herbaceous plant and <i>Ceanothus</i> competition) could possibly inhibit tree regeneration in later years.</p>
9-82	<p>Natural reforestation is better Aerial seeding was not considered as it has been found to give erratic reforestation success. Large amounts of seed are required due to rodents consuming much of the seed, which is expensive to collect from native trees in the proper seed zones. In addition, results are often highly variable, with some areas extremely overstocked and many others devoid of trees. Planting has been found to be the most cost effective and to give the most reliable results.</p>
9-83	<p>Protection streams and other riparian areas See response to Comment 9-67 and 9-69.</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
9-84	<p>Riparian buffers and BMPs</p> <p>The Easy Fire Recovery Project employs many mitigation factors to ensure water quality, in addition to riparian buffers. These factors include helicopter and cable yarding, expanded riparian buffers, buffers added to ephemeral streams (Page 220 DEIS), and exclusion of blocks adjacent to intermittent streams that burned with high severity (Alternative 3).</p> <p>The road conditions in the project area are <u>not</u> in a state of disrepair. Roads within the project area are in good condition. See Page 207 of the DEIS and response to Comment 9-28.</p>
9-85	<p>Temporary roads and 303(d) listed streams</p> <p>Road decommissioning is proposed to improve watershed conditions and not as mitigation to salvage harvesting.</p> <p>The 303 D streams in the area, Clear Creek, Lunch Creek, and Reynolds Creeks are listed for temperature concerns not sediment or turbidity.</p> <p>The proposed temporary roads are located primarily on previously disturbed flatter ground that that does not cross streams or enter RHCAs. Only one stream is remotely close to a stream and then only 400-feet from a Category 2 tributary to Clear Creek. Discussion of the temporary roads to be used for the Easy Fire Recovery project is found on Page 226 of the DEIS. Locations can be found on Figures 28 and 29.</p>
9-86	<p>Eastside screens</p> <p>The alternatives are consistent with Regional Forester's Eastside Forest Plans Amendment #2. All riparian, ecosystem, and wildlife standards are met; see DEIS and FEIS, Chapter 3, Forest Vegetation, Terrestrial Wildlife, and Fisheries, Consistency with Direction and Regulations sections. This FEIS has updated the sections on Consistency with Direction and Regulation. More detailed responses are provided in Responses 9-87, 9-88, and 9-89, and 9-94.</p>
9-87	<p>Eastside screens and riparian buffers</p> <p>The PACFISH Decision Notice, (1995) replaced direction regarding default RHCA widths from the Eastside screens (LRMP Regional Forester's Amendment 2). However, Amendment 29 to the Malheur Forest Plan contained RMOS and Standards more protective than those in PACFISH, supercede comparable ones in PACFISH, and apply to the Easy Fire Recovery Project area. See Page 162-163 in the DEIS.</p> <p>The Easy Fire Recovery DEIS does <u>not</u> propose 50-foot RHCA buffers on non-fish bearing intermittent streams. Rather, 100-foot RHCA buffer widths are designed per PACFISH standards. See Page 162 of the DEIS.</p>
9-88	<p>LOS</p> <p>Chapter 2 of the DEIS, Table FV-5 displays that there is no LOS remaining within the fire perimeter. Discussion of the effects of the fire on LOS has been updated in the FEIS concerning the impacts of the fire and potential salvage logging.</p>
9-89	<p>Eastside screen exemptions don't apply</p> <p>As stated in the DEIS and FEIS, Chapter 3, Forest Vegetation, Regulatory Framework, this project does not propose harvesting live trees, therefore it is specifically exempt from the ecosystem (HRV) standard contained in the Regional Forester's Eastside Forest Plans Amendment #2. The riparian and wildlife standards do apply to this project. Specifically, the wildlife standard requires no net loss of LOS and to manage vegetation so that it moves towards LOS. This project does evaluate HRV of stand structures for both existing structural stages and into the future for the alternatives as a means for evaluating the differences between the alternatives, and is documented in Chapter 3, Forest Vegetation, Stand Structural Stages of the DEIS and FEIS. See Response 9-88.</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
9-90	<p>Salvage criteria</p> <p>Our plot data shows that the areas where we have proposed harvest units contain sufficient numbers of dead and dying trees to justify salvage in those areas. Trees will be marked for removal according to guidelines as presented in “Factors Affecting Survival of Fire Injured Trees...” (Scott et al., 2002) and it’s Amendment 1 (Scott et al, 2003). There will probably be some trees with green crowns that will be determined to be not likely to survive due to other factors such as bole scorch or root damage.</p>
