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23 June 2005

Appeal Deciding Officer
Attn 1570 Appeals
PNW Region, USDA Forest Service
PO Box 3623
Portland OR 97208
appeals-pacificnorthwest-regional-office@fs.fed.us

Subject: §215 Appeal of the Grassy Fire Salvage Decision Notice

Dear Forest Service:

Pursuant to 36 CFR §215, Oregon Natural Resources Council and Klamath Siskiyou Wildlands Center hereby appeal the Grassy Fire Salvage Decision Notice.

DECISION TITLE: Decision Notice and Finding of No Significant Impact for the Grassy Fire Salvage Environmental Assessment and Plan Amendment #25.

PROJECT DESCRIPTION: Selected Alternative 3 involves:

1. 589 acres of post-fire commercial logging
2. 4.8 mmbf
3. 74 acres helicopter yarding
4. 515 acres ground-based yarding
5. [undisclosed] landings
6. 1143 snags >15"dbh retained in harvest units
    a. (~2.5 snags/acre, but not well distributed)
    b. snag retention predominantly within RHCAs
    c. trees >20"dbh with green needles to be retained
    d. DecAID 30% and 50% tolerance levels used
7. 300 feet of new road to reach unit 6
8. 4.83 miles of road reconstruction
9. a plan amend will designate replacement old-growth
10. 67 acres of salvage in the 1,258 acre Little Honey Creek uninventoried roadless area.
11. salvage logging will have negative impacts on black-backed woodpecker, northern goshawk, American marten, pileated woodpecker, red-naped sapsucker, prairie falcons, mule deer, gray flycatchers, wolverines, pallid bat,

PROJECT LOCATION: North Warner Mountains, Lakeview Ranger District, Fremont National Forest, Lake County, Oregon.

DATE OF DECISION: signed May 6, 2005.

NAME OF DECIDING OFFICER: Fremont Forest Supervisor, Karen Shimamoto

APPELLANTS' INTEREST: In accordance with Pub. L. 102-381, Title III, Sec. 322(c), Oct. 5, 1992 and 36 CFR 215.11, ONRC submitted comments on, and expressed interest in, this project and is entitled to appeal. Members of ONRC use and enjoy the area affected by this project for various recreational, esthetic, and scientific pursuits including but not limited to: hiking, nature study, solitude, bird watching, and hunting.

REQUEST FOR RELIEF: ONRC respectfully requests that the Forest Service withdraw the decision being appealed and —

1. drop roadless unit 8 and the roadless portions of units 5 and 9, or prepare an EIS to describe the significant impacts on this ecologically significant area;
2. in all salvage units retain all large snags (>20"dbh) so that there is a long-term supply of snag habitat and large down wood during the inevitable "sang gap;"
3. prepare a new EIS that fully complies with the requirements of NEPA and the CEQ regulations and addresses the specific concerns expressed in our statement of reasons below.

REQUEST FOR STAY: In accordance with 36 CFR 215.10(b) all implementation of this project must cease until 15 days after the appeal is decided.

STATEMENT OF REASONS:

1. Large areas without roads have significant ecological value in terms of water quality, unfragmented habitat, and lack of human disturbance. The Honey Creek roadless area is especially significant because, from a landscape perspective, it is a very rare forested roadless area in an area of the state that generally lacks such features. This project involves 67 acres of logging in such an area which will degrade the ability of this area to provide clean water and wildlife habitat thereby causing significant impacts on the environment. We urge the FS to drop roadless unit 8 and the roadless portions of units 5 and 9, or prepare an EIS to describe the significant impacts on this ecologically significant area. See the detailed statement on roadless areas below.

2. Lumping salvage and unsalvaged areas for purposes of describing the number of snags retained per acre, fails to accurately disclose the impacts of salvage logging on the sites actually subject to logging, which violates NEPA and the 100% potential population requirement of the east side screens. The requirement for 100% potential populations cannot be met with large areas made devoid of large snags which will be the ultimate result of removing virtually all the larege snags through salvage logging.

3. The EA oversimplified its consideration of the historic range of variability (HRV) by equating movement toward HRV with rapid re-establishment of pine trees. This narrow view of HRV fails to account for the regional shortage of large snags and the normal cycle of successional stages following stand replacing fire. Contrary to EA p 3-36, stand replacing fire on this scale is NOT outside the historic range of variability. According to the work of Paul Hessburg[1], Rich Fonda[2], and many others, some have tended to over-emphasize the role of low-intensity fire in intermountain forests, while under-emphasizing or ignoring the role of periodic stand replacing fire. Historic fires were NOT ALL low-intensity, but were in fact highly variable in size and intensity, so, fires like the grassy fire are not outside the natural range. Remember, we are talking about a range of values, not an average point within the range. Just because the grassy fire may have been bigger than the average fire does not mean that it is outside of the range of natural variability. Contrary to the analysis in the EA, abundant dead trees and natural regeneration are within the historic range of variability. The EA must be withdrawn to consider a wider range of alternatives and greater snag retention consistent with the natural range. See the detailed statement below on "Abuse of the Historic Range of Variability Concept."

4. Based on false assumptions about the historic occurrence of large stand replacing fire, the Forest Service inappropriately rejected the snag retention recommendations of the science-based Klamath Tribes Forest Management Plan (EA p 3-36). Since, these assumptions are false, the FS must withdraw the EA and consider these science-based recommendations. See the detailed statement below on "large stand-replacing fires are rare but not unexpected."

5. Making a bad situation worse for a large number of special status species triggers an EIS. Page G-18 of the Fremont LRMP lists scores of species "requiring" or "highly dependent" upon dead wood offering a stark reminder of the importance of maintaining abundant dead wood in the forest. The EA discloses that the project will have a negative effect on virtually all of the special status species identified by the Forest Service, including: wolverine, pallid bat, black-backed woodpecker, red-naped sapsucker, goshawk, marten, pileated woodpecker, prairie falcon, white-headed woodpecker, pygmy nuthatch, Lewis' woodpecker, and many more of the 31% of the avian fauna that rely on snags habitat, including entire guilds of primary cavity excavators and secondary cavity users. Most of these species have been given "special status" because they are adversely affected by management and they are either already declining or expected to decline. This project will make a bad situation worse for all these species, which is clear

[1] Hessburg, P. F., Franklin, J. F. and Agee, J.K. 2005. Dry Mixed Conifer Forests and Wildland Fires of the Inland Northwest: Contrasting the Landscape Ecology of the Pre-settlement and Modern Eras. Forest Ecology and Management (Special feature). ("Rarely, dry forest landscapes were relatively more synchronized in their vegetation and fuels conditions and affected by climate-driven, high-severity fire events (Agee, 1997, 1998; Swetnam and Lynch, 1993; Whitlock and Knox, 2002).")

[2] Rich Fonda says, "The fire history bottomline, in virtually every western forest, is the same: DUAL CYCLES of periodic, frequent, low intensity fires interspersed among episodic, infrequent, high intensity events. The fire return intervals for the first cycle are on the order of decades, whereas the FRI for the latter cycle is on the order of centuries. "

evidence that this project will have *significant* effects on the environment requiring an EIS.

6. The forest plan snag retention standards and guidelines established more than 15 years ago are no longer supported by the science and are thought to under-represent the true needs of snag-associated wildlife. The EA repeatedly compares proposed levels of snag retention for this project to the outdated guidelines in the forest plan. For example, EA p 3-68 says alternative 3 retains 180% of the forest plan minimum. This leaves the decision-maker and the public with a false impression that snag retention is more than adequate, when it is in fact less than adequate based on the best available information (especially when considering snag fall rates).

7. The EA added Appendix C to try to explain how DecAID and the LRMP standards and guidelines were used to develop snag retention for this project, but Appendix C only confirms the misapplication of these guidelines in a post-fire setting. For instance, on EA page C-10, the Forest Service says that the forest plan requires more snags than were presumably present in "unharvested plots," but this shows that the Forest Service is comparing apples and oranges. The "unharvested plots" were not representative of recently burned stands that are expected to have high rates of snag fall and low rates of snag recruitment in the years to come. The unharvested plots were generally measured in green stands with moderate rates of both snag fall and snag recruitment. The Forest Service therefore cannot rely on these plots to establish snag retention values for post-fire situations.

