

Attachment A: Response to Comments

The Forest received comments on the environmental assessment and draft finding of no significant impact from five individuals and organizations. Three letters expressed support for rapid implementation of the Jocko Lakes Fires Salvage project. One letter, which was substantially similar to the commenter's scoping comment letter, expressed strong concerns about salvage logging in general. There were no specifics about the Jocko Lakes Fire Salvage project and no indication the commenter reviewed the project specific resource protection measures, the environmental analysis or considered how their scoping comments were considered and incorporated into the development of the project. The fifth letter expressed appreciation for adopting many resource protection measures they suggested yet expressed concerns about project effects and analysis.

Public comments that expressed a distinct concept and represented identifiable concern that could be related to the Jocko Lakes Fire Salvage project were consolidated into Public Concern Statements and are responded to in this Attachment. Tracking of all the public comments is available in the project file (PF-G-1). One public concern statement may represent comments from more than one commenter, or multiple comments by the same commenter.

All comments were considered by the line officer to inform her final decision and after her review she determined that the Jocko Lakes Fire Salvage analysis and/or resource protection measures adequately addressed the comments and that no significant impacts or additional analysis is necessary.

A. Purpose & Need

1. Public Concern: The Forest should not impact the fragile and sensitive post fire landscape for money.

Response: From the inception of this project, considerable care has been taken to help assure that significant effects to the post fire landscape will not occur. Any management action will have some impact, however the draft finding of no significant impact concludes, after consideration of all potential resource impacts in the environmental assessment analysis, that there would be no significant impact to the post fire landscape through implementation of this project. If the commenter's premise is that no impact should occur, meaning no management activity of any kind can take place we disagree. This portion of the forest is an area allocated in the Forest plan for active management.

The purpose and need for this project is to salvage timber burned in the Jocko Lakes Fire of 2007. The first of eight forest wide management goals of the Lolo National Forest plan is to "Provide a sustained yield of timber...at a level that will support the economic structure of local communities and provide for regional and national needs." (USDA 1986a, p. II-1). The entire planning process has worked toward meeting the purpose and need for the project while eliminating or minimizing impacts salvaging will have on forest resources. Analysis supports that the resource protection measures will eliminate or minimize impacts.

2. Public Concern: There is little reason to believe that post-fire salvage logging has any positive ecological benefits. It would be better to allow the area to recover naturally.

Response: As explained in the EA (p. 75) the purpose of this particular project at this specific time is to salvage timber, not restore ecosystems. Alternative 4, which would not salvage any timber and would generally allow natural processes to occur (with the exception that watershed restoration work on roads would occur), was considered but was not selected.

The project design of Alternative 3 is to eliminate or minimize unintended and undesirable effects of salvaging timber. Analysis shows that the resource protection measures will be successful in assuring significant environmental impacts will not occur. Salvaging timber supports Forest Plan goals for this area. The Forest actively pursues ecosystem restoration and fuel reduction as the purpose for many projects – but that is not purpose of this project. The connected actions and resource protection measures associated with the Jocko Salvage project, however, will have a long term positive ecological affect of reducing sedimentation by 17.5 tons annually and opening up 2.5 miles of habitat previously blocked to aquatic species.

B. Process

1. Public Concern: The Forest Service must take a hard look at scientific opinions that oppose post fire logging. [This was a general statement.]

Response: We agree with this statement and the interdisciplinary team and deciding official have used the best available science in developing this project and references to scientific information in the comments we received have been considered by the interdisciplinary team (EA, p. 67 – 92; PF-G-1).

2. Public Concern: Inclusion of some of the design criteria proposed by the WildWest Institute (et. al) has resulted in a better post disturbance logging project.

Response: It is gratifying that the Forest’s early efforts (as explained in the EA, p. 2 & 11) to seek input from the WildWest Institute and other interested parties to minimize or eliminate environmental impacts and social concerns, while still meeting the purpose of salvaging timber, was successful to this degree.

3. Public Concern: The analysis in the EA is extremely cursory, incomplete and inadequate. The EA merely refers to the specialist reports without providing any of the information contained therein.

Response: We respectfully disagree with these statements for the following reasons. We believe the Jocko Fire Salvage environmental assessment (EA) is consistent with the requirements of the National Environmental Policy Act. The National Environmental Policy act states [**emphasis added**] that an EA “means a **concise** public document...” (40 CFR § 1508.9(a)), to “**briefly** provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact. (40 CFR § 1508.9(a)(1)). It further states that the document “shall include **brief discussions** of the ...environmental impacts of the proposed action and alternatives...” The Jocko EA provides sufficient evidence and analysis, briefly, for the decision maker to determine whether an environmental impact statement or a finding of no significant impact should be prepared. The EA not only references specifically where more information can be obtained from the voluminous specialist reports, but it also summarizes the conclusions of the evidence and analysis from those specialist reports. The National Environmental Policy Act Procedures Final Rule states that “the EA may incorporate by reference information that is reasonably available to the public” (36 CFR § 220.7). The commenter’s statement that none of the information contained in the specialist reports appears in the EA is incorrect. The references made to the specialist reports in the EA most often appear immediately following information directly from those reports and the page the information can be found on is cited. All of the supporting specialist reports, which total over 590 pages with significant analysis detail, were, and still are, available for public review on the forest’s web site and upon request.

4. Public Concern: The EA does not respond to many of the questions we posed in our scoping comments.

Response: We respectfully disagree with this statement, for the reasons explained below. The interdisciplinary team used a content analysis process on all scoping comments, summarized in the EA as

Appendix C. The process assigns a mail number and a comment number to each statement within each comment letter and assigns the comment into a category. The table then explains under “Issue Disposition” how or where each comment was considered in the development of the project and the analysis. It does not necessary give a specific “response” in that table but shows where that analysis or information occurs. The issue disposition column may include some summary statements.

This commenter’s comments from both their 3/18/08 letter and the 11/13/07 letter (which they asked us to consider in their scoping comments and in their comment letter on the environmental assessment) were captured and we explained how we considered or addressed them in the EA on pages 73, 75-78, 80-92.

5. Public Concern: Is having only one action alternative consistent with obligations under NEPA? How can an alternative be dismissed just because it does not meet the narrow goal of post-fire logging?

Response: The EA actually considers four action alternatives, not just one. Three of the action alternatives, one of which was proposed by the commenter, were not analyzed in detail for reasons explained on pages 3 and 4 of the EA. The National Environmental Policy Act Procedures Final Rule states [**emphasis added**] that “The EA shall briefly describe the proposed action and alternative(s) **that meet the need for action. No specific number of alternatives is required** or prescribed.” (36 CFR § 220.7 (b)(2)).

The alternative requested by the commenter would not salvage any timber, thus it would not meet the need for action for this specific project at this specific time. The entire purpose of this analysis is in response to the Forest’s goal of salvaging some timber burned in the Jocko Fire (36 CFR § 220.4 (a)(1)). The reasons this need exists, and how it is consistent with the goals of the goals of the Lolo National Forest Plan are explained in the EA on pages 1 and 2.

6. Public Concern: Will roadside salvage occur? If so, please display where.

Response: No, roadside salvage is not a part of the Jocko Lakes Fire Salvage project.

7. Public Concern: We would ask that the LNF please consider further road decommissioning in the project area.

Response: All of the roads that will be used for the project but that are not needed for future management will be stored or decommissioned. In addition, to offset potential sedimentation increases from road work and culvert removal/replacement, some additional roads will be closed or stored for a total of 10.7 miles of road decommissioning or storage with this project. This work will help to reduce annual sedimentation by 17.7 tons annually, below the existing condition, which more than offsets potential impacts of this salvage, therefore, no additional road decommissioning is necessary for the implementation of this salvage effort.

C. Cumulative Effects

1. Public Concern: The impacts of the fire and the salvage logging could contribute to multifactorial environmental stress.

Response: The interdisciplinary team used resource specific cumulative effects analyses to assess the potential for multi-factorial environmental stress. Cumulative effects analyses are found throughout the EA and the specialist reports and they not only consider the effects of the fire and salvage logging but also consider effects from other past, present and reasonably foreseeable future actions.

2. Public Concern: No map of past harvest units is provided.

Response: A map of past activities in the project area, including past harvest, is available in the project file (PF-M19-72).

3. Public Concern: Past, current and future management activities on private, tribal, and state lands do not appear to be accounted for at all in the EA.

Response: We respectfully disagree with this statement. Appendix D to the EA (p. 93-104) lists known past, present and future activities for all ownerships which were considered in the analysis of effects to all resources. Please refer below to section F. Wildlife, Public Concern #5 for a table that displays numerous locations in the analysis where cumulative effects with non-National Forest land activities were considered in the analysis of impacts to wildlife habitat⁵. Since the commenter is not questioning specifics of the analysis of past, present and future management activities on non-National Forest lands, just whether or not the analysis occurred, we have provided references to the pages where this consideration occurred for each resource (other than wildlife).