9-91	<p>Mortality rating system not scientifically valid</p> <p>Tree survival is to be determined by applying a marking guide based on the mortality rating system developed by Scott, et al, 2002. The factors used in the rating guide are based on a large number of references to scientific papers, many which have been peer reviewed. The rating system has been reviewed and adjusted over the last year by field evaluation by local silviculturists, marking crew foremen, and the authors across the three Blue Mountain National Forests. While no guide can realistically account for all of the factors that affect survival, the current guide is currently the “state of the art” for determining tree survivability after wildfires.</p> <p>Since this is a new rating system and actual validation studies have not been conducted, it is impossible to accurately determine an error rate of misclassifying survivability of fire-injured trees. To do so, long-term monitoring plots have been established on the Monument Fire in conjunction with the PNW Research Station to monitor tree survival over the next 5 years. Additional plots in other wildfire areas will be established in the near future.</p> <p>To reduce the chance of mistakenly marking a tree for harvest that may survive, a conservative approach will be taken in developing the actual marking guides, especially for trees over 21”DBH. If the rating score falls within the High Probability to Survive range, the tree should be marked for retention. If the rating score falls within the Low Probability to Survive range, the tree should be harvested if not needed for wildlife habitat or for protecting ephemeral draws.</p> <p>If the rating score falls within the Moderate Probability to Survive range, other non-rated factors will be considered that can affect survival, as well as where the tree falls within the moderate range. It is recommended to chop into the tree bark to check for dead cambium, especially if the tree is over 21”DBH. It is recommended that the chopping be done on four sides (faces) of the tree 2 to 4 inches below the ground level on the roots to obtain the most accurate results. If dead cambium equals or exceeds 75% (3 or 4 out of 4 faces) it is very likely to die. If dead cambium is 50% (2 out of 4 faces) then it is weakened, and other factors like remaining live crown and presence of insects should be used for a final determination if the tree is expected to live. If dead cambium is less than 50% (0 or 1 out of 4 faces) it is likely to live.</p> <p>Trees that are uncertain to live, regardless if they die in the near future or survive for a number of years will be a source for future snag recruitment. This will prolong the time span that snags are available for wildlife habitat.</p>
9-92	<p>Salvage exemption</p> <p>A Forest Plan Amendment is proposed in alternatives 2, 3, 4, and 5 to re-designate dedicated old growth (DOG) and replacement old growth (ROG) areas burned in the Easy Fire. The amendment would convert the original DOG and ROG acres to General Forest (MA-1). Existing dedicated old growth areas (MA-13) are shown in</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	<p>Figure 9 in the Map section of the DEIS. This map also shows the proposed DOG and ROG relocation areas outside the fire perimeter. The majority of the original DOG and ROG acres converted to MA-1 are proposed for salvage in Alternative 2, 3, and 4 (see Map Section, Figures 18 through 20).</p> <p>The DEIS in Chapter 2, describes the existing condition of the two dedicated old growth (DOG) areas and one replacement area (ROG) located within the burn area. The fire burned through both old growth areas, creating a condition where essentially no mature or old habitat is remaining. Canopy cover has been reduced below 20%, and stand structure has been converted to understory re-initiation (UR) and stand initiation (SI).</p> <p>The Easy Fire also destroyed old growth structure outside the Dedicated and Replacement Old Growth areas. The DEIS states that there are no acres of old growth remaining (See Table FV-5, Forest Vegetation Section).</p>
9-93	<p>Agency must do HRV analysis See Response 9-89</p>
9-94	<p>Remnant old trees must be retained See response 9-63.</p>
9-95	<p>Tree mortality guidelines – need evidence See Response 9-91.</p>
9-96	<p>Good volume and value estimates needed Between DEIS and FEIS, timber volumes were recalculated and expressed as net volume instead of gross volume and Tables 2-1, and 2-2 were updated (Chapter 2, Comparison of Alternatives). The economic analysis is based on net volumes from the Alternative Comparison Table in Chapter 2. Prior to advertisement a final appraisal will be completed using the current index with an adjustment made for blue stained pine and volume loss from flat-headed wood borers. All log values in the DEIS and FEIS, used to run TEA-ECON, for all alternatives, were adjusted to show a value loss due to blue stain</p>