8. The EA admits that "most" snags fall within 15 years, so snag habitat will be "limited" until the stands mature (EA p 3-41). This "snag gap" is something to be concerned about. See the detailed statement on the values of snags and dead wood below. One of the most significant and lasting effects of stand replacing fire is to bring the process of snag recruitment to a virtual standstill for many decades. Snags created by the fire fall down over time, but few if any snags are created. This results in a "snag gap" that has serious adverse consequences for habitat and many other ecological processes. Significantly, the EA fails to consider that the proposed salvage logging will remove many of the largest snags that may last longer than 15 years to help mitigate the expected snag gap. This analytical oversight is a clear violation of NEPA. Any decision based on such a flawed analysis represents arbitrary and capricious decision-making.

   In Congressional testimony in July 2004, Jerry Franklin said:

> It is sometimes argued that following a stand-replacement fire in an old-growth forest that snags and logs are present in "excess" of the needs of the site, in terms of ecosystem recovery. In fact, the large pulse of dead wood created by the disturbance is the only significant input of woody debris that the site is going to get for the next 50 to 150 years—the ecosystem has to "live" off of this woody debris until the forest matures to the point where it has again produced the large trees that can become the source for new snags and logs (Maser et al. 1988).

Dr. Jerry F. Franklin, Professor of Ecosystem Studies, College of Forest Resources, University of Washington. July 15, 2004. TESTIMONY FOR THE RECORD ON OVERSIGHT HEARING ON "RESTORING FORESTS AFTER CATASTROPHIC EVENTS" BY HOUSE COMMITTEE ON RESOURCES, SUBCOMMITTEE ON FOREST AND FOREST HEALTH. http://resourcescommittee.house.gov/archives/108/ffh/07_15_04.htm

a. The agency must recognize the asymmetric nature of snag dynamics after fires. High rates of snag fall would be expected in the decades following fire, while low rates of snag recruitment would be expected in the decades following a fire. This unavoidably results in a serious deficit of snags at some point in the future.

b. In order for the NEPA analysis to fully address the snag habitat issue it must look carefully at the snag gap from both ends.

    i. The snag gap begins when too many of the current snags are gone. So the snag gap is exacerbated on the front end by salvage logging which removes too many large snags.

    ii. The snag gaps ends when the next stand grows to the point that it contains large trees and some of them die, so the snag gap is exacerbated on the back end if there is a significant delay in tree regeneration.

c. The agency has a tendency to focus on the back end of the snag gap which is more speculative and ignore the effect of salvage logging on the front end of the snag gap (which is concrete and unavoidable).

d. Salvage logging which retains only enough snags to meet snag requirements after harvest will not meet snag requirements in a few years after those few retained snags fall.

e. Both the RMP and the Northwest Forest Plan (p C-13) require that snags be maintained through time, so our goal must be to manage snags to minimize the time period that there is a deficit of snags.

f. The NEPA analysis must account for snag fall rates and figure out how to minimize the snag gap. Every day that the "snag gap" is lengthened by salvage logging is a violation of the RMP. Models that may be used to analyze snag dynamics can be found here: http://www.for.gov.bc.ca/hre/deadwood/DTmod.htm

g. There is a strong correlation between the size of the snag and the length of time it is likely to remain standing, so salvage must be designed to retain all the large snag and only remove trees from smaller size classes.

The agency often compares their proposed snag retention levels to the *average* number of snags across the landscape, without recognizing that after a significant disturbance such as fire "the rate of input [of snags] to the CWD pool is 100-

1000x the rate expected for an unburned steady-state forest (Harmon et al 1986). Even afterwards, in the next 5 or 6 years, the rate of input is still 5 or 10 or even 100 times that steady-state rate." http://www.brownandbrown.tv/warner-presentation-2002-05-14b.pdf

The agency cannot take a hard look at the issues of snag habitat and complex young forests without considering the dynamics of snags and dead wood.

> Spies et al. (1988) reported that amounts of CWD were high in the youngest successional stages, were lowest in 60-80-year-old forests, and were high in old stands (< 500 years). After 500 years CWD amounts declined to an intermediate level. Spies and Franklin (1988) reported that CWD input may be low in young stands because of the small size of dead and dying stems. Volumes in these stands are often high, however, due to residual CWD from the previous stand.

Lofroth, Eric. 1998. The dead wood cycle. In: Conservation biology principles for forested landscapes. Edited by J. Voller and S. Harrison. UBC Press, Vancouver, B.C. pp. 185-214. 243 p. http://www.for.gov.bc.ca/hre/deadwood/DTrol.htm

9. The EA uses DecAID inappropriately. The EA failed to consider how snag levels would be maintained over time given high rates of snag fall and low rates of snag recruitment following stand replacing fire. DecAID may be the best available science but its use is still subject to misuse and abuse. New science must not be adopted without thorough consideration of its strengths, weaknesses, and methods of proper application. The Forest Service must also consider the cumulative impacts of applying DecAID across the region without considering all its consequences. These things the Forest Service has not done.

    a. Before relying on DecAID, the agency must prepare a comprehensive NEPA analysis to consider alternative ways of ensuring viability of all species dependent upon snags and dead wood. While it is true that the "potential population" or "habitat capability" method is no longer considered scientifically valid, the agency has not yet considered a full range of alternative methods to replace the habitat capability method mandated in the forest plans.

    b. Before using DecAID, the agency must establish a rational link between the tolerance levels in DecAID and the relevant management requirements in the applicable resource management plan. For instance, since the Eastside Screens require maintenance of 100% potential population of primary cavity excavators, the agency must explain why that does not translate into maintaining *100% of the potential tolerance level*. If the site is capable of supporting 80% tolerance levels, the agency should not be able to manage for 30-50% tolerance levels and still meet the 100% potential population requirement.

    c. Blind reliance on DecAID is inappropriate. DecAID does not pick the management objective. The agency must specify the management

objective based on RMP objectives for the land allocation or based on natural "range of variation." Since large snags are outside the natural range of variability across the landscape, the agency must retain all large snags to start moving the landscape toward the natural range of variability, or the agency must carefully justify in the NEPA analysis every large snag it proposes to remove. See Jerome J. Korol, Miles A. Hemstrom, Wendel J. Hann, and Rebecca A. Gravenmier. 2002. *Snags and Down Wood in the Interior Columbia Basin Ecosystem Management Project.* PNW-GTR-181. http://www.fs.fed.us/psw/publications/documents/gtr-181/049_Korol.pdf This paper estimates that even if we apply enlightened forest management on federal lands for the next 100 years, we will still reach only 75% of the historic large snag abundance measured across the interior Columbia Basin, and most of the increase in large snags will occur in roadless and wilderness areas.

d. Be sure to use the DecAID tool appropriately. The agency must address the dynamics of snag habitat over time, by ensuring that recommended snag levels are maintained over time given typically high rates of snag fall and low rates of snag recruitment following fire. These dynamics are not accounted for in the DecAID advisor. The agency often misuses the DecAID decision support tool by looking at only a snap-shot in time. The agency relies on DecAID to analyze impacts on snag dependent species, but the agency fails to recognize that

e. "DecAID is NOT: … a snag and down wood decay simulator or recruitment model [or] a wildlife population simulator or analysis of wildlife population viability. … Because DecAID is not a time-dynamic simulator … it does not account for potential temporal changes in vegetation and other environmental conditions, … DecAID could be consulted to review potential conditions at specific time intervals and for a specific set of conditions, but dynamic changes in forest and landscape conditions would have to be modeled or evaluated outside the confines of the DecAID Advisor."

f. Marcot, B. G., K. Mellen, J. L. Ohmann, K. L. Waddell, E. A. Willhite, B. B. Hostetler, S. A. Livingston, C. Ogden, and T. Dreisbach. In prep. "DecAID -- work in progress on a decayed wood advisor for Washington and Oregon forests." Research Note PNW-RN-XXX. USDA Forest Service, Pacific Northwest Region, Portland OR. (pre-print) http://wwwnotes.fs.fed.us:81/pnw/DecAID/DecAID.nsf/HomePageLinks/44C813BC574BDFCC88256B3E006C63DF

g. To clearly and explicitly address the issue of "snag dynamics" the can start by reading and responding to the snag dynamics white paper on the DecAID website which says "To achieve desired amounts and characteristics of snags and down wood, managers require analytical tools for projecting changes in dead wood over time, and for comparing those changes to management objectives such as providing dead wood for

wildlife and ecosystem processes" and includes "key findings" and "management implications" including "The high fall rate (almost half) of recent mortality trees needs to be considered when planning for future recruitment of snags and down wood. Trees that fall soon after death provide snag habitat only for very short periods of time or not at all, but do contribute down wood habitat. In fact, these trees are a desirable source of down wood as they will often begin as mostly undecayed wood and, if left on the forest floor, will proceed through the entire wood decay cycle with its associated ecological organisms and processes that are beneficial to soil conditions and site productivity." http://wwwnotes.fs.fed.us:81/pnw/DecAID/DecAID.nsf/HomePageLinks/863EEA66F39752C088256C02007DF2C0?OpenDocument