Resource	EA page numbers	Resource report page numbers
Hydrology	31	21, 25, 27, 30, 31, 43-54
Fisheries	32	19, 29-44
Noxious Weeds	*	11, 14-20
T,E and S plants	*	15, 20-25
Recreation	50	13-15
Visuals	51	20-23
Air Quality	55-56	13
Heritage	*	3

* Since the more detailed analysis in the specialist reports identified no net increase in weed colonization or spread expected from the proposed action or identified no direct or indirect effect, there therefore is no incremental or cumulative effect. In these case no specific mention of past harvest or non-National Forest land activities were made in the EA, but these were considered in the more detailed specialist reports as shown.

D. Soils

1. Public Concern: Salvage logging can damage recovering soils.

Response: We agree, that without appropriate resource protection measures, soils can be damaged. This is the reason great effort was taken to assure appropriate resource protection measures (Attachment B, # 3, 7 – 15a, 33, 34, 35) were included with this project. Analysis shows (Soils Report and EA p. 24-26) that no significant soil impact will occur because of these protection measures. The commenter made no specific comments about the Jocko protection measures for soils nor acknowledged them in any way.

2. Public Concern: Removing biomass will remove carbon from the site.

Response: The soils report (p. 18) considers the loss of carbon through the removal of biomass. Harvest operations remove biomass and organic matter and thus affect nutrient cycling. In this salvage project, only some, not all, dead trees would be removed, and tops and limbs of these trees, i.e. slash, would be

⁵ That table also includes references to fragmentation and edge effects discussion which do not apply to this comment (wildlife report, p. 43, 59, 60)

left on site to assure downed woody debris requirements for soils and wildlife are met (Attachment B,#33-35). Live trees would generally be left on site to also provide nutrients. Many units within the project area already have vegetation coming back following the fire indicating that soil processes are already bouncing back from fire. Salvage logging is not expected to have detrimental impacts on fungi in these stands. In fact, slash generated from harvest activities deposited on the ground would enhance fungal activity by providing a carbon source. The commenter made no comments on this specific analysis or the resource protection measures for soils.

3. Public Concern: We support plans to conduct this harvest during winter months to minimize soil disturbance.

Response: Thank you for the support.

4. Public Concern: You did not respond to the question: Please disclose the results of monitoring of detrimental soil conditions following post-fire logging.

Response: We did consider this question (EA, p. 87) and discussed monitoring of detrimental soil conditions post-logging in the EA (p. 26 & 27) and soils report (p. 16 & 17). Disturbance values were based on a combination of sources as stated in the specialist report (p. 17) including “Neihoff (2002), McIver and Starr (2000), on the ground experience, observations and monitoring from previous salvage harvests on the Flathead National Forest (see project file), and monitoring on the Lolo National Forest in the Seeley Ranger District.”

We did not make it specifically clear which monitoring, research or on-the-ground knowledge we cited was specific to post-fire logging. We will clarify that here. McIver and Starr (2000) is a document that reviewed numerous monitoring and research efforts looking at the environmental effects of post-fire logging. The document is a compilation of the information into a literature review and annotated bibliography. The Flathead National Forest reference was also post fire, post salvage monitoring (PF-N3-1). Monitoring of the Moose Fire on the Flathead National Forest showed that minimal additional detrimental soil disturbance resulted from harvest activity. The Jocko Lakes Fire Salvage Project was designed much like the Moose Post-Fire Salvage Sale, with similar project design features, mitigation measure, and BMPs.

5. Public Concern: It is important that the retention of trees > 21 inch dbh is effective because LNF claims that it is the retention of these large trees, in conjunction with small trees < 9 in dbh, that justifies removal of most trees 9-21 in dbh that will be harvested without impairment to ... ecosystem characteristics such as soil productivity, nutrient cycling, and carbon sequestration.

Response: Neither the EA nor the soils report states that the retention of trees greater than 21 inches or less than 9 inches are required to maintain soil productivity or nutrient cycling. The analysis (EA, p. 26) instead states [emphasis added]

“...the importance of soil organic matter cannot be overstated (Okinarian, 1996; Jurgensen et al. 1997) (Ibid p. 4). This organic component contains a large reserve of nutrients and carbon, and it is dynamically alive with microbial activity (Ibid). Of the many organic materials incorporated in a forest soil, the woody component is in many ways the most important (Ibid). **Due to the 2007 fire, the majority of the salvage units do not currently have the recommended amount of woody debris in contact with the soil** (Graham et al. 1994) (Ibid p. 11). Potential woody debris is standing currently in the form of dead trees. **After salvaging timber from these units they would have the recommended amount of woody debris left on site** (Table 4, # 33 and 34). There are many ways to leave an appropriate amount of slash on the ground, including leaving tops and un-merchantable material, in-woods processing and breaking branches with the harvester (Table 4, #35). Dry sites (habitat groups 2 and 3) would have 10-25 tons/acre downed woody material left on site, with a preference toward 6 inch + diameter material. On

moist sites (habitat groups 4 and 5) 12-30 tons/acre downed woody debris would be left on site, again with a preference toward 6 inch + diameter material (Ibid p. 12). These protection measures meet or exceed the requirements in the Forest Plan (USDA FS 1986a) and the Lolo NF Downed Woody Material Guide (USDA FS 2006b) (PF-M-16).”

Below, section F. Wildlife, Public Concern #7 explains that the effectiveness of retention of trees over 21 inch dbh is expected to be moderate/high.

6. Public Concern: Cumulative effects to soil productivity outside the current units are absent. Although implementation guidelines suggest analyzing detrimental soil effects on an activity unit basis, it is clear that this approach will allow greater than 15% detrimental disturbance, and thus impaired soil productivity, if fixed activity unit boundaries are not maintained for analysis.

Response: Soil effects are site-specific (the effects occur where activities occur). Therefore, soil analyses are based on the proposed activity areas (treatment units) (EA, p. 24-25). An exception to site-specific soil impacts is erosion, which can have effects across a watershed. Erosion and other watershed processes that are affected by past impacts and/or potential impacts from proposed activities are discussed in the hydrology section of the EA (p. 28-31).

7. Public Concern: How much detrimental soil disturbance occurred within the project area as a result of the Jocko Fire, including areas outside harvest units?

Response: As stated in the soils report (p.6) the primary means of discussing the post fire conditions of soils is burn severity. The burn severity for each unit, based on site specific field surveys is presented in the soils report (p. 7). The soils analysis characterizes the soil condition from wildfire in terms of sensitivity/resilience using burn severity, ground cover, and downed wood data along with professional judgment. The burn severity was integrated into the cumulative effects analysis as well (soils report, p. 21-24). The detrimental soil disturbance for each salvage unit displayed in tables in the soils report (p. 10 and p. 21-24) reflects remnant impacts to soils from past human activities including timber harvests. As explained above, the potential effects to soils occurs within the activity units, so soil surveys were conducted within potential salvage units, not outside of them.

8. Public Concern: The EA claims that no detrimental disturbance would occur in harvest units, but does not supply any evidence to support this claim. There is no table listing unit acres, existing detrimental disturbance and cause, projected detrimental disturbance due to project activities, reduction in detrimental disturbance associated with mitigation/restoration measures, total/net cumulative detrimental disturbance.

Response: The commenter’s first statement is incorrect. The EA displays that potential detrimental soil disturbance will occur as a result of harvest activities; however the disturbance will cumulatively be less than 15% within the activity unit, with one exception where existing disturbance is already over 15%.

The soils report (p. 21-24) displays a table with the existing detrimental disturbance and the projected detrimental disturbance based on harvest yarding type and resource protection measures and the final anticipated soil disturbance.

9. Public Concern: The EA lists one unit that will likely exceed R1 Soil Quality Standards, but appears to assume that this is justifiable because mitigation measures will attempt to limit this possibility and restoration can occur if mitigation measures fail. How effective are the mitigation measures likely to be? The EA does not disclose this.

Response: The commenter is mistaken in what the EA (p. 25) states concerning unit 2-1. The unit currently has over 15% detrimental soil disturbance – whether or not any salvage activity occurs.

The benefits and effectiveness of the restoration resource protection measure (Attachment B, #15a) that will put it on an accelerated trend toward recovery and a net improvement in soil quality are explained in the EA (p. 25).

E. Watershed and Fisheries

1. Public Concern: Erosion can occur where soil disturbance accompanies fire, such as salvage operations.

Response: We agree with the commenter that erosion is a possibility. That is why resource protection measures were specifically designed for this project to minimize or eliminate erosion potential. Modeling shows that a small, short-term increase in sedimentation will occur, primarily from the road work, and culvert replacement/removals. These same activities, however, will result in a long-term reduction of sedimentation. Erosion from the actual harvest operations themselves is expected to be minimal if any and no sediment is expected to enter streams because 94% of the harvest will be conducted under winter conditions and buffers will be in effect around streams (EA, p. 29).

2. Public Concern: Salvaging could affect stream temperatures and woody debris recruitment.

Response: The EA (p. 32) states [**emphasis added**] that Alternative 3 would have no effect on: **stream temperatures, stream woody debris**, pool habitat, off-channel habitat, refugia, floodplain connectedness, stream bank stability, stream width/depth ratios, peak/base flows, or drainage network. The primary reason there would be no effect to these elements is because INFISH buffers would be applied (Attachment B, #50) which would restrict activities occurring next to streams. This analysis includes consideration of the short stretch (~210 feet) of short-term specification road that will be constructed within the outer reaches of the Finley Creek RHCA above an existing road. Because of the distance from the stream channel itself, and the fact a road exists between the creek and the proposed spur, this short-term temporary road will have no effect on stream temperatures or woody debris recruitment. The commenter made no comment about the Jocko specific analysis or this finding.