9-97	<p>Tree mortality ratings and ponderosa pine The Easy Fire occurred in mid July, before the buds had set. Fires that scorch the crowns of ponderosa pine before bud set are much more lethal than fires after bud set. Before bud set, crown scorch kills those branches and rarely does the tree produce new green foliage.</p> <p>Bark thickness is one factor for cambium survival; other factors are fuel buildup around the bole of trees, fuel moisture, and fire intensity and residence time. In the case of the Easy Fire, there was a large buildup of fuels around the base of most trees consisting of bark scales, needles, and small branches. The fuel moisture was very low, and the fire intensity and residence time was sufficient to kill the cambium of many trees, even those with thick bark. Often the larger trees with thicker bark were killed at a higher rate than smaller trees with thinner bark, simply because of the buildup of flammable material around the base of the larger trees because of the lack of frequent low intensity ground fires. Where there is uncertainty, it is recommended in the marking guides to chop into the bark at the base of the tree to check for living cambium (see Response 9-91).</p>
9-98	<p>No harvest in DOGs Both the ROG and DOG within the fire perimeter no longer function as old growth due to the effects of the fire. MNF-LRMP MA-13, Standard #4, “Correct previously dedicated old growth unit designations that are not meeting management requirement</p>

Response #	Letter # 9 - Kathleen Hitt - Northwest Environmental Defense Center Response
	<p>direction where possible.”</p> <p>See Response 9-92.</p>
9-99	<p>Compliance with Federal Wildland Fire Mgt Policy and Program Review</p> <p>The Federal Wildland Fire Management Policy and Program Review (2001) provide guidance for the wildland fire management program. The policy gives a full range of options in suppression operations and using both wildland and prescribed fire to achieve resource benefits. This project meets the requirements of NEPA. Further discussion is included in Chapter 3 under Regulatory Framework.</p>
9-100	<p>Salvage not effective at fire hazard reduction</p> <p>The need addresses potential future fuel loading as disclosed DEIS. While it is true that there is no scientific support for the concept that standing large trees increase fire risk, when the dead trees fall, they do become part of the down woody fuel loading and contribute to fire behavior and fire effects as discussed in Chapter 3 of the DEIS. Several of these scientific studies were considered in the DEIS (Chapter 5 and p.389). The other studies were reviewed but do not change the analysis of this project. The DEIS discusses coarse woody debris and the DEIS Fire and Fuels Section of the Environmental Consequences Chapter 3 discloses fuel loading and fire severity. The Purpose and Need of this project also includes capturing economic value (DEIS p. 1), which involves removing tree boles.</p>

Letter #10 – Judith Leckrone Lee, U.S. Environmental Protection Agency

Comment #	Response
10-1	<p>Impacts of salvage logging on surface water temperatures It is predicted that any input of sediments into streams from harvest activities will be short term, occur during higher flows when flushing action is greatest, and occur in quantities that are not likely measurable.</p> <p>The quantity of sediment required to fill in channel habitats and widen streams causing decreased depths, increased thermal radiation, and increased stream temperature will not be generated with project activities.</p>
10-2	<p>Preferred alternative The Forest Service preferred alternative (Alternative 3) meets the Forest Plan standards and guidelines for protection of water quality, prevention of sediment delivery to streams, retention of large dead wood, maintenance of stream structure, water temperature, and habitat for terrestrial wildlife. We acknowledge that there will be some impacts from implementation of the preferred alternative; however, the effects are expected to be within Forest Plan standards.</p>
10-3	<p>Mitigation of surface erosion The specific mitigation measures for the soil resource and other resources are listed in Chapter 2 of the DEIS (pp. 62-66). The soil mitigation measures are proposed to limit the amount of soil disturbance and the export of sediment out of units from harvest activities. The measures include designated spaced skid trails; limiting tractor skidding to slopes of less than 35%; allowing operations on dry, frozen or snow-covered soil; sub-soiling of skid trails; installing cross drains; and seeding disturbed areas with a native or non-persistent, certified weed-free seed mixture.</p> <p>The expected impacts from planned logging activities, including the cumulative effects are discussed on Pages 259-271 of the DEIS.</p>
10-4	<p>Preparation of TMDLs The target date for TMDL preparation within the affected watershed areas is 2006. Also see response to Comment 6-33.</p>