h. The tolerance levels from DecAID may be too low to support viable populations of wildlife associated with dead wood, because anthropogenic factors that tend to reduce snags (e.g., firewood cutting, hazard tree felling, fire suppression, and salvage logging) may have biased the baseline data that DecAID relies upon to describe "natural" conditions. See Kim Mellen, Bruce G. Marcot, Janet L. Ohmann, Karen L. Waddell, Elizabeth A. Willhite, Bruce B. Hostetler, Susan A. Livingston, and Cay Ogden. *DecAID: A Decaying Wood Advisory Model for Oregon and Washington* in PNW-GTR-181, *citing* Harrod, Richy J.; Gaines, William L.; Hartl, William E.; Camp, Ann. 1998. *Estimating historical snag density in dry forests east of the Cascade Range.* PNW-GTR-428. http://www.fs.fed.us/pnw/pubs/gtr_428.pdf

i. DecAID is still an untested new tool. The agencies must conduct effectiveness monitoring to determine whether the snag and down wood retention recommendations in the DecAID advisor will meet management objectives for wildlife and other resource values.

j. DecAID must be used with extreme caution in post-fire landscapes because the data supporting DecAID does not include natural post-fire landscapes. ("The inventory data likely do not represent recent post-fire conditions very well … young stands originating after recent wildfire are not well represented because they are an extremely small proportion of the current landscape … The dead wood summaries cannot be assumed to apply to areas that are not represented in the inventory data." "DecAID caveats" http://wwwnotes.fs.fed.us:81/pnw/DecAID/DecAID.nsf).

k. DecAID relies on a wide range of sources in the literature, some of which recommend much higher levels of snag retention than reflected in the advisor. The agency NEPA analysis should disclose the published literature with higher levels of snag and wood retention and discuss their potential relevance for the project. ("the agency must disclose responsible opposing scientific opinion and indicate its response in the text of the final statement itself. 40 C.F.R. § 1502.9(b)." Center for Biological Diversity v. United States Forest Service, No. 02-16481 (9th Cir., Nov. 18, 2003).)

l. DecAID tolerance levels need careful explanation. These tolerance levels are very difficult to put in terms that are understandable by the general public, but if the Forest Service is going to use this tool they must make it understandable. The NEPA analysis should provide cumulative species curves for each habitat type and each forest structural stage and should explain the studies and publications that support the data points on the curves. What kind of habitat were the studies located in? What was the management history of the site? Was the study investigated nesting/denning, or roosting and foraging too?

m. DecAID does not account for the unique habitat features associated with snags. DecAID primarily just counts snags and assumes that all snags of approximately the same size have equal habitat value, but this fails to account for the fact that certain types of snags and dead wood features are unique, such as: hardwood snags, hollow trees and logs, different decay classes, etc. The NEPA analysis must account for these features and the agency should disproportionately retain dead wood likely to serve these unique habitat functions.

n. DecAID authors caution that "it is imperative, however, to not average snag and down wood densities and sizes across too broad an area, such as across entire watersheds, leaving large areas within watersheds with snags or down wood elements that are too scarce or too small" Kim Mellen, Bruce G. Marcot, Janet L. Ohmann, Karen L. Waddell, Elizabeth A. Willhite, Bruce B. Hostetler, Susan A. Livingston, and Cay Ogden. *DecAID: A Decaying Wood Advisory Model for Oregon and Washington* in PNW-GTR-181. http://www.fs.fed.us/psw/publications/documents/gtr-181/042_MellenDec.pdf While we agree that snags and won wood must not be averaged over wide areas, we also must emphasize that snags and down wood are far below historic levels on non-federal lands, so in order to ensure viable populations of wildlife and avoid trends toward ESA listing, federal lands must be managed to compensate for the lack of down wood on non-federal lands.

o. DecAID appears to be based on the idea that the habitat needs of certain key wildlife species represent the best determinant of how much dead wood to retain, and this may in fact be true, but DecAID should also include cumulative curves for other ecological functions provided by dead wood, including: site productivity, nutrient storage and release, erosion control, sediment storage, water storage, water infiltration and percolation, post-fire micro-site maintenance, biological substrate, thermal mass, etc. How much dead wood is needed for thee functions.

The Significant impacts of salvage logging is a controversial issue and requires an EIS.

"The costs and benefits of activities such as salvage logging and its appropriate role have emerged as national issues." U.S. Department of Agriculture, Forest Service. 1996. Status of the interior Columbia basin: summary of scientific findings. Gen. Tech. Rep. PNW-GTR-385. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station; U.S. Department of the Interior, Bureau of Land Management. 144 p. p 22.

"Treatment of areas following occurrence of major fires is a complex and controversial topic. Complexities include the trade-offs among various resource management objectives, such as fire fuel management objectives and provision of wildlife habitat. Conflicts often exist between economic and ecological objectives … " K. Norm Johnson, Jerry Franklin, Debora Johnson. The Klamath Tribes' Forest Management Plan. Dec 2003. http://www.klamathtribes.org/forestplan.htm

"What are appropriate restoration treatment policies after a fire? The topic is contentious …" Franklin and Agee. 2003 "Forging a Science-Based National Forest Fire Policy," Issues in Science and Technology *Online.* Fall 2003. http://www.issues.org/issues/20.1/franklin.html

EASTSIDE SCREENS

The response to comments (EA page 4-9) says that the Eastside screens deal with "forest structural stages" not LOS components, (and the EA uses this line of argument to reject our assertion that large snags must be retained to maintain snags as an LOS component within the natural range of variability, but this EA assertion is unsupported by the plain language of the east side screens which say, "Outside of LOS, …. The intent is still to maintain and/or enhance LOS components in stands subject to timber harvest as much as possible …" (emphasis added). So contrary to the EA, the east side screens clearly require conservation of LOS components, regardless of forest structural stage. This renders the DN illegal because it is based n an EA that improperly frames the Forest Service's legal responsibilities.

Under the Regional Forester's Plan Amendment #2 (aka the Eastside Screens), salvage sales must "meet the intent of the wildlife standards by following the direction provided in Scenario A". Scenario A has several requirements, among them a requirement that there "should be NO NET LOSS" of late old structure forest (LOS) (emphasis in original). The EA fails to recognize that large snags are an important component of current and future LOS habitat.

Old growth is defined by ICBEMP as:

1. Large trees for species and site.
2. Wide variation in tree sizes and spacing.
3. Accumulations of large-size dead standing and fallen trees that are high relative to earlier stages.
4. Decadence in the form of broken or deformed tops or bole and root decay.
5. Multiple canopy layers.
6. Canopy gaps and understory patchiness.

http://www.icbemp.gov/pdfs/sdeis/Volume2/Appendix17a.pdf In violation of the eastside screens, salvage logging will cause a net loss of large snags that are essential part of LOS and essential to providing current and future habitat for species associated with LOS.

Furthermore, the eastside screens say "Outside of LOS, many types of timber sale activities are allowed. The intent is still to maintain and/or enhance LOS components in stands subject to timber harvest as much as possible, by adhering to the following standards:

> a) Maintain all remnant late and old seral and/or structural live trees >21" dbh that currently exist within stands proposed for harvest activities.
> b) Manipulate vegetative structure that does not meet late and old structural (LOS) conditions, (as described in Table 1 of the Ecosystem Standard), in a manner that moves it towards these condition as appropriate to meet HRV.

In violation of subpart (a), the EA allows the removal of large live trees (e.g. either incidental to removal of dead or assumed to be dying but not dead). While it's true that strictly dead trees are exempt from the ESS diameter limit. Cutting live trees is not exempt. Since the Scott and Ryan guidelines referenced in the EA (p 3-8) are *probabilistic* (i.e. there is a >0% risk of false positive findings that trees are "dying") so some large live trees will by definition be killed in violation of the screens. The Forest Service must err on the side of protecting large trees that *might* survive (and any large trees that are green now and later die actually help achieve the overall objectives of the screens). The Forest Service just lost a lawsuit on this issue in the High Roberts Salvage Sale on the Malheur NF. League of Wilderness Defenders v. Brooks Smith, Case No. 04-1595-KI.

In violation of subpart (b), the EA endorses the removal of large number of large snags and move the forest structure further from historic range of variability (HRV) at several scales. Scientific evidence indicates that eastside forests are outside the HRV for large snags (Korol 2002). The EA (p 3-61) also admits that current habitat for black-backed woodpecker has been negatively affected by past management.