3. Public Concern: Road building is likely to cause the greatest increase in sediment transport off-site.

Response: This was a general statement, with no specific reference to the Jocko project. There was no acknowledgment that there are no new specified roads being built and the commenter provided no contrary information to the analysis in the EA which states (p.29) that the proposed short term specified and temporary road construction would have minimal effects to water quality because it would occur primarily on mid- to upper slope and ridge top positions and because resource protection measures would further minimize the potential for negative effects (Attachment B, #45, 53, 55, 61). The EA also addressed this issue on page 84.

4. Public Concern: The water quality and aquatic species analyses sections provide insufficient information on the methodology, assumptions, and limitations used to model sediment output and analyze effects.

Response: The details of analysis methodology, rationale and limitations can be found in the following locations. Sediment analysis - hydrology report (p. 21-22); road density analysis - hydrology report (p. 18-19); water quantity/yield – hydrology report (p. 27-28); fisheries analysis – fisheries report (p.19).

Analysis methodology are not included in the elements required within the EA (36 CFR §220.7(b)). The EA states (p. 23) that “Additional information, including existing conditions, methodology for analysis, the determination of the effects analysis boundaries, and more details of the effects analysis are contained

in the individual resource reports which are available in the project file and online at <http://www.fs.fed.us/r1/lolo/projects/> . These reports are cited repeatedly in the following summary.

5. Public Concern: How is the FS certain that building a new road in an RHCA would not have additional impacts merely because another road is below it?

Response: The interdisciplinary team, including but not limited to two fisheries biologists, the hydrologist and the road engineer visited the site and they concluded and the ranger agreed (PF-I-14) that National Forest Service road 9974-2 would intercept any sediment generated by the construction of approximately 210 feet of short-term temporary road above the road (EA, p. 29). Additionally the team noted that the spur will remove very few trees so will not affect shade. Because of the distance to the stream the spur would not remove any material that could provide woody debris to the stream. Slash filter windrows would be installed below all fill slopes within 300 feet of streams or drainage crossings as a resource protection measure (Attachment B, #55).

F. Wildlife

1. Public Concern: Because it is speculated that olive sided flycatchers may have historically used post-fire habitat, mimicking post-fire habitats by harvesting may be an ecological trap to olive-sided flycatchers.

Response: The Audubon article cited by the commenter was reviewed and the threat identified to olive sided flycatchers was harvesting stands to mimic post fire structure – or with the end result of mimicking post fire structure. That is not the situation with the Jocko Lakes Fire Salvage, the fire has already occurred. The salvage will occur in only a portion of the burned area (14%).

Although the commenter did not suggest that there was not sufficient post-fire habitat for olive sided flycatchers on the Seeley Ranger District, or Lolo National Forest, based on this comment we considered this possibility. The EA analysis considered the amount of unharvested post burn habitat available for all wildlife species that may be associated or dependent on such habitat (ex. Black-backed woodpecker) and determined that post-burn is not limiting on the Seeley Ranger District or on the Lolo National Forest (EA p. 44 – 45, 54).

2. Public Concern: Removing snags is likely to have large consequences for wildlife for example black-backed woodpecker and three-toed woodpeckers.

Response: Wildlife analysis shows that implementation of Alternative 3, which includes, snag specific resource protection measures, may affect individuals or habitat but there is no concern for trend toward listing or viability. (EA p. 36, 37, 39, 40, 43-45). Black-backed woodpeckers were analyzed in detail (EA, p. 44-45; Wildlife Report p. 79-87). Although three-toed woodpeckers were not analyzed in detail⁶ their habitat requirements are similar enough to the black-backed woodpecker to assume similar effects (PF-M -16). Three-toed woodpeckers were also studied in some of the literature considered for the black-backed woodpecker analysis including Hoyt and Hammon 2002, and Goggans et al. 1988. The EA states (p. 37) that modeling shows the number of snags per acre across the project area will greatly increase over the next 14 years within all habitat groups (wildlife report, p. 23). While some snags will be removed, reducing choices, the largest snags, over 21 inch dbh, will generally be retained. At a minimum, between 4 and 12 snags per acre (based one habitat type) will be retained (Attachment B #36- #42). Finally, over 83% of the high quality black-backed woodpecker habitat within the Jocko Lake fire perimeter will be left untreated (wildlife report p. 85). Consequently the abundance of habitat provided on these lands,

⁶ This species was not analyzed in detail because it is not a sensitive or a management indicator species, and it's habitat is similar enough to the black-backed woodpecker's habitat, which was analyzed in detail.

combined within retention of snags within treatment units will meet the needs of species that require post-fire habitat, as well as other wildlife species dependent on snags.

3. Public Concern: Elk avoid post-fire logged sites and logging may reduce shrub and forb biomass.

Response: The EA analysis (p. 38) recognized that proposed treatments could create a short-term disturbance to elk on 1,648 acres proposed for salvage. Also due to the widespread loss of cover, elk use within the project area is expected to change (wildlife report p. 50). However re-establishment of understory vegetation will be determined largely by the fire intensity that occurred on the site and herbaceous and woody vegetation are expected to greatly increase within the next 15 years under both alternatives (wildlife report p. 50). As a result and considering that 77% of the project area will be unaffected by treatment (wildlife report p. 54), available elk foraging habitat will be widespread (wildlife report p. 53).

4. Public Concern: The management strategy for snag habitat, recruitment snags, and downed woody debris recruitment needs to consider historical levels or contemporary levels of unlogged habitat as useful baselines to assess the changes and effects of these changes to wildlife.

Response: We share the commenter's interest in assuring sufficient snag habitat and downed woody debris is available for wildlife species. The wildlife report (p. 10) states that "Dead wood, including both standing and [downed woody debris] DWD is discussed ... because many MIS and Sensitive species ... rely on this important habitat component. Dead wood contributes to biological richness in many ways: as substrate, cavity sites, foraging sites, nesting or denning sites, food storage sites, runways and cover or shelter (Bull & others 1997 In USDA-FS 2008). It is estimated that about one third of the bird and mammal species that live in the forests of the Rocky Mountains use snags for nesting or denning, foraging, roosting, cover, communication, or perching. Marcot and others (1999 In USDA-FS 2008) list 57 wildlife species plus four species groups associated with snags, and 20 wildlife species associated with hollow living trees."

The report further states (p. 11) that "The number, species, size, and distribution of snags also affect snag-dependent wildlife. Large-diameter snags are particularly important because they occur in fewer numbers and many species require large diameter snags for nesting. Large diameter snags also remain standing longer and are much more likely to develop suitable decay conditions for cavity-using species (McClelland 1979, Bull et al. 1997, Daenzer 2007 In USDA-FS 2008)."

The methodology for analysis of effects of the salvage included considering the best available science on the specific snag and downed woody debris needs for each species considered (since the needs and uses do vary by species). Then the potential affects of the project due to removing salvaged material and the affect of the project on downed woody debris habitat was considered. These assessments are extensive so they will not be repeated here but we will cite where the information is located for each species in the wildlife report (dead wood in general – p. 10-12 and 22-24; lynx - p. 36; pileated – p. 43-47; northern goshawk – p. 55-62; fisher – p. 64-67; boreal toad – p. 74; black-backed woodpecker – p. 80-81, 83-86; flammulated owl – p. 87-90). All of the analysis and evidence were then summarized in the EA (p. 33 – 46). Determinations were made that even with the removal of some snags and the effects to downed woody material, habitat for Forest MIS and sensitive species would continue to be available. We feel this was an appropriate and acceptable method of assessing the baseline needs for snags and downed woody material for wildlife species because the literature on habitat requirements of species related to snags and downed woody material considers historic habitats and current habitat use.

Finally, with implementation of project design features (wildlife report p. 16), all sites proposed for treatment would meet or exceed levels of snags and downed woody debris recommended in the LNF

Forest Plan, the LNF Downed Wood Guide and the Region 1 Snag Management Protocol (wildlife report p. 24). As a result, sites harvested would continue to provide snags and downed woody debris and provide habitat for species that prefer or require this habitat component (wildlife report pp. 24, 47, and 68).

5. Public Concern: There is no discussion of past harvest impacts to wildlife species, activities on non-National Forest lands, or indirect effects such as edge effects and fragmentation that impact the remaining habitat in the affected environment or in cumulative effects.

Response: We respectfully disagree with this statement and direct the commenter to the numerous locations in the analysis where past harvest, cumulative effects with non-National Forest land activities and fragmentation were considered in the analysis of impacts to wildlife habitat. Fragmentation, including edge related effects, patch size and the amount of intact forest available are specifically discussed under the Northern goshawk (management indicator species sensitive to fragmentation) (wildlife report p. 61). As described, there are few permanent edge related effects anticipated and goshawk use would continue to occur within areas affected by timber harvest and associated fragmentation. Also use of the project area by species such as goshawk that select habitat based on landscape considerations would be greatly reduced due to the widespread loss of cover, which would also reduce potential for adverse effects from proposed activities (wildlife report p. 63).