10-5	<p>Consider salvage impacts separate from fire impacts All alternatives will maintain and protect beneficial uses of water and comply with all existing state and federal regulations regarding water quality. No measurable changes in water temperatures are predicted in any stream as a result of any proposed alternative. Harvest activities will not result in any measurable effect on peak flows or water yield. Analyses to better separate sedimentation effects of harvest activities from those associated with the fire will be accomplished with WEPP analysis to be included in the FEIS. However, it is expected that under most weather conditions tractor skidding operations will result in only negligible soil export from units. In skyline and helicopter units it is unlikely that soils disturbed by logging activities will leave the unit.</p>
10-6	<p>Erosion and sediment delivery to streams Impacts from salvage logging activities are thoroughly discussed in the Fish and Water, Water Quantity, and Soil sections of Chapter 3 of the DEIS.</p>

Comment #	Response
10-7	<p>Water quality analysis The acres and severity of burn area within the Clear Creek RHCA (the only fish bearing stream within the project area), are shown on Page 182 of the DEIS. Only 18% acres burned at a moderate or high BAER fire severity. Consequently, the majority of the Clear Creek RHCA (81%) was either unburned or burned at a low BAER fire severity.</p> <p>No harvest activities will occur within any RHCA. PACFISH (1995) stream buffer widths will be implemented in each action alternative. Also under alternative 2 and 4 some buffer widths have been increased (see response to Comment 10-9) and in Alternative 3 some areas with streams are removed from harvest activities. Therefore, no additional disturbance to the remaining shading vegetation will occur. There are no anticipated measurable changes in stream temperatures from harvest activities.</p> <p>It is predicted that any input of sediments into streams from project activities will be short term, occur during higher flows when flushing action is greatest, and occur in quantities that are not likely measurable. However, additional analysis for sediment generation from project activities will be conducted using WEPP analysis and documented in the FEIS. For more information see response to Comments, 1-15, 6-14,6-31,6-32, 6-79, 8-9, 10-1, and 10-5.</p> <p>Trees recruited as large wood for stream habitat will come from RHCAs. Soils are stable in the Easy Fire Recovery Project area. Wood recruited to streams from landslide activities would be rare. Since no harvest will occur in RHCAs, salvage logging will not affect recruitment of large wood to streams. Also see response to Comments 6-23, 6-61, and 6-79.</p>
10-8	<p>Leaving woody debris in cross slope position It is anticipated that a substantial amount of wood remaining in units as a result of harvest activities will be ultimately positioned across the slope due to industry falling and yarding procedures. Also see response to Comment 6-98.</p>
10-9	<p>Exceeding PACFISH buffer widths As a minimum, all PACFISH RHCA buffer widths will be implemented with each alternative. In addition, RHCA buffer widths were extended from 100 to 150-feet on several intermittent channels that burned at high BAER severity in Alternatives 2 and 4. Also ephemeral draws that burned at high BAER severity were assigned 15 to 20-foot buffer widths from 0 (no buffer required). See Page 220.</p>
10-10	<p>Road densities See response to Comment 6-125. Decommissioned roads opened and fire lines utilized for fire access will be decommissioned with the Easy Fire Recovery Project. The closure of 5.2 miles of Road 2600391 will virtually eliminate dust generation and the need for road maintenance in this area.</p> <p>Roads in the project area that are closed now or will be in the foreseeable future and their impacts to road densities are discussed on Page 206 of the DEIS. The few roads to be left open in the project area, such as Road 2635000 along Clear Creek, are major haul roads needed for administrative and fire access. These roads also have historic recreational use. The roads to be left open are in good condition, located on stable soils, and are not identified as having any significant impacts to local stream water quality. See also Response 6-1.</p>
10-11	<p>Impacts to pileated woodpeckers and pine marten Chapter 3, Terrestrial Wildlife, of the DEIS and FEIS discusses the effects of the fire on old growth habitat and its dependent species; both spatially and temporally.</p>

Comment #	Response
10-12	Consultation with Native American tribes The Coordination with Other Governments and Agencies section of Chapter 1 in the DEIS and FEIS (page 30 in the DEIS) discloses that the three tribes were contacted to exchange information and that the Burns Paiute Tribe provided comments. Additional disclosure on tribal interests will be added to the Heritage Resources Section of the FEIS.