The grassy fire created a number of large snags and helped move the region closer to the HRV, but the EA endorses the removal of large numbers of these snags which will push the regional ecosystem further from the HRV. See Jerome J. Korol, Miles A. Hemstrom, Wendel J. Hann, and Rebecca A. Gravenmier. 2002. *Snags and Down Wood in the Interior Columbia Basin Ecosystem Management Project.* PNW-GTR-181. http://www.fs.fed.us/psw/publications/documents/gtr-181/049_Korol.pdf This paper says that even if we were to apply enlightened forest management on federal lands for the next 100 years, we will still reach only 75% of the historic abundance of large snags across the interior Columbia Basin, and most of the increase in large snags will occur in roadless and wilderness areas. The Forest Service cannot remove large snags without pushing the ecosystem further from the HRV.

Scenario A also mandates that salvage sales "3) Maintain connectivity and reduce fragmentation of LOS stands …" The proposed salvage logging and plan amendment will

cause increased fragmentation of forest habitat by establishing sharp edges between the reserve areas (where high density of snags will be present), and harvest areas (where virtually all snags will be cut). Salvage logging removes legacies which degrades connectivity and increases fragmentation in direct violation of the Eastside Screens.

The DN violates the eastside screens.

Scenario A of the Eastside Screens provides:

> a) **Snags**, Green Tree Replacements and Down Logs:
> INTENT STATEMENT -Most (if not all) wildlife species rely on moderate to high levels of snags and down logs for nesting, roosting, denning and feeding. Large down logs are a common and important component of most old and late structural forests. Past management practices have greatly reduced the number of large snags and down logs in managed stands.
>
> > (1) All sale activities (including intermediate and regeneration harvest in both even-age and uneven-age systems, and salvage) will maintain snags and green replacement trees of >21 inches dbh, (or whatever is the representative dbh of the overstory layer if it is less than 21 inches), at 100% potential population levels of primary cavity excavators. This should be determined using the best available science on species requirements as applied through current snag models or other documented procedures. …

Scenario A of the eastside screens require the Forest Service to provide for 100% potential population levels of primary cavity excavators "as determined using best available science on species requirements." The Grassy EA does not make any effort to meet the intent of the eastside screens with respect to snag associated species.

a. Salvage logging removes large snags which are uniquely able to provide snag habitat into the distant future. Loss of this critical stand component will cause a "snag gap" (a time period where most of the small snags have fallen over, yet new large shags have not yet been recruited into the stands). This approach does not meet the LRMP requirement to maintain snag levels "through the full rotation" including "all successional stages." (Fremont LRMP pp 103-104). So there will be both spatial gaps and temporal gaps in the habitat required by primary cavity excavators. The EA lacks any temporal analysis of future snag habitat through consideration of snag fall rates and snag recruitment rates. (The "issue indicator" (EA p 3-27) is based on just the gross number of snags retained without reference to temporal snag dynamics). This is a major NEPA shortcoming because it prevents the decision-maker and the public from determining compliance with the LRMP requirement to maintain snags through the full rotation. The Forest Service has an obligation to disclose enough information in the EA to determine compliance with substantive requirements. See 40 CFR 15087.27(b)(10) ("The following should be considered in evaluating [NEPA significance]: … Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.") and NW Indian Cemetery Protective Association v. Peterson, 795 F2d 688 (9th Circ 1986). In this case, the

NEPA document described water quality changes resulting from a road project in terms of 7-day average changes, whereas the applicable WQ standard was defined by daily peak changes. The court found this to be a NEPA violation. See also Judge Hogan's ruling in Klamath Siskiyou Wildlands Center v. Boody (#03-3124-CO, May 18, 2004) where he held "plaintiffs have raised a serious question as to whether BLM violated NEPA in failing to disclose sufficient information in the EA to confirm compliance with … the RMP." (Order at page 18).

b. The EA cannot exacerbate the snag gap (i.e. degrade future snag habitat) and at the same time claim to be meeting the intent of the 100% potential population levels of primary cavity excavators (EA p 3-60). The 100% potential population requirement can be restated as a requirement for "no net loss" of cavity excavator habitat potential. Since removal of large snags exacerbates the future snag gap, there is clearly a future period when primary cavity excavator habitat is degraded relative to the no action alternative. This violates the Eastside Screens requirement to maintain 100% potential populations of primary cavity excavators.
c. While the DecAID tolerance thresholds are not directly comparable to the potential population methods, the Forest Service is clearly not meeting the objective of healthy woodpecker populations when post-fire landscapes (which should be the most favorable areas for snag- and cavity-dependent species) are being severely degraded by salvage logging and only support 30-50% tolerance levels for these species. An EIS is needed to translate the best available science (*possibly* DecAID) so that it can be *meaningfully related* to the existing forest plan requirements, i.e., the 100% potential population for primary cavity excavators. In the absence of a rational link between the best available science regarding snag associated species and the management requirements for primary cavity excavators, removal of large snags needed by these species should not be approved! See DecAID discussion below.
d. The EA contains a direct contradiction and a factual omission which compounds it. The EA says on the one hand that snags will be retained to provide 100% potential populations of black-backed woodpecker (EA p 3-60), and saying on the other hand (p 3-34) that snag fall will cause a shortage of snags after 15 years. Is there enough or not enough? This incongruity is highlighted when one understands what the EA does not say, i.e. salvage logging removes the largest and longest lasting snag and therefore exacerbates the snag gap which violates the requirement to maintain 100% potential populations.
e. EA page 3-61 says that stocking level control (e.g. the thinning proposed in this project) will reduce future recruitment of dead trees and reduce future habitat for black-backed woodpecker. Clearly, thinning that "captures mortality" has consequences for species that thrive on mortality. This seems to violate the 100% potential population requirement of the Eastside Screens.

Salvage logging will make a bad situation worse for big game.

Units 1 and 3 of the Grassy Fire Salvage project area are designated as big game winter range, but the wildlife management unit is currently sustaining only 47% of the mule deer management objective and the trend has not increased since 1998. The EA says that

LRMP requirements for big game cover are not being met in the fire area (EA p 3-54). Salvage logging in the MA-1 (big game) zone in the NE portion of section 5 will make a bad situation worse and exacerbate a violation of the forest plan. The EA (p 3-56) falsely states that there would be no short-term change in cover as a result of salvage logging. NEPA requires that the agency use high quality information and accurate scientific information. 40 CFR 1500.1(b). The FS cannot hide behind the fact that burned trees do not meet the LRMP definition of cover and then pretend that salvage logging will not remove cover provided by dead trees. Suboptimal cover serves a valuable purpose especially when there is a shortage of cover. The FS' position is akin to saying "since the snack I had in the morning did not meet the definition of breakfast, it's advisable to skip lunch too." When you are hungry, does it make sense to starve yourself? NO! Since the deer are hungry for cover, it makes no sense to degrade/remove what little they have. This violates NEPA and if you insist on relying on the LRMP let me point out that the FEIS for the LRMP never disclosed the impact of this irrational policy.

Fire kills vegetation and dramatically changes forage and cover quality for big game. Big game have also lived with fire for millennia. Deer are known to use areas affected by fire. Wildfire's resulting mosaic of new forage and residual cover may be beneficial for big game. Forage will almost certainly improve following fire, but in order for the big game populations to take advantage of this new flush of forage, the agency must maintain an adequate amount of cover.

Although fire may have reduced big game habitat, salvage logging will make a bad situation worse by reducing cover and delaying recovery of vegetation species that are favorable for foraging and hiding cover. Even dead trees can provide hiding or thermal cover for a period of time. The NEPA analysis must assess the lost cover associated with salvage logging of dead trees, either those killed by the fire or that will die in the near term from fire-related damage. Grifantini (1990 and 1991) *cited in* McIver, James D.; Starr, Lynn, tech. eds. 2000. Environmental effects of postfire logging: literature review and annotated bibliography. Gen. Tech. Rep. PNW-GTR-486. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 72 p. http://www.fs.fed.us/pnw/pubs/gtr486.pdf

Following two wildfires in northern California that occurred 10 years apart, Grifantini et al compared vegetation response of areas that were unsalvaged and unplanted vs. areas that were clearcut salvaged, burned, and planted. They found that:

1. Unsalvaged sites had much more deerbrush cover, than did salvaged sites (measured 12 years after wildfire);
2. Unsalvaged sites had greater forb cover than did salvaged sites (measured 2 years after wildfire);
3. Unsalvaged sites supported more vascular plant diversity;
4. Unsalvaged sites had greater mean hiding cover values that salvages sites (measured both 2 and12 years after wildfire) "suggesting that salvage logging and reforestation resulted in less screening cover than if the stands would have been left unsalvaged." (p 166)

5. "Apparently postfire management influenced early seral stand development and the quantity and diversity of deer forage" (p 166)
6. "[W]e hypothesize that lack of cover may limit deer use. Maintaining a mosaic of unsalvaged stands, located adjacent to water sources, meadows, traditional migration corridors and staging areas (locations having potential for heavy deer use) would likely be an important post-fire mitigation." (p 167)
7. They recommend maintaining all available screening cover near potentially high deer-use areas, keeping patch size to a fraction of deer's average home range size, using a variety of post-fire management options, and dispersing different management schemes across the landscape.