Additionally, the affected environment sections describe the existing habitat – which has been shaped and influenced by past activities, including road construction and past harvest. Appendix D to the EA lists known past, present and future activities for all ownerships which were considered in the analysis of effects to all resources. Since the commenter is not questioning specifics of the wildlife analysis, just whether or not the analysis occurred, simply the page references are presented here.

Table: Page references where past harvest, non-National Forest land activities, edge and fragmentation impacts are considered in the analysis of effects to wildlife.

Species	EA pages	Wildlife Report pages	Terrestrial Biological Assessment (BA) pages
Lynx	*	36	22
Grizzly bear	*	39	24
Gray wolf	35-36	42	
Pileated woodpecker	37	43, 46-47	
Elk	38	52-53	
Northern goshawk	40	59, 60, 61-62, 63	
Fisher	41	67-68	
Wolverine	42	71	
Northern Bog Lemming and Boreal Toad	43	75	
Bald Eagle	43	78	
Black-backed woodpecker	45	84-85	
Flammulated Owl	46	90	

* Since the more detailed analysis in the specialist reports identified no direct, indirect, and therefore no incremental cumulative effects no mention of past harvest or non-National Forest land activities were made in the EA, but these were considered in the more detailed specialist reports as shown.

6. Public Concern: How is large tree habitat outside of old growth considered in the wildlife effects analysis?

Response: Seeing this comment is disappointing because resource protection measures related to large tree habitat were incorporated into this project directly responding, in part, to this commenter's pre-NEPA scoping input. The protection measures were included with the intention of reducing conflicts and implementation delay at the cost of reducing the quantity and quality of the salvage material.

Only dead trees or trees with a low probability of survival will be salvaged (EA, p. 11). This means that in general all live trees, regardless of size, will be retained and will remain available for wildlife habitat. Additionally, only dead trees 21" dbh or smaller will be salvaged, with few exceptions⁷ (EA, p.16). This means that in general all trees, dead or alive, 21" dbh or greater, will be retained and will remain available for wildlife.

The wildlife analysis considers these resource protection measures and the removal of some dead trees and trees with low probability of survival that are less than 21 inch dbh, in the analysis of each species as it relates to their particular habitat requirements.

7. Public Concern: How effective is retention of trees greater than 21 inch dbh if these large trees are allowed to be removed for "safety, road work, skid trails, corridors, or landings"? What monitoring has LNF done to verify that this assumption is warranted?

Response: The forest vegetation report states that the silvicultural prescriptions and timber sale contract provisions would adhere to these requirements (p.24). The wildlife analysis shows (wildlife report, p. 16) that the estimated effectiveness of the resource protection measure for retention of trees greater than 21 inch dbh is as follows:

"Moderate/High; these measures would be implemented using project layout, contract provisions and compliance monitoring and are standard practices used to help field crews identify appropriate trees to leave for wildlife habitat. It has been used successfully for many years and would have a moderate to high chance of avoiding and/or reducing adverse effects on snag dependent wildlife."

Additionally, monitoring in 2002 of vegetation management activities after the fires of 2000 on the neighboring Bitterroot National Forest indicates that prescriptions for snag retention were consistently met (PF-M16-7). Also post-treatment snag monitoring of 2003 fires on the Flathead National Forest shows that although retention of snags varied by unit, large diameter snags were consistently retained in all treatment units (PF_M16-8). The results from both monitoring efforts are consistent with anticipated effects that proposed mitigation measures will maintain large diameter trees to meet the needs of wildlife that rely on dead wood and large diameter trees (wildlife report p. 16, 21, 24, and 47).

8. Public Concern: In the black backed woodpecker analysis, there is no information provided on how much of the "high value black-backed woodpecker habitat" will be harvested by the LNF. This harvest information should be provided and stratified by burn severity, forest type and successional stage. How much other high quality habitat exists nearby and is it from a single large fire?

Response: Table 31 in the wildlife report (p. 83) displays details of the total amount of high quality black backed woodpecker habitat that will occur under each of the alternatives, as well as how much will be salvaged. As shown, the Lolo National Forest will harvest a total of 1,224 acres of high quality black backed woodpecker habitat. This acreage, as well as the total acreage of high quality habitat identified in Table 31 includes all conifer or mixed conifer stands that were moderately to severely burned and would be expected to provide habitat conditions consistent with black backed woodpecker use (wildlife report p.

⁷ Exceptions may include snags within corridors, temporary road locations or snags felled for safety reasons.

83). So burn severity (Ravg data) and forest type (fs veg data) were used to identify high quality black backed woodpecker habitat.

Successional stage (fs veg) was also considered when identifying high quality black backed woodpecker habitat. For example, the high quality habitat displayed in Table 31 includes all conifer or mixed conifer stands that were moderately to severely burned that would likely provide black backed woodpecker foraging or nesting habitat. Because black backed woodpecker have been found to prefer nest sites with high densities of trees >9" dbh (wildlife report p.80), only sites with larger diameter trees were considered as high quality nest habitat. As a result, of the 1,224 total acres of high quality habitat salvaged (wildlife report p. 83), 1,062 acres (EA p. 44, wildlife report p. 84) were considered high quality nest habitat, or mature/multi-structure conifer stands that were moderately to severely burned.

Using vmap data, these same parameters (burn severity, large diameter trees) were also used to identify high quality habitat across the cumulative effect area, or burn perimeter. Suitable high quality habitat (foraging and nesting) within this analysis area includes lands that contain trees that are five inches or greater in diameter that were moderately to severely burned, whereas high quality nesting habitat includes moderately to severely burned sites that are characterized by trees 10 inches or greater in diameter (wildlife report p. 85). All high quality habitat resulted from the Jocko Lakes fire and the amount of high quality habitat available under each of the alternatives, as well as the amount of high quality habitat salvaged on all ownerships is clearly displayed in Table 32 of the wildlife report (p. 85). Although additional salvage of high quality habitat will occur on non-federal lands, as shown in Table 32, there is no salvage harvest of high quality habitat on NFS lands other than what was previously described under direct and indirect effects (1,224 acres). Also under Alternative 3, suitable (nesting and foraging) high quality habitat will occur on approximately 12,000 acres or 33% of the fire perimeter, whereas high quality nest habitat will occur on approximately 9,400 acres or 26% of the fire perimeter (wildlife report p. 85). Please see the next public concern and response (#9) for why this habitat is significantly more than is necessary to maintain minimum viable populations.

In summary, all high quality black backed woodpecker habitat is a result of the Jocko Lakes fire and was identified by considering forest type, burn severity and successional stage or tree diameter. Although proposed salvage will harvest a total of 1,224 acres of suitable high quality habitat, including 1,062 acres of high quality nest habitat, 83% of the total suitable high quality habitat and 78% of the available high quality nest habitat on NFS lands will be unaffected by harvest (Table 32 of the wildlife report, p. 85).

Within 30 miles of the project area there are 101,300 acres of high quality habitat created by ten different fires in the last five years. On the Lolo National Forest there are 194,493 acres of habitat (wildlife report, p. 82). A map of the juxtaposition of the fires is in the project file (PF-M19-68).

Errata – Although the total acres of high quality habitat harvested are accurately displayed in Tables 31 and 32 of the wildlife report, the narrative under direct and indirect effects does not display the total acres harvested. Consequently, the harvest information presented in the draft EA only identifies the amount of high quality nest habitat harvested and does not disclose the total acres of high quality habitat harvested. Also two numbers for high quality nesting habitat to be salvaged are currently displayed including 1062 acres (EA p.44 and wildlife report p. 84) under direct and indirect effects, and 1066 acres under cumulative effects (wildlife report p. 85). This small discrepancy was considered and does not change the analysis or determination for this species. This information was considered by the decision maker prior to her decision.

9. Public Concern: How is the reduction of nesting territories from 9 down to 7 consistent with the maintenance of well distributed, viable populations of black backed woodpecker? Is the entire Jocko fire area large enough to support a black-backed woodpecker population?

Response: In an effort to describe the spatial availability of suitable black backed woodpecker habitat, the number of potential territories within the project area, or blocks of contiguous high quality habitat equal to or greater than 200 acres on NFS lands, were identified. Under the no action alternative, a total of nine blocks that were at least 200 acres in size were identified. Salvage harvest proposed in two of these blocks, will reduce the block size to less than 200 acres. Although this will reduce the number of contiguous blocks containing high quality territories on NFS lands from nine to seven, territories will continue to exist within all affected watersheds (wildlife report p. 85). As a result and considering that 83% of the high quality habitat that exists on NFS lands within the analysis area (fire perimeter) will be unaffected by harvest (wildlife report p. 85), the distribution of available black backed woodpecker habitat will be maintained. Consequently, the reduction is not significant and is not likely to contribute towards a trend in Federal listing or cause a loss of viability of the black-backed woodpecker (EA p. 44-45). Further detail is also provided in the wildlife report, p. 84-86. The summary is repeated here.

- Implementation of resource protection measures (Table 4, # 30 - no timber harvest during the BBW breeding season) would reduce potential mortality or even disturbance to nesting black-backed woodpecker.
- The Jocko Lakes fire greatly increased available BBW habitat in the area. [BBW would have been absent or existed in very low numbers before the fire – i.e. zero territories] Because over 85% of the NFS lands within the Jocko Lakes burn perimeter would be unaffected by treatment under Alternative 3, available habitat on NFS lands would be largely unchanged under both alternatives.
- Evidence suggests the black-backed woodpecker is increasing in numbers in the United States (as cited in Dixon and Saab 2000). No demographic information exists to suggest a decline in black-backed woodpecker numbers.
- Black-backed woodpecker habitat is abundant and well distributed across the Northern Region and by Forest. Also distances between areas of suitable habitat are all within 63 miles (dispersal distance).
- Habitat for the black-backed woodpecker has recently increased, and amounts are expected to increase as fires and bark beetle outbreaks continue to increase in size (Gallant et al. 2004, Hessburg and Agee 2003, Hessburg et al. 2005 In Samson 2006b).
- The level of salvage timber harvest of the forested landscape in the Northern Region is insignificant in relation to the needs of this species (Samson 2006a).
- A comparison of habitat required for a minimum viable population to that available indicates well-distributed habitat far exceeds that needed, given the natural distribution of species and their habitats as mapped and according to the scientific literature (Samson 2006b). [Samson (2006b) also estimated that currently the LNF provides over 10 times more habitat than is necessary to maintain a minimum viable population for this species. Based on the acreage burned on the LNF in the last five years..., this Forest alone provides over six times as much post-fire habitat, than would be necessary to maintain a minimum viable population (approximately 30,000 acres) of this species. Also, considering that 86 percent of the post-fire habitat on the LNF has never been harvested either prior to or after wildfire, the majority of the post-fire habitat on the Forest would be expected to provide habitat conditions consistent with higher density use. (wildlife report, p. 82)]

A viable population of black-backed woodpeckers is estimated to be able to exist when suitable habitat exceed 29,405 acres regionally (Samson 2006b). The Jocko Lake fire burned 36,380 acres (all ownerships). Although salvage within the fire perimeter will reduce habitat suitability on the acreage

harvested, it is likely that suitable foraging habitat within affected watersheds in combination with the availability of high quality nest habitat would be expected to provide adequate habitat to support a viable black backed woodpecker population. As a result and considering; 1) the large acreage of other recent fires on the LNF (including the Chippy fire, which burned 27,920 acres), 2) over 100,000 acres of recent fires within 30 miles of the project area and 3) fire created habitat on other forests within Region 1, population viability for this species would be maintained across the LNF and Region.

Errata – The environmental assessment and narrative of anticipated effects in the wildlife report (EA p. 44, wildlife report p. 84) accurately display the number of nesting territories blocks under the no action alternative as nine. However table 31 in the wildlife report (p. 83) displays 10 territories under the no action alternative. This error does not change the analysis or determination for this species.

10. Public Concern: There is no analysis of the temporal trends of post fire black-backed woodpecker habitat.

Response: We respectfully disagree that temporal trends of post fire black-backed woodpecker habitat were not analyzed. The wildlife report (p. 80) states “Research has shown that use of post-fire habitat is temporary and that beetle foraging woodpeckers like the BBW rapidly colonize stand replacing burns within one to two years after the fire (Saab et al 2007). However the favorable effects of fire are not long-lasting and population levels of both the bark beetle and wood-boring beetle drop within four to eight years after a fire, depending on location (Werner and Post 1985 In Samson 2006a). This decline results in reduced densities within five years post-fire, after which beetle foraging woodpeckers such as the BBW are considered rare (Saab et al. 2007). Based on the above research, use of post-fire habitat by the BBW is expected to be greatest one to five years following a burn, after which use would be expected to return to levels at or close to pre-burn conditions.”

A recommendation gleaned from the best available science related to management and salvage in post-fire BBW habitat was adhered to by this project by retaining 86% of the area burned without harvest for at least 5 years – the recommendation states the following. “In post-fire areas proposed for salvage logging, retain un-logged portions of the project area for 0 to 5 years following fire (Kotliar et al. 2002, Saab et al. 2004, Hutto 2006 In USDA-2007a).” (wildlife report, p. 81).

Temporal trends of post-fire habitat were also considered in defining the existing condition (wildlife report, p. 81) “Landscape level conditions include the acreage on the LNF that have been burned by wildfire in the last five years, as well as the acreage affected by mountain pine beetle. As described above, use of post-fire habitat by the BBW is greatest within one to five years following a fire...”

Temporal trends were considered in the analysis of the no action alternative (EA, p. 44; wildlife report, p. 83) “Use would continue for five to six years, after which, BBW populations would begin to naturally decline following the decline in beetle larvae. Within eight years, it is expected that population levels would return to pre-fire levels.”

Temporal trends were also considered in the analysis of the effects of Alternative 3 (wildlife report, p. 85) “Table 32 displays suitable (foraging and nesting) post-fire habitat that currently exists within the analysis area (2008), as well as alternative habitat occurring in 2012, following completion of remaining (non-federal) and proposed (federal) salvage.”

11. Public Concern: How much of the high quality habitat has been harvested? Even if a small amount of the large areas burned in recent years have been harvested it does not mean that cumulative effects would not occur.

Response: As the second part of this statement infers, a very small percentage of the areas burned on the Seeley Lake Ranger District and the Lolo National Forest have been harvested prior to or after they were

burned. The EA (p. 54) states that over 1/3 of the Seeley Lake Ranger District (38%) and 16% of the Lolo NF has burned since 1980. Ninety-four percent (115,351 acres) of National Forest lands burned on the Seeley Ranger District since 1980 were not harvested either before or after the wildfires. Eighty-six percent (293,896 acres) of Lolo National Forest lands burned since 1980 were not harvested either before or after wildfires. Finally, salvage harvest of high quality habitat across all ownerships within the Jocko Lake fire perimeter was considered in the cumulative effect analysis for the black backed woodpecker (wildlife report p. 85). Although there will re a reduction in suitable habitat on sites harvests, 83% of the high quality habitat on NFS lands will be unaffected and high quality habitat will continue to be available across all affected watersheds (wildlife report p. 85). As a result and considering additional rationale provided in the wildlife report (p 86), viability of the black backed woodpecker will be maintained. In Summary, although the commenter implies that harvest on these recently burned lands could result in cumulative effects, he provides no rationale or context related to exactly what cumulative effects would occur. Also his conclusion that cumulative effects could occur due to past harvest is not supported, considering the small amount of post burn harvest that has actually occurred on the LNF and based on the cumulative effect analysis provided in the wildlife report.

There is no doubt that the Jocko Lakes fire salvage will incrementally (cumulatively) reduce post-fire habitat available for black-backed woodpecker use; the point however, is it is an insignificantly small amount of reduction when considered in the context of a population that is increasing in numbers (Dixon and Saab 2000), and the abundance of habitat currently available in the area, on the District, the Forest and in the Region.

Also see response to comment #9 related to species viability.

12. Public Concern: Relativizing acres to be treated by the entire fire perimeter/project area is an easy way to mask or minimize the projects apparent affects, however it does not accomplish the FS's mandate to cumulatively analyze the effects to species viability.

Response: We disagree with this statement because the context of our effects on habitat is critical in assessing the significance of our effects.

The National Environmental Policy Act's (NEPA) purpose of the environmental assessment is to determine if the actions proposed will have a significant effect on the human environment, (in which case an environmental impact statement would be prepared) or not (in which case a finding of no significant impact statement would be prepared) (40 CFR §1508.9). NEPA states that "significantly" requires consideration of both context and intensity, which means we need to measure the effects AND put them in context within the world around them. What do those effects mean in time and place?

In the broadest spectrum of hypothetical scenarios we look at two extremes to illustrate the point. A project could affect only a tiny amount of a species habitat at the project level; however, if in the larger context this is the only habitat for this species available within the entire National Forest System, that apparent small affect could be very significant from a NEPA perspective. Contrastingly, another hypothetical project could affect what appears to be a large amount of a species habitat at the project level; however, if when viewed in context to the larger scale, this habitat is abundant within the drainage and across the Forest and around the region and nation, and the species itself is abundant and flourishing, the affect would not be significant from a NEPA perspective.

Effects to wildlife species were evaluated at multiple scales including the stand, project level and cumulative effects area as appropriate for each species. For example, the black backed woodpecker (wildlife report pp. 6-8) analyzed effects at the stand, project area and the fire perimeter was selected to assess cumulative effects to this species because it is largely tied to fire-created habitat and in order to assess effects of salvage across all ownerships (wildlife report p. 80).

13. Public Concern: EA admits that 3-4% of nesting and post fledging habitat in the project area will be lost to goshawk. The EA does not disclose how these effects will cumulatively contribute to changes in goshawk populations, viability, or distribution.