Grifantini, M.C., Stuart J.D., and L. Fox III, 1992. "Deer Habitat Changes Following Wildfire, Salvage, Logging and Reforestation, Klamath Mountains, California," Proceedings of the Symposium on Biodiversity of Northwestern California, Oct 28-30, 1991, Santa Rosa, CA. UC Wildland Resource Center Report 29. December 1992.

According to the Fire Effects Information System (FEIS), dead and dying trees do provide cover value for big game, but the agency does not explain why they can just destroy so much of what little cover remains in this winter range. See USFS FEIS Elk narrative:

> Site preference studies show that elk usually prefer to graze on burned as opposed to unburned sites. … Fire in a Southwestern ponderosa pine forest increased forbs, grasses, and shrubs, created edge, and provided snags for cover. Elk increased in the burn, reaching a peak 7 years after fire when grasses were most abundant. … In Glacier National Park fires increased carrying capacity on winter range by creating a mosaic of thermal and hiding comver [sic] and forage areas. … Standing dead trees may provide adequate cover within burns.

http://www.fs.fed.us/database/feis/wildlife/mammal/ceel/fire_effects_and_use.html

And the FEIS Mule deer narrative:

> Deer seem to prefer foraging in burned compared to unburned areas … Small burns are more beneficial than large burns to mule deer because they tend to use burned areas close to cover.

http://www.fs.fed.us/database/feis/wildlife/mammal/odhe/fire_effects_and_use.html

The agency must address the adverse effects of salvage logging on big game habitat, especially in areas allocated for big game management in the applicable resource management plan.

Regardless of whether "dying" trees that currently provide cover will die as predicted by the tree mortality guidelines, those trees do presently provide cover. Thus, it is undisputed that logging imposes a near-term loss of cover. That near-term cover loss should be disclosed in the NEPA analysis. The tree mortality guidelines must also be based on sound science (based on multiple-regression analysis using real data) and must be field verified before being applied.

The NEPA analysis must address the ways that salvage logging will affect big game and compliance with applicable Standards & Guidelines.

The Forest Service failed to respond to public comments.

The Forest Service notice-comment-appeal regulations provide that "The Responsible Official shall consider all substantive written and oral comments …" 36 CFR § 215.6(b)(1) (2003). And "At a minimum, an appeal must include the following: … (8) Why the appellant believes the Responsible Official's decision failed to consider the substantive comments; …" 36 CFR § 215.14 (b) (2003).

In order to assure compliance with the requirements to "consider" comments, and if the public can base their appeal on the Forest Service's failure to consider comments, it is only logical that the Forest Service must document in writing its consideration of comments. Without a record of the consideration of comments, administrative and judicial review of these requirements would be impossible rendering these requirements meaningless.

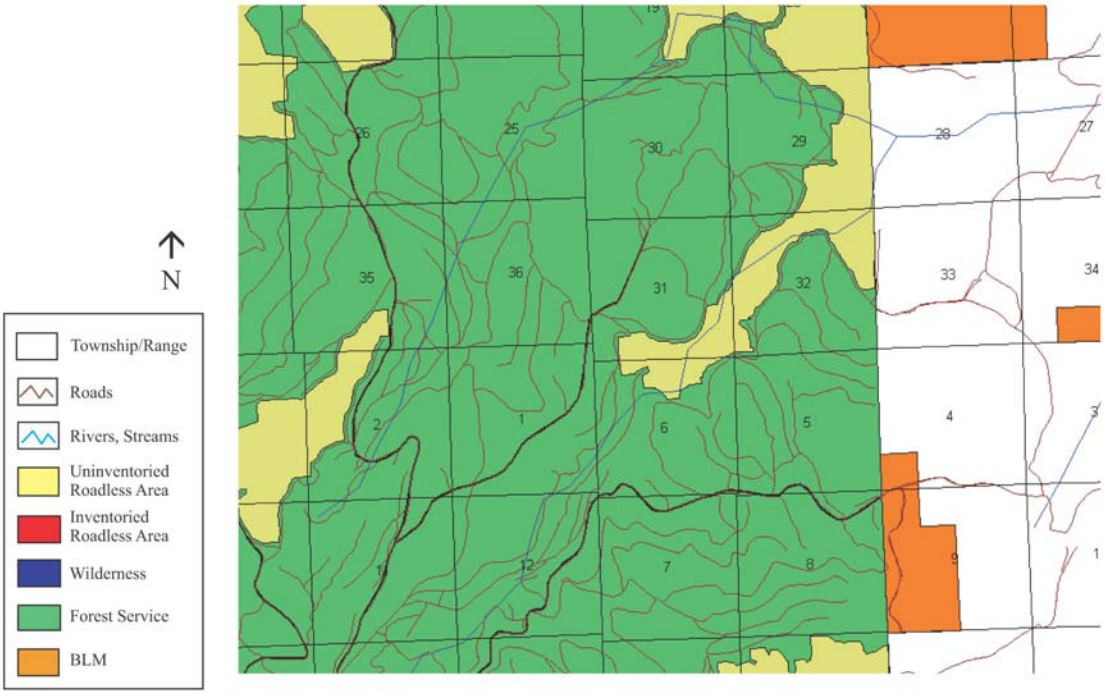
ONRC and Klamath-Siskiyou Wildlands Center raised several significant issues that were not specifically addressed in the final EA or DN.

1. Our comments provided detailed rationale for retaining 50% of each size smaller class of snags as recommended by the authors of the Beschta Report, but the response to comments failed to address those rationale.
2. Our comments raised the issue that salvage logging is controversial and requires an EIS, but the FS failed to respond to that.
3. Our comments raised concerns with the EA's analysis of the risk and consequences of reburn, but the FS failed to respond to that.

Logging in Uninventoried Roadless Requires an EIS.

A portion of the proposed logging will occur in the Little Honey Creek uninventoried roadless area. In particular there appears to be some salvage logging proposed in the south end of section 31 that is unroaded. We appreciate the EA's attempt to address the impacts of logging on unroaded areas but we feel that the impacts are significant and require an EIS.

Grassy Fire Salvage Project - ONRC Roadless Map



The Forest Service defines unroaded areas as any area without the presence of classified roads, and of a size and configuration sufficient to protect the inherent characteristics associated with its roadless condition. http://roadless.fs.fed.us/documents/feis/glossary.shtml Unroaded areas greater than about 1,000 acres, whether they have been inventoried or not provide valuable natural resource attributes that must be protected. These include: water quality; healthy soils; fish and wildlife refugia; centers for dispersal, recolonization, and restoration of adjacent disturbed sites; reference sites for research; non-motorized, low-impact recreation; carbon sequestration; refugia that are relatively less at-risk from noxious weeds and other invasive non-native species, and many other significant values. See Forest Service Roadless Area Conservation FEIS, November 2000.

Before logging roadless areas the agency should consider the impacts to all the values of roadless areas, including:

(1) High quality or undisturbed soil, water, and air;
(2) Sources of public drinking water;
(3) Diversity of plant and animal communities;
(4) Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land;
(5) Primitive, semi-primitive non-motorized and semi-primitive motorized classes of dispersed recreation;
(6) Reference landscapes;
(7) Natural appearing landscapes with high scenic quality;

(8) Traditional cultural properties and sacred sites; and
(9) Other locally identified unique characteristics.
36 CFR §294.11

"It is well established in this [9th] Circuit that logging in an unroaded area is an 'irreversible and irretrievable' commitment of resources and 'could have serious environmental consequences.'" and therefore requires an EIS. Sierra Club v. Austin No 03-35419; DC No. CV-03- 00022 DWM (9th Circ 2003), *citing* Smith v. Forest Service 33 F.3d 1072, 1078 (9th Circ 1994). This project involves activities in such unroaded areas. The NEPA analysis for this project does not adequately discuss the impacts of proposed activities on all the many significant values of roadless/unroaded areas.

The agency can develop a preliminary map of roadless/unroaded areas >1,000 acres by simply querying your GIS database for polygons between roads that are >1,000 acres. This preliminary map can be made more accurate by subtracting regen harvest units younger than 50 years.

The NEPA analysis should discuss whether the project will push the landscape toward or way from the natural range of variability for large-scale habitat patches. Landscape analysis based on historic disturbance patterns suggests that historically the majority of old forest occurred in large patches. See Wimberly, M. 2002. Spatial simulation of historical landscape patterns in coastal forests of the Pacific Northwest. Can. J. For. Res. 32:13-16-1328 (2002) http://pubs.nrc-cnrc.gc.ca/cgi-bin/rp/rp2_abst_e?cjfr_x02-054_32_ns_nf_cjfr (72% of the total mature forest in the Oregon Coast Range was concentrated in patches >1,000 ha). These large patches of older forests that native fish and wildlife species evolved with are now severely underrepresented on the forest landscape and must be protected and restored.

The Northwest Forest Plan LSOG Effectiveness Monitoring plan says that "perhaps 80 percent or more [of the historic late-successional old-growth forest] would probably have occurred as relatively large (greater than 1,000 acres) areas of connected forest." Miles Hemstrom, Thomas Spies, Craig Palmer, Ross Kiester, John Teply, Phil McDonald, and Ralph Warbington; Late-Successional and Old-Growth Forest Effectiveness Monitoring Plan for the Northwest Forest Plan, USFS General Technical Report PNW-GTR-438; December 1998; http://www.fs.fed.us/pnw/pubs/gtr_438.pdf Currently, these 1,000 acre and larger patches are rare on the landscape.

Recent scientific literature emphasizes the importance of unroaded areas greater than 1,000 acres as strongholds for the production of fish and other aquatic and terrestrial species, as well as sources of high quality water. Henjum, M.G., J.R. Karr, D.L. Bottom, D.A. Perry, J.C. Bednarz, S.G. Wright, S.A.Beckwitt and E. Beckwitt. 1994. Interim Protection for Late-Successional Forests, Fisheries, and Watersheds: National Forests East of the Cascade Crest, Oregon and Washington. A Report to the Congress and President of the United States. Rhodes, J.J., D.A. McCullough, and F.A. Espinosa. 1994. A Coarse Screening Process for Potential Application in ESA Consultations. Technical Report 94-4. Prepared for National Marine Fisheries Service.

A growing number of scientific studies indicate the significant value of roadless areas smaller than 5,000 acres and larger than 1,000 acres.

1. Strittholt, J.R., and D.A. DellaSala. 2001. Importance of roadless areas in biodiversity conservation in forested ecosystems: a case study – Klamath-Siskiyou ecoregion, U.S.A. Conservation Biology 15(6):1742-1754.
2. DeVelice, R.L., and J.R. Martin. 2001. Assessing the extent to which roadless areas complement the conservation of biological diversity. Ecological Applications 11(4):1008-1018.
3. C.Loucks, N. Brown, A. Loucks, and K. Cesareo. 2003. USDA Forest Service roadless areas: potential biodiversity conservation reserves. Conservation Ecology 7 (2) www.ecologyandsociety.org/vol7/iss2/art5/index.html

Crist, M.R., B. Wilmer, and G.H. Aplet. In Review. Assessing the value of roadless areas in a conservation reserve strategy: An analysis of biodiversity and landscape connectivity in the Northern Rockies, USA. Applied Ecology.

The NEPA analysis fails to adequately disclose and conserve the Many Values of Snags, Decayed Wood And Associated Functions And Species

Page G-18 of the Fremont LRMP gives a stark reminder of the importance of maintaining abundant dead wood in the forest. This page lists scores of species "requiring" or "highly dependent" upon dead wood.

In a dynamic ecosystem life may be fleeting but the snags and logs that survive disturbance provide very critical temporal links from one stand to the next. Under natural conditions, a forest hands down a large legacy of living and dead material from one stand to another even after an intense disturbance. See Jerry Franklin et al 2000. Threads of Continuity. Conservation Biology in Practice 1(1) pp9-16. See also: William F. Laudenslayer, Jr., Patrick J. Shea, Bradley E. Valentine, C. Phillip Weatherspoon, and Thomas E. Lisle *Technical Coordinators.* Proceedings of the Symposium on the Ecology and Management of Dead Wood in Western Forests. PSW-GTR-181. http://www.fs.fed.us/psw/publications/documents/gtr-181/

Felling and removal of large trees, whether they are alive or dead, removes large material that is normally handed down from one stand to the next. The loss of this material has serious adverse consequences for wildlife, hydrology, soil, etc. These legacies are often described as "lifeboats" that allow species to persist in post-disturbance forests and/or return more rapidly to post-disturbance forests. Given cumulative loss of habitat and ecological functions over the last century, how many lifeboats can we take off the ship when threatened and endangered species and sensitive species are at stake? The NEPA analysis must account for all the values provided by snags and down wood and the effect of removing these legacy structures.

The NEPA analysis must recognize that mechanical treatments unavoidably reduce snag habit, if for no other reason than the habitual removal of snags for safety reasons. Even when snag removal is not an intentional design feature of a project, hazard tree felling normally occurs in all treatment areas, plus a safety buffer around all treatment areas,

plus a safety corridor along roads, and other work areas. This is a large part of why Korol et al (2002) found that large snag habitat is below historic range of variability, and in the future would attain historic levels only in roadless and wilderness areas. Given the current extent of the road network and the historic extent of logging, the cumulative effects analysis must recognize the inherent conflict between "forest management" (past, present and future) and snags and all their values.

Bats, martens, woodpeckers, bears, amphibians, invertebrates, and many other species are dependant upon snags and down wood. Snags and down wood also serve several crucial ecosystem functions related to site productivity, nutrient storage & cycling, hydrology, geomorphology, disturbance, and habitat (terrestrial, riparian and aquatic). Current direction for protecting and providing snags and down wood tend sot be focused on a small subset of the full spectrum of values provided and does not ensure the continued operation of these ecosystem functions or meet the complete lifecycle needs of the many species associated with this unique and valuable habitat component. Please consider all the many values of snags and down wood presented in Rose, C.L., Marcot, B.G., Mellen, T.K., Ohmann, J.L., Waddell, K.L., Lindely, D.L., and B. Schrieber. 2001. Decaying Wood in Pacific Northwest Forests: Concepts and Tools for Habitat Management, Chapter 24 *in Wildlife-Habitat Relationships in Oregon and Washington* (Johnson, D. H. and T. A. O'Neil. OSU Press. 2001) http://www.nwhi.org/nhi/whrow/chapter24cwb.pdf

The EA fails to recognize that large stand-replacing fires are rare but not unexpected or unnatural. The EA (p 3-31) rejects a suggestion from the Klamath Tribes to protect more large snags based on a false premise that large fires that killed large numbers of large trees are unnatural. The EA cites various authorities on the "average" number of snags. This view ignores that natural pulse of snags that would be expected after stand replacing fire. The EA treats the average as a maximum, never to be exceeded. In fact, it is near the middle of a range of values which includes peaks and valleys. The post-fire landscape would not be expected to have an average number of snags, it would be expected to have far more than average! A new NEPA analysis (with new alternatives) is necessary to correct the erroneous assumptions.[3]

In fact, the EA exhibits a serious misapplication of the concept of historic range of variability, because all conifer ecosystems are characterizes by some level of stand replacing fire. The FS cannot base it's range of alternatives, let along it's decision, on false and unscientific assumptions that large stand replacing fires are unnatural. Consider the flowing:

[3] This same error crops up again on page C-10, where the Forest Service states that the forest plan snag retention requirement provides more snags than "unharvested" plots. This fails to recognize that the average represented in unharvested plots represents a wide range of snag densities, and that after disturbance one would expect far more than the average number of snags. Timber harvest has significant impacts on dead wood habitat because instead of creating a pulse of snags as one would expect of any natural disturbance, timber harvest instead tends to "capture mortality," "sanitize," and/or "remove safety hazards" all of which do just the opposite of natural disturbances. If the Forest Service does not understand forest dynamics well enough to explain this to the decision-maker and the public in the EA, then they have no business managing the public's forests.

West's Wildfires Linked to Global Warming

A study contradicts the belief that such blazes are unnatural, citing similar outbreaks during a drought in the Middle Ages.