Response: Potential cumulative effects related to the northern goshawk, which include a three to four percent reduction on nest and post fledgling habitat due to harvest on private and state lands are discussed on pages 61 and 62 of the wildlife report and summarized on page 39 of the EA. While the commenter indicates that this could result in changes in goshawk populations, viability or distribution, he provides no support for his conclusion. Additionally, his conclusion is inconsistent with the following information provided in the wildlife report, which shows that implementation of the Alternative 3 is not expected to cause a local or regional change in habitat quality or population status (wildlife report p. 62):

- The Jocko lakes fire has greatly altered landscape conditions preferred by the northern goshawk and this is expected to reduce goshawk use of the area and potential conflicts with proposed activities (wildlife report p. 62, EA p. 39).
- Suitable goshawk nesting and post fledgling habitat will be reduced on less than one half of one percent (69 acres) due to proposed salvage and over 99% of the suitable goshawk nesting and post fledgling habitat will be unaffected by treatment (wildlife report p. 62, EA p. 39.)
- Potentially suitable goshawk nest habitat has been surveyed and no nests were found. Also project mitigation measures are in place to protect any nests established during project implementation (wildlife report pp. 62-63, EA p. 40).
- A region-wide assessment of goshawk habitat has indicated that 1) goshawk habitat in Region 1 is abundant and well distributed, 2) that the level of timber harvest in Region is insignificant in regard to altering goshawk habitat at the population scale and 3) that a comparison of habitat estimates for maintaining viable populations indicates that given the natural distribution of habitat, each Forest in the Region has an excess of available goshawk habitat (wildlife report p.63, EA p. 40). The reduction of 69 acres of habitat represents 0.009% of the goshawk habitat available on the Lolo National Forest (728,960 acres – Samson 2006, p. 8) and since 30,147 acres are estimated necessary to maintain viable populations of goshawks (ibid) the project will not affect viability.

14. Public Concern: The EA does not analyze the impacts of building a road in an RHCA on fisher.

Response: Although effects specifically within and RHCA are not discussed, anticipated effects of road construction on fisher are discussed (wildlife report pp. 66-67). As described due to the large scale reduction in fisher habitat resulting from the Jocko Lake fire, potential use by fisher is expected to decline and the possibility of disturbance or mortality associated with road construction is remote. Effects of road construction on wildlife are also discussed on page 21 of the wildlife report, whereas fragmentation related effects associated with road construction are discussed under MIS, on page 61 of the wildlife report. Finally, there is no riparian (RHCA) road construction proposed within suitable fisher habitat (PF-M16-10)

15. Public Concern: The analysis of impacts to fisher appears to include only effects related to cover. The EA should recognize that standing dead trees can still provide significant cover, which, of course, logging will reduce further. Moreover, the EA does not disclose how canopy cover was affected and display this spatially.

Response: As described in the wildlife report (p. 63), suitable fisher habitat was identified using a number of variables including fire severity, canopy closure and stand and landscape structural conditions, and the availability of dead wood. Also although the commenter indicates that canopy cover was the only effect

analyzed, the availability of suitable summer and winter habitat, effects to preferred riparian habitat, potential for human conflict and the availability of downed woody debris were all considered in the effect analysis (wildlife report pp. 66-68). Additionally, the Region 1 habitat model for fisher requires a minimum canopy closure on both summer and winter range (wildlife report p 65) and an assessment of cover is an important part of identifying potential impacts to this species.

A map of suitable fisher summer and winter habitat in the project area is in the project file (PF-M16-9).

16. Public Concern: The EA provides no analysis of project impacts to forest structures which serve as fisher habitat.

Response: We disagree with this statement. Forest structures were considered in the analysis of fisher habitat. The analysis discloses that forest structure will be changed by the salvage, but that the remaining structure will still provide and maintain suitable habitat as described in the best available science (Samson 2006a) (EA, p. 40).

17. Public Concern: Have wildlife surveys and analysis of impacts to wildlife from the proposed activities taken into account that some species temporarily displaced by the fire will repopulate the project area if suitable habitat is present?

Response: Yes, the effects analysis for all wildlife species assumes that if suitable habitat exists for that species (after the fire) then the species, if temporarily displaced, may repopulate the area.

18. Public Concern: The EA does not discuss the current road density effects on wildlife such as elk, grizzly bear, or lynx, much less the impact of new temporary road construction.

Response: We respectfully disagree with this statement and direct the commenter to the numerous locations in the analysis where road density and new temporary road construction effects are considered in the wildlife analysis for the three species mentioned by the commenter. Since the commenter is not questioning specifics of the wildlife analysis, just whether or not the analysis occurred, simply the page references are presented here.

Elk – EA (p.37-38), wildlife report (p.51-54) ; Grizzly bear – EA (p. 34-35), wildlife report (p. 37-40);
Lynx – EA (p. 34), wildlife report (p. 32-33, 35-36,);

G. Weeds

1. Public Concern: Salvage logging can introduce or spread weeds.

Response: We agree with the commenter that without appropriate resource protection measures, weeds can be introduced or spread. That is why appropriate resource protection measures (Attachment B, # 64-66) were included with this project, and analysis (Weeds Report and EA p. 46-47) shows that significant weed impact will not occur because of these protection measures. The commenter made no specific comments about the Jocko protection measures for weeds.

2. Public Concern: You did not respond to the question: Please disclose the results of monitoring of noxious weed spread associated with past post-fire logging.

Response: We believe the commenter is slightly mistaken in what their question was in their scoping letter. We reviewed their scoping comment letter once again and on page 30 of 44 on the coded scoping letter pdf (PF-D-23) the commenter requested [emphasis added] “Please include in the analysis the results of monitoring of noxious weed infestation from **past management actions...**”. We do not see a request for results of monitoring of noxious weed spread associated with past post-fire logging. We point

this out because considerable effort was taken to assure that we considered all requests and comments made during scoping, and we believe we have done so.

We identified the commenter's scoping request from page 30 of 44 on their coded scoping letter (PF-D-23) on page 87 of the EA referring the reader to specific resource reports for how the matter of monitoring was addressed for each resource. On page 5 of the weed report we addressed the request for monitoring of noxious weed spread in the project area related to past management actions. There it states that "Weed surveys ... were conducted in 2008 on: 1) all haul roads; 2) all roads proposed for decommissioning, storage for future use, short-term specified, and temporary use, 3) those units that are proposed for salvage during non-winter using skyline yarding method (20-12; 29-2; 34-2) and one unit (20-2) that could be harvested by tractor yarding in summer." This survey or monitoring information identifies the site specific results of noxious weed infestation from past activities, both management activities and natural disturbances such as fire, in the Jocko Lakes fire salvage area.

The Jocko Lakes Fire Salvage tiers to and references the Final Integrated Weed Management (Weeds) EIS and ROD (EA, p. 7, 8, 21, 23, 47, 79). One of the primary sources used in Weeds EIS analysis of affects included monitoring results from projects included in the FEIS and ROD for Big Game Winter Range and Burned Area Weed Management on the Lolo (USDA-FS 2001). Although the Jocko Lakes Salvage EA did not present specific information from the Big Game Winter Range and Burned Area Weed Management on the Lolo it does discuss extensively the site specific potential affects of post-fire salvaging on noxious weed spread for this specific project (EA, p. 47; weed report, p. 8-11). Because of the susceptibility of bare soil exposed by proposed activities to weed germination resource protection measures were purposefully developed to reduce or eliminate the chance of establishment or spread of noxious weeds including salvaging 94% of the acres in the winter which reduces the risk of soil disturbance and weed introduction to a low level (EA, p. 47).

Additionally, treating areas with herbicides will reduce existing infestations. The effectiveness of herbicide treatments is supported by information in the Weeds EIS (49-50), which states the following based on activities in burned areas.

"...Areas Burned in the 2000 Wildfires: Herbicide efficacy on the Lolo NF was monitored in relation to species composition and production on nine burned areas ... since the summer and spring of 2002. ... After herbicide treatment, these sites were re-sampled in the first, second and third years post-spray to assess the response of herbaceous life forms to herbicide treatment. On average, forest-wide target weed suppression was 94 percent in the first and second year post-spray; ~100 percent in the third year post-spray; and 63 percent in the fourth year post-spray compared to the pre-spray weed abundance for the sampled plots in spray project areas."

H. Recreation

1. Public Concern: We appreciate the attention paid to minimizing the impacts to snowmobiling.

Response: Thank you.

2. Public Concern: How does the LNF define unroaded areas? Are there no unroaded areas within the project area?

Response: The LNF does not have a standard definition for "unroaded areas." We recognize that some "unroaded areas can provide important values such as natural integrity, apparent naturalness, remoteness and solitude. The Jocko Lakes Fire Salvage project, however, is within an area of mixed ownership and considerable road access. Our scoping, analysis and comments on the environmental assessment did not identify any areas with substantial attributes such as these.

I. Forest Vegetation

1. Public Concern: Salvage logging could alter the natural plant succession.

Response: Some stands that had been functioning as late seral received enough mortality that they are now in early succession, or seedling, stage. The action alternatives affect succession to the extent that planting conifers in harvest areas hastens the revegetation process. Planting seedlings does not inhibit or prevent natural regeneration. Salvage treatments in the alternatives do not change the successional stage, because only dead trees and trees with a low probability of survival are proposed for harvest (PF-M-10-5).

2. Public Concern: Successful growth of seeded grasses (enough to affect erosion) appears to displace native or naturalized species, including shrub and tree seedlings. Salvage logging could affect native species.

Response: A resource protection measure for the project states that “Revegetation on disturbed or treated sites will include native plant species as recommended by the USFS-R1 native species policy (USDA-FS 1994). This policy emphasizes the use of locally adapted native plant seed, whenever possible. Native seed or non-persistent, annual grasses will be used. Seeding will be used as a reclamation tool only where resource damage will occur without it. Otherwise, sites will be allowed to re-vegetate naturally from the localized adjacent seed source.” (Chapter 2 of EA and PF-M14-1).