By Bettina Boxall
Los Angeles Times Staff Writer
November 4, 2004

The raging Western wildfires of recent years have often been blamed on management practices that promoted dense, overpacked forests. But a new study indicates global warming may be the main culprit.

Challenging the conventional wisdom that today's severe wildfires are unnatural and unprecedented, researchers have found that parts of the West experienced destructive blazes during a warm, drought-plagued period in the Middle Ages.

The linkage suggests that as the climate warms, damaging wildfires will continue to strike the West. "If we are just at the beginning of dramatic warming … we can simply expect larger, more severe fires," said Grant A. Meyer, a co-author of the study, published in today's journal Nature.

Meyer and two other researchers sifted through soil deposits as old as 8,000 years in ponderosa pine forests in central Idaho, finding a record of severe fire activity during the 400-year-long Medieval Warm Period from about 950 to 1350.

The sediments contained charcoal as well as landslide and mudflow debris washed into mountain basins following severe burns. To the east, in Yellowstone National Park, the researchers also found records of greater fire activity during the same period.

"Occasionally you do have these big fires and you get a lot of erosion with them and that's part of the system," said Meyer, a University of New Mexico associate professor of Earth and planetary sciences.

The study greatly expands the record of fire in western ponderosa pine forests, suggesting it is more varied and extreme than often thought. Much of the earlier research, based on 500-year-old tree ring data, points to a pattern of frequent, low-intensity burns that cleared out small growth and maintained more open forest conditions than prevail today.

That cycle of frequent, less severe fires was encountered by the first European settlers and is often held up as a model by advocates of increased logging and forest thinning in the West. They argue the big wildland fires

that have charred millions of acres in recent years are unnatural, stoked by dense growth that is the result of logging declines on public land and a century of government efforts to quickly douse forest fires.

But the authors note the pre-European pattern of frequent, low burns coincided with a cooler, wetter period known as the Little Ice Age — and may therefore be difficult to replicate in these warmer, drier times

"Trying to make things look like they did at European contact really misses the bigger picture of climatic change," argued Cathy Whitlock, a Montana State Earth sciences professor who wrote an accompanying commentary to the Nature article. "These fire regimes are tightly linked to climate and climate has been changing continuously."

The study's authors acknowledge that dense forest growth has contributed to the severity of today's wildfires. "Stand density has certainly had an effect as well," said Jennifer Pierce, a University of New Mexico graduate student and the article's lead author.

But "a one-size-fits-all management strategy — everything-must-be-thinned approach — just doesn't make sense," Meyer said.

Jon E. Keeley, a U.S. Geological Survey scientist at the Western Ecological Research Center, said the Idaho study was "a nice addition" to fire research. "It does illustrate the growing consensus that large catastrophic fires were not unknown in the past," he said.

That is not to say nothing can be done to reduce the severity of future fires, he added. "But we can't justify thinning forests to prevent large [severe] fires because it's the natural course."

http://www.latimes.com/news/nationworld/nation/la-na-drought4nov04,1,7556560.story?coll=la-home-nation

Rich Fonda says “The fire history bottomline, in virtually every western forest, is the same: DUAL CYCLES of periodic, frequent, low intensity fires interspersed among episodic, infrequent, high intensity events. The fire return intervals for the first cycle are on the order of decades, whereas the FRI for the latter cycle is on the order of centuries. The authors of the global warming study focused solely on the second cycle.” [And the agencies tend to focus almost exclusively on the former.] Forest management must consider both of these fire cycles. The implications include the fact that (1) frequent low intensity fires would maintain lower density forest patches in a shifting mosaic (and at multiple scales), (2) periodic large fires would leave abundant dead wood so large fires do not NEED to be salvaged, and (3) climate cycles (and random events) would

sometimes allow forest patches (at many scales) to remain relatively less affected by fire allowing fuel to build up (at many scales). The agencies have recently come to embrace the first point, but they must learn to accept and incorporate these latter two points in their management.

The EA misapplies the concept of Historic Range of Variability.

The NEPA document repeatedly invokes the concept of "historic range of variability" (HRV) to justify industrial intervention such as logging and roading. However, the HRV concept is meaningless unless a scale is specified (preferably both a temporal and spatial scale). The scale of determining the historic range of variability is critical. At small scales, the amount of old forest varied from zero to 100 percent depending on how recently the site was disturbed by intense fire, flood, volcanism, etc. HRV at this scale is meaningless and must never be used as an excuse to destroy old forests. But at very large scales, such as the Interior Columbia Basin, the condition of vegetation is a mosaic that reflects the effects of fires and other disturbances. At these large scale, the historic range of variability begins to approach the amounts of young and old forest expected based on the fire return interval for stand replacing fires.

In the Northwest Forest Plan area and the Interior Columbia Basin, the amount of old forest, large trees and large snags are far below the historic range of variability. If we look only at the 5th field watershed scale we will miss this larger pattern of loss of old forest structure. Those few watersheds that are at or above HRV should be managed and conserved to compensate for the many watersheds that are below HRV.

All HRV references in the NEPA document must be clarified to <u>specify a geographic and temporal scale</u> and note what whether the same parameter is within the HRV at the more meaningful regional scale.

Furthermore, the agencies must avoid managing for a snap-shot in time, such as when Europeans arrived. HRV must be described as a <u>range of values</u>, not just a single midpoint value. Any single-value representation of HRV represents by necessity a static world, which we know to be false.

The speakers at the January 2005 workshop on "Using Past Ecological Conditions" emphasized a few things that the project team should consider:

1. always specify the temporal and geographic scales;
2. choose scales of analysis that elucidate meaningful system properties; (don't be devious by choosing scales that justify predetermined action)
3. specify whether climate variability is being accounted for;
4. consider the probability of various values within the range of variability; specify the expected frequency distribution for values within the historic range of variability; recognize that systems spend more time near the mid-point of the range of variability and much less time near the extremes of the range of variability;
5. restore both processes and structures;

6. state assumptions and limitations;
7. describe consequences of types and degree of deviation from the historic range of variability;
8. account for exotic species (e.g. brook trout, false brome) and exotic structures (e.g., roads and culverts).

The DN fails to censure Species Viability.

USDA policy does not allow the Forest Service to take actions that would cause trends toward listing species under the Endangered Species Act. Relevant policy directs the Forest Service to: "1. Manage 'habitats for all existing native and desired non-native plants, fish, and wildlife species in order to maintain at least viable populations of such species.' 2. Habitat must be provided for the number and distribution reproductive individuals to ensure the continued existence of a species generally throughout its current geographic range." FSM 2620.1 and USDA Department Regulation 9500-4 (August 22, 1983. Forest Service objectives are to "provide a sound base of information to support management decision-making affecting wildlife and fish, including endangered, threatened, and sensitive animal and plant species, and their habitats." FSM 2620.2. Forest Service policy is to "use management indicators to address . . . species habitat through all planning levels." FSM 2620.3. The USDA also requires that the Forest Service "avoid actions which may cause a species to become threatened or endangered." DR 9500-4(3)(d).

The Forest Service manages Management Indicator Species as surrogates for "habitats that were likely to be limiting in the future (in short supply either in total acreage or in distribution)" (Fremont LRMP, Appendix G-11). There is an inherent assumption that MIS are "vulnerable" or represent a class of species that are vulnerable due to current or future habitat limitations. Id. The impacts of management activities on these vulnerable species is likely to be significant in a NEPA context, especially in the absence of clear monitoring information indicating that these populations are health and/or have an increasing trend.

In this project the Forest Service is degrading habitat for primary cavity excavators as well as old-growth related species (goshawk, pileated woodpecker, marten) who would benefit from retaining far more large dead wood. Dead wood not only provides essential habitat for woodpeckers, but also sustains larger populations of prey species for goshawk and marten, sustains larger ant populations for pileated woodpeckers, provide more denning and runway sites for marten, and provides cover and fawning sites for mule deer. Even if some of thee functions are not enjoyed in the immediate aftermath of the fire, the large legacy structures can persist for decades and provides these function in the green forests of the future. The Forest Service has no valid population monitoring data nor any adequate validated habitat models to link the proposed salvage logging to known population trends for these Management Indicator Species.

The EA (p 3-81, -82) discusses birds of conservation concern identified by "Partners in Flight" but the EA does not really say what the effect of salvage logging is on these

species. Lewis' Woodpecker in particular is associated with burned forest, but the EA does not say how it will be affected.