The Forest Vegetation report (p. 21) explains that National native plant policy (FSM 2070 effective 02/13/2008) promotes appropriate use and availability of both native and non-native materials for revegetation, rehabilitation, and restoration of native ecosystems in order to: 1) ensure genetically appropriate native plant materials are given primary consideration; 2) restrict use of persistent, non-native, non-invasive plant materials to only those situations when timely reestablishment of a native plant community either through natural regeneration or with the use of native plant materials is not likely to occur; and 3) ensure that development, review and/or approval of revegetation, rehabilitation and restoration prescriptions, including species selection, genetic heritage, growth stage and any needed site preparation, is done by a plant materials specialist who is knowledgeable and trained or certified in the plant community type where the revegetation will occur. The Lolo NF maintains and updates a seed mix guide for re-seeding disturbed sites where native plant response will be slow or inadequate in the short-term for erosion prevention (http://www.fs.fed.us/r1/lolo/resources-natural/soils/seed_guide.pdf). The objectives of the seed guide are to: provide seeding guidelines in the absence of more site-specific or project specific seeding prescriptions; provide seed mix recommendations to quickly re-vegetate disturbed sites to reduce soil erosion, to reduce noxious weed invasion and provide site protection for native species establishment; maintain flexibility for integration of locally collected grass, shrub and forb species into mixes as local seed banks become established to meet project needs; and provide native species and cultivar recommendations that follow current Forest Service policy and direction.

3. Public Concern: Removing dead wood could negatively affect saproxylic insects (species associated with dead wood).

Response: We recognize the critical role dead wood plays for maintaining biodiversity in managed forests. In this salvage project there are many design features that ensure dead wood will remain on the landscape. For example, not all, dead trees would be removed within the salvage units and the tops and limbs of the salvaged trees will be left on site. Dry sites (habitat groups 2 and 3) would have 10-25 tons/acre downed woody material left on site, with a preference toward 6 inch + diameter material. On moist sites (habitat groups 4 and 5) 12-30 tons/acre downed woody debris would be left on site, again with a preference toward 6 inch + diameter material (Ibid p. 12). These protection measures meet or exceed the requirements in the Forest Plan (USDA FS 1986a) and the Lolo NF Downed Woody Material

Guide (USDA FS 2006b) (PF-M-16). The implementation of these design features as well as the natural fall and decay of dead trees on hundreds of unsalvaged acres within the fire perimeter will result in a diversity of standing and down coarse wood size classes in a variety of decay stages. There is no indication in the literature cited by the commenter that these conditions will negatively affect saproxylic insects.

4. Public Concern: The Forest Service Salvage logs almost all burned areas.

Response: The EA (p. 54) explains this is clearly a misconception. Ninety-four percent (115,351 acres) of National Forest lands burned on the Seeley Ranger District since 1980 were not harvested either before or after the wildfires. Eighty-six percent (293,896 acres) of Lolo National Forest lands burned since 1980 were not harvested either before or after wildfires (Ibid).

5. Public Concern: You did not respond to the question: What has been learned from past fires and post-fire logging projects on the LNF about the validity of “dying” criteria or their associated error?

Response: We respectfully disagree with the commenter’s statement that we did not consider this question because on page 86 of the EA the comment appears and the table shows under issue disposition and on page 52-53 of the EA that “With trees that burned less severely (trees with green needles remaining) there is some question as to whether they will ultimately succumb to fire effects, become overwhelmed by bark beetles, or might survive both. Though there are currently no absolute predictors of mortality /survivability, trained Forest Service employees will estimate fire-damaged trees with a low probability of tree survival. Their assessment will be based on visible fire-damage indicators (Scott 2003, 2002) or conclusive evidence that the tree has been infested by a sufficient number of beetles that it cannot survive (Amman and Cole 1983 and Gibson 2002 personal communication). Since these indicators are not absolute, there is a chance that some trees designated for removal could survive the fire effects or bark beetle predation (Ibid p. 20). However, according to current literature, (Scott 2003, 2002), the probability is low. The intention is to salvage trees that are dead but, some may not look dead yet; similar to a Christmas tree that is dead, but it stays green for a period of time.”

There have been no studies specific to the LNF to determine the associated error of the dying criteria and post fire logging. Such a site specific study is not necessary because although the criteria developed by Scott was not Forest specific the report states that the criteria “...have come from a thorough review of the published literature (most of it weighted heavily to prescribed fire effects), tree mortality model outputs, and observations and data from our most recent fire reviews and monitoring plots” (p. 3). It further states that “it should be possible to adapt these procedures to determine relative survival of similar conifer species injured by fire occurring on other National Forests outside of the Blue and Wallowa Mountains”(p. 3).

The EA acknowledges and all analysis included the assumption that it is possible some trees designated for removal could have survived, if not harvested; though the probability is low.

6. Public Concern: Past harvest should also be stratified by harvest type, forest type and pre harvest successional stage (if ascertainable).

Response: The commenter made a similar request during scoping specific to the areas that had been burned in the past and harvested. They requested we reserve a “broad range of burn severities and post-fire structural and compositional characteristics”. (EA, p. 81-83)

Appendix D of the EA identifies the harvest type of past activities (EA p. 100-102). Our analysis, as explained in the forest vegetation report (p. 24) shows large continuous areas of previously un-harvested post-fire habitat would be retained (project file M19-67 and M19-68). To consider the structural and

compositional characteristics of these areas we looked at the potential natural vegetation type for areas burned and not burned, harvested and not harvested (project file M19-65 and M19-66), and we considered current vegetation types (project file M19-71). We determined that fire severity data at this larger scale would not provide any additional information of value to help put the potential effects of the Jocko project in context. All of the information considered supports the conclusion that the Jocko salvage would affect a very small percentage of a post-burn vegetation condition that is not rare across the District or Forest. Given warming trends and fuel conditions, the acres of post-burn vegetation may continue to increase.

7. Public Concern: How have the Scott mortality guidelines been adapted to MT forests? Explain the divergences in the Scott rating system (ex. “low survival probability” threshold score/category lower than Scott’s; removing size class specific ratings)? How have the mortality guideline effectiveness been validated.

Response: The EA acknowledges (p. 53) that since indicators of mortality are not absolute, there is a chance that some trees designated for removal could survive the fire effects or bark beetle predation even though, according to current literature, (Scott 2003, 2002), the probability is low.

In a meeting with the commenter (PF-C-4 and C-5), the salvaging of trees with a low probability of survival was discussed. The commenter suggested that we be clear in the EA that the intention is to take trees that will be dead in a season or two because at first he had the impression that we might salvage trees that might not die for another 5 or more years (PF-C-5, p. 2). In response to this the EA states... “The intention is to salvage trees that are dead but, some may not look dead yet; similar to a Christmas tree that is dead, but it stays green for a period of time.”

Scott (2003, 2002) offers an approach of ranking the survivability of fire damaged trees into three broad categories based on physical indicators. The Scott table was selected and modified for the Jocko Fire Salvage project⁸ to estimate tree mortality probability across the project area in a consistent manner to meet the intention of salvaging dead tree and trees with a low probability of survival. It is simply a guide for trained Forest Service employees to estimate fire-damaged trees with low probability of tree survival based on visible fire-damage indicators. Scott (2002) notes that, “it should be possible to adapt these procedures to determine relative survival of similar conifer species injured by fire occurring on other National Forests outside of the Blue and Wallowa Mountains”. The Lolo NF is borrowing this scientifically based (and literature referenced) rating system, and as stated in The EA (p.52-53), “there are no absolute predictors of mortality/survivability”.

Additional sources were considered in the identification of mortality factors for the Lolo National Forest including: DeNitto et al (2000), “Survivability and Deterioration of Fire-Injured Trees in the Northern Rocky Mountains, A Review of Literature”; Reinhardt and Ryan (1989), “Estimating Tree Morality Resulting from Prescribed Fire”; and Gibson (2008), “Bark Beetle Potential in the Jocko Fire Area”; Hood, et al (2007), Brown and Smith (2000), R1 Forest Health Protection (2000), and Reinhardt and Ryan (1989) and, perhaps most relevant a field review of fire-damaged trees within the Jocko Lakes by Ken Gibson, Northern Region entomologist (PF-M17-2).

Since all trees salvaged will be smaller than 21 inch dbh only the category for “trees 16 inch dbh or less” was used. This will simplify the process for implementation and was considered to be an appropriate project specific modification. The only variance in the low survival probability rating is for lodgepole pine (Scott’s rating system indicates totals greater than 18 would equate to low survivability; however, because of site specific knowledge of post fire lodgepole mortality on the Lolo National Forest a rating of 14 or greater indicates a low probability of survival for the Jocko Lakes Fire Salvage.

⁸ This methodology is also used for the Chippy Fire Salvage.

Ken Gibson's field review, revealed green-crowned trees that have lethal fire-damage of their lower bole and roots (PF-M17-2). These trees, while still green at the time, have a low probability of surviving due to heat girdling of their cambium layer.

J. Old Growth

1. Public Concern: Salvaging may remove thriving old-growth that survived the fire. These trees could contribute to natural regeneration.