The Forest Service has a choice to either monitor actual populations of Management Indicator Species, OR thy must develop and rigorously validate habitat models that allow the Forest Service to use habitat as a proxy for populations of these species. We object to the use of proxy-on-proxy approach to wildlife management where the agency uses crude and unverified habitat modeling rather than actual population surveys as a means to ensure the viability of Management Indicator Species ("MIS"). We are not aware of any forest in the Pacific northwest that is using a credible and validated habitat model for MIS. If the Forest Service is not monitoring MIS populations directly, please explain in detail the model the Forest Service is using to correlate populations and habitat.

MIS are chosen to represent a suite of other species, but then MIS populations are not even monitored as required by NFMA and the LRMP. NFMA and its implementing regulations require the forest service to manage forests for viable populations of native vertebrate and desired non-native species. Diversity is assessed by identifying MIS, monitoring MIS, gathering inventory data on MIS, and analyzing the impacts of logging (and other management activities) on MIS, because MIS are an indicator of the overall diversity of the forest. *36 CFR § 219.19 et seq.* NFMA regulation 219.19 requires that, "fish and wildlife habitat shall be managed to maintain viable population of existing native and desired non-native vertebrate species in the planning area." Further, the Forest Service Manual states the agency must manage "habitats for all existing native and desired nonnative plants, fish, and wildlife species in order to maintain at least viable populations of such species." *FSM at 2670.12.* In order to maintain viable populations of wildlife, "habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area." *36 CFR § 219.19.*

NFMA, its implementing regulations, and subsequent case law require the Forest Service to know what the viable populations of MIS located in the project area are before management prescriptions are applied. However, the NEPA document and the underlying specialist reports never explain what the population levels are for the MIS. This is despite the fact MIS habitat will be negatively affected by this project.

The 9th Circuit also does not approve of the "proxy on proxy" approach favored by the Forest Service where indicator species are chosen to represent a suite of other species but then the indicator species populations are not even monitored— instead the agency monitors habitat levels that may or may not reflect populations levels. The Forest Service must refrain from destroying habitat until they have completed population monitoring and documented viable populations of native species. See
Idaho Sporting Congress and Alliance for the Wild Rockies v. Rittenhouse
http://www.ca9.uscourts.gov/ca9/newopinions.nsf/D6B0EF3C12752B5588256C360081AA9E/$file/0135403.pdf?openelement

The 10th Circuit just recently affirmed the Forest Service's duty to quantitatively measure changes in MIS populations and not just habitat trends. UEC v. Bosworth, 10th Circ. June 23, 2004 (http://www.kscourts.org/ca10/cases/2004/06/03-4080.htm):

> In keeping with the reasoning of the Eleventh Circuit and the district courts of this circuit, we conclude that § 219.19 requires the Forest Service to use actual, quantitative population data to effectuate its MIS monitoring obligations. Section 219.19 mandates that as part of forest planning, "[f]ish and wildlife habitat shall be managed to maintain viable populations of existing native and desired nonnative vertebrate species." Further, forest management "[p]lanning alternatives shall be stated and evaluated in terms of both amount and quality of habitat and of animal population trends of the management indicator species," § 219.19(a)(2); similarly, "[p]opulation trends of the management indicator species will be monitored and relationships to habitat changes determined," § 219.19(a)(6). Plainly the regulations require that the Forest Service monitor population trends of the MIS in order to evaluate the effects of forest management activities on the MIS and the viability of desired fish and wildlife populations in the forest more generally.

Determining effects on species viability requires consideration of cumulative effects on species populations, including identification of risk factors, species limiting factors, current threats, the relative contribution of private lands and federal lands to species conservation, monitoring results that elucidate the effectiveness of proposed management actions, and disclosure and response to diverse views, adverse opinions, and inconsistent data.

The DN failed to consider the value of retaining both clumped AND well-distributed snags and down wood.

Snag retention should be both clumped and well-distributed, not all clumped. Some of the functions provided by snags are best provided in clumps, but other functions are best provided by well-dispersed snags. These latter functions include:

- Cover for deer and elk and other wildlife;
- Shade and microclimate for germination and seedling survival;
- Young stand thinning functions provided by falling snags;
- Soil functions such as nutrient cycling; erosion control and sediment trapping;
- Hydrologic effects such as water retention in both wood and soil, and dissipation of energy in surface flow, favorable effects on snow dynamics;
- Favorable microsites for seed germination and seedling survival;
- Habitat for small mammals and amphibians;
- Habitat connectivity corridors;

Soil development processes are the quintessential process that must be well-distributed. Roger Hungerford, writing in *Effects of Fire or Fire Exclusion on Soil Sustainability New Perspectives* a workshop given Nov. 1820, 1991, at Coeur d'Alene, said "Evidence does exist that much of the soil wood and organic components originated from fire killed

trees." We are concerned that the salvage logging will continue the trend of loss of site productivity, depleting nutrients through biomass removal, and interfering with ecological and hydrological processes that should be well-distributed, not clumped.

Prepare a new programmatic EIS on young complex forests.

The agency must prepare a new programmatic EIS to consider the effect of salvage logging on young complex forests and the development of complex older forest. The EA, page 4-12, admits that such as PEIS would be "useful" to tier to. The agencies are still operating in the "dark ages" in terms of salvage policy. The agencies should not conduct any more salvage logging until they have fully disclosed and considered current scientific understandings about the role of fire in forest development. The agency must prepare a programmatic EIS to comprehensively disclose and consider:

a. the natural range of variability and existing rarity of complex young forests (e.g., young forests that are unsalvaged after disturbances). Since large snags are outside the natural range of variability across the landscape, the agency must retain all large snags to start moving the landscape toward the natural range of variability, or the agency must carefully justify in the NEPA analysis every large snag it proposes to remove. See Jerome J. Korol, Miles A. Hemstrom, Wendel J. Hann, and Rebecca A. Gravenmier. Snags and Down Wood in the Interior Columbia Basin Ecosystem Management Project. PNW-GTR-181. http://www.fs.fed.us/psw/publications/documents/gtr-181/049_Korol.pdf This paper estimates that even if we apply enlightened forest management on federal lands for the next 100 years, we will still reach only 75% of the historic large snag abundance measured across the interior Columbia Basin, and most of the increase in large snags will occur in roadless and wilderness areas.
b. the ecological values (such as wildlife habitat) associated with snags, dead wood, and complex young forests. See Rose, C.L., Marcot, B.G., Mellen, T.K., Ohmann, J.L., Waddell, K.L., Lindely, D.L., and B. Schrieber. 2001. Decaying Wood in Pacific Northwest Forests: Concepts and Tools for Habitat Management, Chapter 24 *in* ***Wildlife-Habitat Relationships in Oregon and Washington*** (Johnson, D. H. and T. A. O'Neil. OSU Press. 2001) http://www.nwhi.org/nhi/whrow/chapter24cwb.pdf
c. Given the regional deficit of young complex forests and the fact that many species, such as woodpeckers and secondary cavity users, appear to be adapted to exploit the structure and resources available within disturbed forests, the agencies should comprehensively consider and disclose the direct and indirect effects of salvage logging on species associated with young complex forests. The Forest Service has numerous Management Indicator Species whose populations have not been monitored, so the agencies lack the information necessary to that the salvage logging program will maintain species viability.
d. the effects of salvage logging on the development of complex forest habitat;

e. all the new science related to salvage logging and dead wood, including but not limited to: Beschta R.L., J.J. Rhodes, J.B. Kauffman, R.E. Gresswell, G.W. Minshall, J.R. Karr, D.A. Perry, F.R. Hauer, and C.A.Frissell, In Press. Postfire management on forested public lands of the western USA. Cons. Bio., 18:x-xx. And Rose et al.

The agencies are still operating in the "dark ages" in terms of salvage policy. The agencies should not conduct any more salvage logging until they have fully disclosed and considered these issues.

The FS failed to address the rationale for retaining large snags and 50% of small. The EA (p 3-30) complains that a rationale is not provided for the Beschta Report recommendation to retain all large and old snags and 50% of smaller size classes. Let us offer some rationale:

1. retaining large quantities of legacy structures will more closely match the natural historic development of post-fire landscapes.
2. retaining large numbers of standing trees will preserve an important ecological process, that is falling snags over time that will help to thin and break up the continuity of brush and other reprod.
3. retaining snags and dying trees will help provide some level of shade that will help suppress growth and break up the continuity of brush and other reprod
4. retaining large quantities of snags will help provide some hiding cover for Mule deer and elk
5. retaining large quantities of tree boles will help to retain water storage mechanisms on site.

Sincerely,

/s/

Doug Heiken
For ONRC and KSWC