Response: It is clear the commenter is not considering project specific details because the Jocko Lake Fire Salvage will not occur in old growth stands, even stands that no longer meet old growth criteria. The project will generally not harvest trees over 21" dbh, and only dead or trees with a low probability of survival will be salvaged, not healthy live trees.

Live trees will be left on site and will be available for natural regeneration; however, as explained in the EA (p. 52, 53) supplemental planting may be needed. Alternative 3 would establish and retain two species identified as "species at risk" in the Northern Region Overview (USDA 1999a), ponderosa pine and western larch. The species would be established by planting approximately 1,170 acres of trees in locations where natural regeneration is not sufficient to restock the stands. Natural regeneration of these species may be deficient in some burned areas for lack of adequate seed fall (Ibid p 9). Observations by Forest staff indicate that cone production in western larch and ponderosa pine were below average in 2007 indicating that natural regeneration potential for these species is low (ibid p.10).

2. Public Concern: Removing dead, dying and downed trees inhibits the return of old-growth forest conditions.

Response: Alternative 3 will not affect old growth because no salvaging will occur in old growth units. Resource protection measures assure that some dead trees and downed woody debris and essentially all live trees and trees, dead or alive, over 21" (with possible exceptions for safety or in cable corridors) will be retained. These are the components the commenter was concerned about for future development of old growth stands. In reality, the fire moved many of these stands to an early successional stage, so it will take 80 to 100 years for new trees to grow to a size and age sufficient to provide old growth habitat. The Wildlife Report (p. 47) states that due to the retention of all existing old growth and considering project design features would maintain snags and DWD on all sites proposed for salvage, habitat for cavity nesting species such as the pileated woodpecker, as well as species that prefer or require old growth would be maintained.

3. Public Concern: No map of old growth was provided. The EA also clearly states that old growth "may be harvested near roads, trails and high-use areas (recreation sites) where public safety and facility protection is necessary". The EA seems to adopt the contradictory stance that no old growth is being harvested and therefore no analysis of old growth impacts is provided in the EA and yet it concurrently admits that some old growth may in fact be harvested.

Response: The commenter is mistaken; the Jocko Lakes Fire Salvage EA makes no statement that old growth "may be harvested near roads, trails and high-use areas where public safety and facility protection is necessary." No old growth stands will be harvested with the Jocko Lakes Fire Salvage.

It is possible the commenter is confusing the Jocko Lakes Fire Salvage project with another project they are reviewing and commenting on, perhaps one that includes a hazard tree removal element, which is not a part of the Jocko Lakes Fire Salvage project.

A map of pre-fire old growth is available in the project file (PF-M13-9).

4. Public Concern: Why isn't a cumulative effects analysis of historic impacts on old growth necessary, even if no old growth harvest is proposed by this project? This information is specifically relevant to the habitat needs of old growth species.

Response: The National Environmental Policy Act states [**emphasis added**] that “Cumulative impact” is the impact on the environment which results from the **incremental** impact of the action when added to other past, present, and reasonably foreseeable future actions...” (40 CFR § 1508.7). Since the project will have no direct or indirect impact on old growth (Green et al 1992) due to project specific protection measures there is no **incremental** or cumulative effect. For this reason no effects analysis of old growth in and of itself is warranted.

We want to point out, however, that the project analysis includes extensive analysis and consideration of how the direct and indirect effects of this specific salvaging project, when considered cumulatively with the past, present and reasonable foreseeable future actions may impact habitat components of species associated with mature and old growth forests. (northern goshawk, pileated woodpecker and the flammulated owl). This analysis is summarized in the EA (p. 37, 40, 46) and is detailed in the wildlife report (46-47, 61-62, 90)

5. Public Concern: We request that a map of all current and all pre-fire old growth be provided in the EA.

Response: A map, as requested by the commenter, is not available nor is it necessary for analysis of potential effects of this salvage project. The Forest did not survey all old growth stands after the fire of 2007 to determine which stands no longer meet old growth criteria (Green et al 2002). Such an exercise was not necessary for analysis of potential affects of the Jocko Lakes Fire Salvage project because the project will not salvage in any stands that met old growth criteria prior to the fire. Said another way, even if a stand that met the old growth criteria prior to the fire no longer meets old growth criteria, it will not be salvaged (EA, p. 11). A map of pre-fire old growth is available in the project file (PF-M13-9).

K. Fire and Fuels

1. Public Concern: Post-fire logging can elevate hazardous fuels.

Response: The analysis shows that on this specific project implementing Alternative 3 would result in no meaningful difference in overall flame lengths compared with the No Action Alternative and no change in fireline intensity (EA p. 54), therefore this project will not elevate hazardous fuels. Modeling suggests that in 14 years following salvage there would be no change in these conditions. (Ibid). The commenter made no specific comments about this fire/fuels analysis for the Jocko protection project.

L. Economics

1. Public Concern: Why should the Forest provide wood products while we are in a housing construction decline and mills are closing and laying off workers?

Response: Not only is providing wood products a goal of the forest plan, there is current local support and interest for these wood products as expressed in comment letters for this project.

An economic analysis was completed for this project, including a project feasibility analysis and a financial efficiency analysis (EA, p. 56; economic report, p.66-71). The feasibility analysis determined that the selected alternative is feasible.

The project is also estimated to produce a total of 259 jobs and \$7.8 million of labor income attributed to this project over the course of its implementation (EA, p.56).

2. Public Concern: The harvest is important to keeping local mills in operation. It should be implemented as soon as possible.

Response: We agree, as is mentioned in the purpose and need for this project (EA p. 1). In an effort to recover as much economic value as possible and provide an opportunity to harvest during the upcoming winter, the Lolo NF is seeking an emergency situation determination from the Chief of the Forest Service (36 CFR 215.10)

M. Information to Note

1. Public Concern: The project carefully balances environmental concerns with economic needs, restoration objectives, and other factors. We support this project.

Response: Thank you for your support.

N. Transportation

1. Public Concern: You did not respond to the question: What condition are the historical roads that will be rebuilt for this project currently in and what are the resource impacts of rebuilding them.

Response: We did respond to the commenter's question and we direct the commenter to those answers here. On page 84 of the EA the commenter's comment appears in its entirety, along with other relevant comments about roads. The table on that page states that no new roads will be built and that BMP's will be applied as appropriate on roads used in the salvage of timber. It further states where additional analysis can be found in the specialist reports, watershed, wildlife, weeds, [transportation – should have been included in this list but was inadvertently omitted].

Current road conditions and BMP and maintenance/reconstruction needs are detailed in Table 4 of the transportation specialist report (p. 9 – 11, definitions on p. 6-8 also given).

Though the commenter uses the term "rebuilt", we assume this refers to maintenance or reconstruction⁹ which are used interchangeably in the EA analysis. The elements included in reconstruction or maintenance are explained on page 27 of the transportation report as follows:

Reconstruction Cost - These costs are primarily associated with the implementation of BMPs (Best Management Practices). This would include the full range of BMPs but the most common techniques utilized include: Additional ditch relief culverts and surface drainage structures... Sediment traps in the vicinity of creeks... Placement of rock in catchbasins for stabilization and sediment reduction... Placement of riprap below surface drainage structures to reduce fill erosion... Reduction of over-width road sections. Typically, these BMP costs account for over 75 percent of the road costs after the cost of gravel is deducted. The other portion of the reconstruction cost is essentially a deferred road maintenance cost associated with such items as the reshaping of drainage structures, brushing and blading.

The effects of reconstruction are not only displayed in the resource specialist reports (mentioned below) but also in the transportation report (p. 17) as follows.

"Long-term Road Reconstruction. The majority of this road work would be designed to reduce sediment delivery from National Forest System Roads by implementing BMPs; therefore, the long-term effect of this reconstruction should be an improvement in water quality...

⁹ We would like to point out that the road "reconstruction" treatments proposed for haul of burned timber are consistent with the terminology for "road maintenance" as defined by Forest Service Manual (FSM) 7705.

Short-term Specified Road Reconstruction. For the project area, this would involve the reconstruction of substandard road segments to allow access for yarding and hauling activities under a timber sale. Earthwork and vegetation removal associated with reconstruction may result in a short-term increase in sediment production. BMPs would be applied as needed but since these roads would be used for a short period, BMP implementation would not necessarily be as extensive as those implemented for a long-term road. Instead, the limitation of use to dry conditions and the application of temporary, less expensive techniques such as drivable water bars during periods of non-use would be sufficient to satisfy BMP requirements. In the project area, most of the reconstruction on short-term roads would consist of the clearing and reshaping the road surface and some BMP implementation.”

The watershed analysis (EA, p. 28) states that the BMP upgrades would contribute to both a small, short-term increase in sediment delivery to streams and an overall, long-term decrease in sediment delivery to streams. This is elaborated on further on p. 29 and 30 of the EA and pages 21 – 22 of the hydrology report. The effects of road maintenance and use are considered throughout the wildlife report and the EA (EA references - lynx, p. 34; grizzly bear, p. 34; gray wolf, p. 36; elk, p. 38; goshawk, p. 39; fisher, p. 40; Northern Bog Lemming and Boreal Toad, p. 42; Bald Eagle, p. 43.). And the effects to weeds are analyzed in the EA on p. 47.

The commenter did not comment on or dispute the analysis or conclusions of the road maintenance effects.